



**Understanding the influence of physical environment design on
emotional well-being and its effect on consumers' perception
towards brand performance: A study in the context of a retail
setting in the United Kingdom**

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DEDICATION

This thesis is dedicated to my loving father Mr J.R. Nagpal and my dear husband Mr Ashutosh Khaneja whom I still miss every day.

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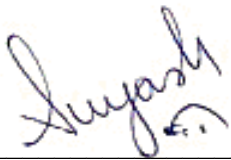
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RESEARCHER'S DECLARATION

I declare that I, Suyash Khaneja, am the researcher of the PhD thesis entitled: “Understanding the influence of physical environment design on emotional well-being and its effect on consumers’ perception towards brand performance: A study in the context of a retail setting in the United Kingdom”. This thesis is my original work. I declare that no material contained in the thesis has been used in any other submission for an academic award.

Signature: _____

Date: August 16, 2019

ABSTRACT

Physical environment design (PED) in the context of emotional well-being in retail stores has been widely ignored in the retailing literature so far. Moreover, from a marketing viewpoint, PED not only fulfils the purpose of creating consumer perceptions, but also reflects the success story of a brand. Yet there is not much research available in the field addressing the issues of consumers' emotional well-being with regard to the performance of retail stores.

The focus of this research is to study PED from a retail organisational perspective, to explore the relationships between physical environment and consumers' emotional well-being, and examine the link between PED and brand performance in the UK context. This research addresses the role of PED in shaping consumers' emotional well-being and its impact on an organisation's performance, particularly consumers' perception of brand performance. Therefore, this research contributes to existing knowledge by extending the findings of previous studies.

This study is the first methodical research which has introduced and conceptualised the notion of physical environment design, its antecedents and its consequences. It is anticipated to be useful in advancing existing knowledge by offering a threefold theoretical contribution to the literature 1) theory extension, 2) theory assessment, and 3) theory generalisation. In addition, it is expected that this research investigation would make a considerable managerial contribution to the understanding of retail business managers and decision-makers among physical environment design, its antecedents and its consequences.

This research employed a mixed-method approach with a dominant quantitative phase, comprising expert interviews, focus groups and a pilot survey, to acquire data to develop the measurement scales. After that, the main survey was conducted to test the research hypotheses and the proposed conceptual model. Based on the literature review, this study proposes a conceptual model of the positive relationships between PED in retail stores, emotional well-being and consumers' perception towards brand performance. Visual identity, communication and cultural heritage are also included

in the model as determinants of PED. The model is developed on the basis of place identity theory, affective theory and emotional theory.

Structural equation modelling (SEM) was used to conduct path analysis and to test stability and reliability of the model and eventually, reflected the good data-model fitness. With the underpinning of statistical findings, supporting literature and the in-depth interviews in the exploratory phase, this study revealed positive relationships between PED, emotional well-being and consumers' perception towards brand performance.

However, an unanticipated outcome is that demographic differences moderate the relationship between PED and emotional well-being, which in turn affects consumers' perception towards brand performance. Hence, to increase consumers' perception towards the brand performance of retail stores, elements of PED are not merely responsible. With the increased use of online shopping, it becomes more challenging for retailers to offer a more engaging in-store customer experience. Additionally, physical environment design in the retail store has a psychological impact on consumers' moods and perceptions.

A clear understanding of the nature of the relevant concepts can help managers and retailers to design physical environments that are likely to advance an enriched retail environment, based on physical dimensions in order to increase their success. This research recognises the importance of PED in the retail setting, and contributes to the knowledge by establishing its dimensions and clarifying the concept. The results are validated and refined by the literature. This research is among the few studies on understanding the components of PED and its contribution to consumers' emotional well-being and their perception towards brand performance.

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CHAPTER 1: INTRODUCTION

1.1 Introduction

Physical environment is the atmosphere that provides informational cues to customers about merchandise and service quality (Ainsworth and Foster, 2017; Dedeoglu et al., 2018; Gardner and Siomkos, 1985; Olson, 1977; Zeithaml, 1988), determines consumers' mood and perceptions (Mehrabian and Russel, 1974), and influences their patronage decisions (Kotler, 1973; Lunardo and Roux, 2015; Paakkola, 2017). The information is passed on through design, which is the most powerful tool (Alexander and Cano, 2019; Hanaysha, 2016; Thang and Tan, 2003). Design is a language that communicates with consumers and acts as an approach to attract their attention (Aakhus, 2007; Ainsworth and Foster, 2017; Pantano, 2015). This does not necessarily mean creative art forms or decorative objects; it comes from an inner state of mind with the experience of interior space and human activities (Ryan, 2017; Stephens, 2013; Vaikla-Poldma, 2003), and can serve as the foundation for driving a brand forward (Cartwright et al., 2016; Foster and McLelland, 2015; Keller, 2009).

In-store physical environment design adds value to the customers' visit to the store by offering an aesthetically pleasing experience (Mehrabian and Russell, 1974). Furthermore, Elliot and Maier (2014) suggested that aesthetics in designs increase positive emotions among consumers. Pleasant and attractive design illustrations compel the consumers to appreciate their visit as it allows the customers to explore and immerse within the retail store (Irwin, 2018; Lemon and Verhoef, 2016; Li, 2004). This can be considered as a motivational factor which is in order to create the surroundings capable of enhancing the consumers' perception.

In order to analyse the elements of physical environment design (PED), the present study aims to explore its antecedents in the retail sector, and see how it contributes to the emotional well-being of consumers and hence triggers improvements in brand performance. According to researchers (Baker, 2005; Jain et al., 2017; Ong and Yap, 2017), PED provides the space that stimulates consumers, providing an experience that elevates their emotional well-being (sensorium, behaviour and happiness); the

overall satisfaction of an individual achieved through different aspects of the ambient conditions, such as light, thermal settings, spatial layout, supportive design features and finishes, reduced noise, music, and access to outdoor spaces (Bolton et al., 2018; Hyllegard et al., 2016; Joseph, 2006).

Previous studies on PED have put forward evidence that various design factors, such as ambience, artefacts and spatiality, can influence the mood and emotion of consumers (Cartwright et al., 2016; Jain et al., 2017; Ong and Yap, 2017; Quartier et al., 2009), and can affect their emotional well-being, which can lead to increased brand performance; the key element lies not only in the positioning of the brand, but in creating internal arrangements (e.g. physical design, organisational structure, values and culture) that support the meaning of the corporate brand (Khan, 2009), having a positive effect on the profitability of the organisation (Melewar and Saunders, 2000; Olins, 1989; Pizam and Tasci, 2019). However, analysis of the literature reveals that there are still gaps which need to be explored (Hermann et al., 2013; Inman et al., 2009; McGrath, 1989; Park et al., 2019). While knowledge of and research on PED continue to be developed, many of these investigations neglect consumers' emotional well-being and the impact on brand performance.

Recent trends based on the current decline of PED in the emotional well-being context also provide a basis for research on this topic (Babin and Darden, 1995; Herz, 2011; Holland et al., 2005; Hosseini and Jayashree, 2014). The main purpose of the present study will therefore be to investigate the notion of PED, particularly in the retail scenario, due to the dramatic increase in interest in services from academics and practitioners in today's global economy.

This chapter provides a concise presentation of the research and discusses the research background. The relevance of this research, followed by the aims of the study, are portrayed in the following sections. The research questions and research objectives are then presented, followed by the research context and unit of analysis. After that, the research design and analytical methodology are set out, before the major contributions of the research are discussed. Finally, the structure of this thesis is outlined.

1.2 Research background

The physical design of retail stores has a vital role (Arrigo, 2018; Lucas, 2015; Michon et al., 2005). To capture the attention of consumers, retailers are investing in stores by providing design cues, as consumer decision making is changing from rational to emotional (Ladhari et al., 2017; Morland, 2018; Robert and John, 1982). These stores induce sensory experiences and pull consumers towards particular objects; and make them want to visit, explore and spend time in the store (Baek et al., 2018; Jang et al., 2018; Puccinelli et al., 2009). These intangible pull factors creates the concept of attractiveness (Gehl, 2010; Jang et al., 2018; Oldenburg, 1999; Whyte, 1980). This pulling force is a by-product of how it is perceived by the consumers. Furthermore, researchers (Auge, 1995; Creswell, 2011; Lewicka, 2008; Morland, 2018) introduced the concept of a 'place' that is modified into a retail store, perceived as a physical place full of particular features (inevitably in a physical, cultural and observer-specific mental context), which can be created as a highly attractive environment to encourage consumers to approach.

For instance, a well-known store in the United Kingdom, Harrods started its completely rebuilt store in 1901 - after the fire accident of its previous store at the same location (Booth and Booth, 1991). The novelty of the store was an escalator - the moving staircase in 1898. This was the technical innovation which enabled easy consumer access to all floors in the store and hence providing the fuller store experience (Miellet, 2001). Furthermore, the rationalisation of department stores started in the later phase (Kooijman, 1999). To bring the increase in sales; the planners improved display surfaces with more shelves, feeling of spaciousness, shop windows with more powerful lights (Grunenberg, 2002). One of the earliest department store Whiteley was opened in 1875 in London (Miellet, 2001) which emerged within the urban areas to fulfil the basic consumers' needs, and later added several departments in the store (Rappaport, 1996). However, over the period of time, the outward appearance of a store was designed to attract consumers, with eye catching large public entrances for free movements and the interior to keep them close to the display areas in the premises (Clausen, 1985).

This typical feature continued till the 20th century (Clausen, 1985). Generally, famous buildings were used as an inspiration to create the store's design which can

emotionally stimulate the visitors (Kooijman, 1999). In fact, retail stores came into existence facing more challenges than before to develop and enhance customer satisfaction (Hu et al., 2009). The task was to keep the customers stay for the longer duration in the indoor space, browsing products and gain a pleasant experience (Krafft and Mantrala, 2006). Furthermore, to increase the opportunity for sales, recommendation to others; transformation continues till present following more social and technological landscapes (Ryu et al., 2012). Besides playing a critical role in differentiating retail stores (Pareigis et al., 2011), the overall customer experiences is also influenced by the premises of retail stores (Bitner, 1992; Pantano et al., 2018).

According to Krishna (2012), UK-based studies on PED have been conducted in London, and due to that reason the generalisability of the theory has been limited. In addition, it appears that very few studies have concentrated on PED in a sensory marketing context. Thus, it is still the case that very little is known about the influence of PED on consumers' emotional well-being or its impact on consumers' perception of brand performance (El Hedhli et al. 2013; Kim et al., 2016; Krishna, 2012; Yu et al., 2018).

The capital of United Kingdom, London has a population of 8.79 million (GLA, 2002; ONS, 2019), and is among the most diverse cities in the world in terms of its provision of retail destinations for cosmopolitan consumers (Ageeva et al., 2019; Sassen, 2018; Simmie, 2002; Tomlinson, 2012). Consumers in London are also seen as having a substantial amount of liquid assets, a taste for fashionable brands, a strong demand for high value-added products from Asia, North America and Europe. London is one of the world's most cosmopolitan societies, offering a multicultural environment and making it ideal for research (Sassen, 2018; Simmie, 2002; Tomlinson, 2012).

Moreover, the UK has witnessed a swift increase in the development of retail stores. This allows the researcher to predict the likely impact of the indicators on how these retail stores anticipate their design and marketing strategies, giving quantifiable values. London possesses many of the world's best-known retail stores, for instance Harrods, Liberty, John Lewis, Selfridges, Debenhams. These are big, leading retail stores that possess noteworthy PED which is not just about selling products but also

about providing experiences for consumers (Dennis et al., 2009; Foroudi et al., 2017, 2019, 2020; Kozinets et al., 2008; Park et al., 2015).

But what is the essence of a retail store's PED? What makes one store more attractive than another? Which design factors drive consumers' emotional reaction towards it, and affect their emotional well-being within the retail store's structure and appraisal of it? What is the hierarchy of design features that create a store's PED? Is it just the commercial dimension that constitutes an attraction towards the stores? Or, is it something more intangible: the atmosphere, design, spatial organisation or attractive window displays? These are crucial questions which the researcher has seek to answer in this study.

1.3 Relevance of this research

Academic research has put forward remarkable evidence for the significance of the design of retail stores (e.g. Dedeoglu et al., 2018; Foster and McLelland, 2015; Kotler, 1973; Ladhari et al., 2017). For instance, PED has been linked to consumers' emotional responses and the stimulation of their shopping intentions (Michon et al., 2005; Oh et al., 2008; Pantano, 2014; Poncin and Mimoun, 2014; Thang and Tan, 2003). Moreover, the previous literature provides several examples of PED in the context of retail stores such as John Lewis and Harrods (Cartwright et al., 2016; Dennis et al., 2013; Lucas, 2015; Story, 2018).

The perceived quality of the physical environment has a significant impact on consumer experience (Borghini et al., 2009; Compeau et al., 2016; Hosseini et al., 2014; Puccinelli et al., 2009). Despite the importance of PED for retail stores, there is a lack of research on it. Only a handful of studies has examined the topic directly, and most prior research has focused on consumer behaviour (Ainsworth and Foster, 2017; Bloch et al., 1994; Cartwright et al., 2016; Michon et al., 2005). It is therefore necessary to highlight the importance of department store internal PED for the retail sector, and to identify this concept more specifically.

In particular, PED has not been conceptualised as a factor that can trigger consumers' emotional well-being (Grzeskowiak et al., 2016; Harris, 2017; Kim et al., 2016). Consequently, there is still conceptual paucity in terms of the integration of the

elements of PED (ambience, artefacts and spatiality) into consumers' emotional well-being (sensorium, behaviour and happiness) (El Hedhli, 2013; Morland, 2018; Spangenberg et al., 1996).

Additionally, this research gains its relevance from the role of consumers' emotional well-being in relation to PED and brand performance. Numerous researchers (Ainsworth and Foster, 2017; Babin et al., 1994; Bonetti and Perry, 2017; Molinillo et al., 2018; Singh, 2006; Sit et al., 2003; Vada et al., 2019) have pointed out that a well-designed physical environment can improve consumers' perception of brand performance. Moreover, retail store PED can enhance consumers' emotional well-being, which is related to achieving remarkable brand performance in an organisation (Hoyer and MacInnis, 2001; Kotler, 2000; Newman and Patel, 2004; Singh, 2006). Drawing on the importance of PED as a driving tool for brand performance, the investigation of its possible additional elements becomes crucial. Therefore, a better understanding of PED within the marketing arena is imperative.

1.4 Identification of the gap

The literature shows that despite a large body of research on PED, it has not been given a convincing definition from the aspect of its influence on consumers' emotional well-being, which in turn can improve consumers' perception towards brand performance. However, many scholars have focused on PED's effects on customers' emotions and satisfaction (Ainsworth and Foster, 2017; Ali et al., 2015; Bonetti and Perry, 2017; Han, 2013; Kim and Moon, 2009; Kottasz, 2006; Molinillo et al., 2018; Ryu et al., 2012; Vada et al., 2019; Wu et al., 2014). Due to the paucity of empirical studies (Abratt et al., 1992; Ainsworth and Foster, 2017; Bonetti and Perry, 2017; El Hedhli, 2013; Jeon and Kim, 2012; Jones and Reynolds, 2006; Lee et al., 2002; Molinillo et al., 2018; Moon et al., 2016; Ng, 2003; Sirgy et al., 2008; Vada et al., 2019; Voyce, 2006; Wanger, 2007) regarding the influence of PED in the retail setting from the perspective of consumers' emotional well-being, this section of the thesis attempts to develop a research agenda for the theoretical model to be developed in the next phase.

The notion of PED unfolds in the marketing literature on the basis of multiple theories proposed by numerous researchers in different retail settings such as restaurants,

airports, shopping malls, universities and many more. Scholars (Aaker, 1991; Bonetti and Perry, 2017; Chen and Hu, 2010; Kotler and Keller, 2009; Matthews et al., 2014; Molinillo et al., 2018; Ryu et al., 2012; Singh, 2006; Vada et al., 2019) have suggested that PED is a metaphor that plays a critical role in shaping an organisation's image, and influences the way in which consumers perceive that atmosphere. These scholars studied the psychological implications of the portrayal of consumer behaviour. Moreover, these scholars used the theory of place identity, affective and emotional theories to try to explain PED from a dimension which is important to the marketing and retail managers of an organisation.

Place identity theory proposes that various features, situations, and processes (Felonneau, 2004) affects the way consumers perceive and behave in consistency to create their self-identity, which in turn determines their sense of belonging (Proshansky et al., 1983). Affective theory proposes that emotionally adequate items gain affective meaning through selective perception combined with cognitive abilities. This theory can provide 'shift gears' in diverse environments (Damasio, 1999). Emotional theory proposes that emotional responses derived from an entity's beautiful design can prompt customers to buy (Bechara and Damasio, 2005; Damasio, 1999; Norman, 2004). Background music and fragrances in a store are often used to stimulate feelings (Lam, 2001) and to intensify consumers' emotional and cognitive processes.

Many scholars (Haj-Salem et al., 2016; Keiningham et al., 2017; Lee et al., 2015; Mari and Poggesi, 2013; Paige and Littrel, 2002; Rayburn and Voss, 2013; Wakefield and Blodgett, 1996) have explored the potential of PED to draw consumers' attention to the display of merchandise in the store. This notion is further examined in the present thesis to understand its influence on consumers' emotional well-being, which in turn provides superior brand performances. There are numerous studies (Bitner, 1990; Booms and Bitner, 1981; Kotler, 1973; Lin and Lin, 2016; Mari and Poggesi, 2013; Morrison et al., 2011; Nilsson and Ballantyne, 2014; Reimer and Kuehn, 2005; Zeithaml et al., 1985) on consumer behaviour in retail settings that help marketers in their understanding of PED. However, most of them aim to focus on its role and on consumer behaviour in retail markets. There is no current adequate understanding of the applicability of design elements to achieve success of the brand with regard to

consumers' emotional well-being, i.e. design features in a personified form, to provide overall satisfaction to consumers from both hedonic and holistic perspectives.

This approach in marketing can help retail organisations to be successful (Bruggen et al., 2011; Elsbach and Stigliani, 2018; Kotler, 1973; Lee and Jeong, 2012; Zeithaml et al., 1985). It can make visitors feel privileged when organisations give them remarkable experiences. Another advantage of favourable PED is that it tends to keep existing customers as well as attracting new ones, as customers prefer to visit organisations that are pleasing and appealing (Canny, 2014). As proposed by Azim et al. (2014), financial investment is necessary to create the PED of an organisation to attract the maximum number of customers, but this will also enhance the firm's assets. As suggested by Bitner (1992), PED can establish a virtual metaphor for that organisation. Marketing managers can consider PED as part of their strategy to build strong brand associations in consumers' minds (Joseph and Flynn, 2015). Most of the literature addresses the positive impact of PED in enhancing an organisation's brand image (Baker et al., 2002; Choi et al., 2012; Koshki et al., 2014; Ryu et al., 2012; Zeithaml, 1998).

However, the application of PED is based on its psychological implications for consumers' emotional well-being, to improve their perception of brand performance. Hence, its effect on consumers' emotional well-being and perception of brand performance needs to be recognised by the marketing literature (Chebat and Michon, 2003; Dedeoglu et al., 2018; Gardner and Siomkos, 1985; Krishna, 2012; Pizam and Tasci, 2019). Therefore, this study is one of the first to empirically test the concept of PED and its influence on consumers' perception of brand performance. This study potentially contributes in terms of understanding PED's relationship with consumers' emotional well-being, and aims to bridge the following gaps identified in the literature:

1. There is a lack of empirical research on how "physical environment design" might be defined (Baker et al., 2002; Harris and Ezech, 2008; Hassenzahl et al., 2013; Zeynep and Nilgun, 2011).
2. There is a lack of theory-building studies and explanatory models on the phenomenon of PED (Nilsen, 2015; Palmer et al., 2018).

3. To date, there is no systematic research study concerning consumers' perceptions of PED (Loureiro et al., 2014; Moon et al., 2016; Muhammad and Ng, 2002; Singh, 2006).
4. To date, this research is one of the first attempts to collect empirical evidence that PED influences consumers' emotional well-being (El Hedhli et al., 2013; Jeon and Kim, 2012; Jones and Reynolds, 2006; Moon et al., 2016) and ultimately leads to the enhancement of consumers' perception of brand performance, which still needs to be tested and validated.

1.5 Research questions and research objectives

The literature suggests that PED plays an important role in differentiating between retail stores in order to increase brand performance (Arrigo, 2018; Baker et al., 2002; Molinillo et al., 2018; Oh et al., 2008). Stores use attractive design themes to engage customers and thus stimulate purchase probability (Bonetti and Perry, 2017; Stephens, 2013; Verhoef et al., 2015). Based on the significance of PED in a store with regard to consumers' emotional well-being and consequently an improvement in brand performance, this research aims to provide empirical evidence and extend the academic perspective of the retail sector. The following research questions directed the study:

Research question 1: What is the role of visual identity, communication and cultural heritage in enhancing physical environment design?

Research question 2: ,What is the contribution of ambience, artefacts and spatiality to consumers' emotional well-being?

Research question 3: How can physical environment design enrich consumers' emotional well-being and enhance their perception of brand performance?

On the basis of these questions, this research aims to achieve the following objectives:

1. To answer critical questions such as how an internal space would look and feel if it were designed to promote emotional well-being, and how this would it affect the senses, the emotions and the mind; and

2. To explore and understand the integral parts of the development process of an environment design which affects consumers' state of mind, influences their emotional well-being and increases brand performance.

By achieving these objectives, it is expected that the investigation will add to the current knowledge about PED and provide practical insights for managers and interior designers. In order to answer the research questions set out above, a number of key steps were completed. Firstly, the constructs of PED and emotional well-being were conceptualised based on the literature review and qualitative data (i.e. in-depth interviews). Next, in order to operationalise the focal construct (i.e. PED) as well as other variables of the conceptual framework, appropriate measurement scales were developed and tested regarding validity. Finally, the structural model representing the hypothesised relationships between PED and its antecedents and perceived consequences were empirically tested on the basis on the quantitative data.

1.6 Unit of analysis and research context

This research investigates the determinants of PED which directly or indirectly influences consumers' emotional well-being and further enhances their perception of brand performance as its consequences. The unit of analysis in this research is the consumer who approaches retail stores for the purposes of shopping. Today's retail sector therefore involves the consideration of numerous activities that need to be accomplished to design, manage and enhance customers' experience. In other words, retailing is a format that refers to the structures for composing and planning a set-up that fulfils customer experience.

Prior studies have highlighted the role of retailing in the context of store design and consumer behaviour (Bellizi et al., 1983; Cho and Lee, 2017; Diamond et al., 2009; Gardner and Siomkos, 1985; McGrath, 1989; Spence et al., 2014; Zimmer and Golden, 1988), which enables the brand to compete in the retail industry (Bonn et al., 2007; Casidy et al., 2018; Schiuma, 2011; Useem, 2007). Thus, retailing is one of the largest and most influential market sectors in the global economy, which involves the selection and sourcing of items for sale, or any business activity (Ailawadi and Keller, 2004; Birkin et al., 2002; Lazaris and Vrechopoulos, 2014; Ryan 2017). The concept of retailing has drastically changed from one that merely involves transactions with

customers (Ainsworth and Foster, 2018; Alexander and Cano, 2019; Bloch et al., 1994) to one that enriches consumers' experience (Cho and Lee, 2017; Grewal et al., 2009; Verhoef et al., 2009).

The concept of department stores in the retail context gained popularity during the 19th century (Kent, 2007). According to researchers (Compeau et al., 2016; Henderson-Smith, 2003; Jiang et al., 2018), consumers' imaginations can be very well captured in retail stores. The success of department stores relates to cleverly adopted changes in the retail industry to fulfil economic and cultural expression (Miellet, 2001).

Retailers adapted the art of visual merchandising to make their businesses flourish and tried to make the stores very attractive (Compeau et al., 2016; Melewar et al., 2017; Miellet, 2001; Rzeczpospolita, 2013). Retail shops and services fulfil both utilitarian and hedonic human needs (Arnold and Reynolds, 2003; Babin et al., 1994; Jones et al., 2006; Ng, 2003; Uzzell, 1995). The new strategies of re-structuring the retail stores on the basis of culture of consumptions was developed to emphasise consumers' experience (Krafft and Mantrala, 2006).

With regard to the country where the research was conducted, the study was carried out in the United Kingdom, based on the perceptions of retail consumers. Primary quantitative data was collected from retail stores such as Harrods, Liberty, John Lewis, Selfridges, Debenhams, which are renowned stores in London. The stores were chosen on the basis of customer experience and innovation capability which contributes to brand performance (Dennis et al., 2013; Erdem et al., 2004; Foroudi et al., 2017; Jiang et al., 2018) in commercial environments.

Given that this research is on a rather underdeveloped research area (i.e. PED), it was considered imperative by the researcher to build on measurement scales that had already been tested in terms of reliability and validity. With regard to the industry context, this research strongly builds on findings from the qualitative data (see Chapter 4). Consequently, in order to enable the collection of relevant data, this research was conducted in the retail setting. The rationale for this selection is presented in more detail in Chapter 4.

1.7 Research design and analytical methodology

This research aims to investigate the factors that determine PED at an organisational level and to examine its consequences as perceived by companies. Research design is a research procedure planned by the researcher in order to answer the research questions (Saunders et al., 2003). The research design involves the implementation of methodology, spatial location, contextualisation and the selection of unit analysis. The Stimulus-Organism-Response (SOR) paradigm will be followed to explore the various PED elements in a retail environment (Baker, 1986; Esteky, 2017; Paakkola, 2017). The study will use deductive theory testing (Tashakkori and Teddlie, 1998), which aims to test hypotheses reflecting causal relationships that are based on existing literature and theories (Bryman and Bell, 2007; Deshpande, 1983; Nilsen, 2015).

To achieve the research objectives and to answer the research questions, a mixed method research design will be adopted, following a pragmatist research design. The problems will be dealt keeping a practical approach which will be embodied in two ways, first qualitative and then quantitative. The first stage uses a qualitative method as this is the appropriate way to understand the concept of physical environment design and its relationship with its components (ambience, artefacts and spatiality), emotional well-being and consumers' perception of brand performance; these require elaborate justifications. Hence, this study adopts Churchill (1979) paradigm.

Moreover, following a review of the literature, in-depth interviews were carried out with key informants (store managers and decision makers), coupled with focus group discussions with consumers (customers). For data analysis, NVivo 10 software was employed to code and extract data from the interviews and focus groups. According to Deshpande (1983), qualitative methods should be combined with quantitative methods to examine a domain that is unknown or has gained little attention, to date. Therefore, quantitative methods were preferred for the second stage of the present study.

In the second stage, a pragmatist paradigm was adopted to examine the proposed hypotheses and their causal relationships, together with validation of the scales. The scales were purified on the basis of the qualitative and quantitative evaluation of the

research survey. During this stage, before conducting the main survey, the study used two types of validity: face validity and content validity. After revision of its items, the questionnaire was distributed among students to evaluate its validity and reliability and to ensure that the “measures are free from error and will therefore yield consistent results” (Peter, 1979, p. 6). After a pilot study with a sample size of 130 (pre-test), a self-administered questionnaire was distributed to gauge consumers’ perceptions of the impact on their emotional well-being, which in turn stimulates brand performance.

According to researchers (Bhattacharya et al., 1995; Elsbach and Bhattacharya, 2001; Jain and Bagdare, 2009), specific organisations need to be accessed. The subjects of the research will be asked to indicate the degree of their agreement with each item on a seven-point Likert scale ranging from 1) “strongly disagree”, to 7) “strongly agree”. Parts of the questionnaire were taken from earlier valid questionnaires and other were parts extracted from the qualitative study.

Data collected from the respondents through the questionnaire was analysed in three steps: firstly, using exploratory factor analysis (to examine the factorial structure and to reduce the numbers of observed variables); secondly, using confirmatory factor analysis (to confirm if the number of factors and the loadings of observed variables on them confirmed as expected on the basis of empirical research); and thirdly, by means of structural equation modelling (SEM) using AMOS. Finally, it was examined through goodness-of-fit indices and through estimating the paths between the constructs to measure the hypotheses.

1.8 Contributions of this study

This research aims to expand existing knowledge on PED, emotional well-being and consumers’ perception towards brand performance. It intends to contribute to theoretical knowledge in two main areas: firstly by conceptualising and operationalising the constructs, and secondly by empirically testing the conceptualisations.

This thesis contributes to the academic body of knowledge on interior design by clarifying the concept of PED, in addition to specifying its antecedents and consequences. The research contributes to developing and testing a research model

which clarifies the relationships between the construction of PED, its antecedents and consequences. This study also adds to the current knowledge in marketing research by establishing the dimensions of PED (Bloch et al., 1994; Dedeoglu, et al., 2018; Turley and Chebat, 2002), enabling these results to be validated and refined by the literature for a better understanding of the concept.

The investigation of the PED dimension provides a conclusion to unlock constructs for future integration. By emphasising the concept, this study does not question the existing definitions of PED (Ladhari et al., 2017; Lucas, 2015; Michon et al., 2005). However, the conceptualisation of consumers' emotional well-being as an additional aspect of PED is intended to overcome the psychological aspects of marketing (Morland, 2018; Thang and Tan, 2003; Turley and Chebat, 2002), hence advancing the possibilities of design to influence brand performance (Molinillo et al., 2018).

In addition, since this study examines PED, it expands the understanding of its components (ambience, artefacts and spatiality) and its influence on consumers' emotional well-being (sensorium, behaviour and happiness). Consequently, this research promotes the integration of PED with consumers' perception of the brand performance of a retail store (Foster and McLelland, 2015; Jain et al., 2017; Molinillo et al., 2018; Stephens, 2013).

Furthermore, this research offers measurement scales in order to operationalise the PED construct. As PED represents a rather underdeveloped research area in design literature, the development of measurement scales offers initial insights into the role of PED as part of brand performance (Lee and Kim, 2014; Molinillo et al., 2018; Stephens, 2013). In addition, this study empirically verifies the conceptualisation and operationalisation of the PED construct (Ladhari, 2010; Machleit et al., 1994; Turley and Chebat, 2002). The measurement scales that were developed to operationalise the PED construct constitute a foundation that will foster further research in this area.

In terms of managerial contributions, this study provides practical guidance to retail store managers and decision-makers regarding the purpose and application of PED and its elements, in order to offer atmospheric stimuli to diverse consumer segments (Dedeoglu et al., 2018; Turley and Milliman, 2000). A clear understanding of the

nature of the relevant concepts can help architects and designers to deliver store experiences which are likely to create an enriched brand environment, based on physical and cognitive dimensions in order to increase their success.

In practice, managers need a radically different approach to give a strong push to the capabilities of their enterprises based on the chosen marketing strategy (Alexander and Cano, 2019; Dedeoglu et al., 2018; Ladhari, 2010). A retail setting based around an effective PED will serve the brand better. Thus, this study is of extreme importance to brand managers, since they need to plan carefully the factors which impact PED in retail stores. This research suggests some important strategic guidelines for market segmentation of retail stores from the point of view of consumers' perceptions towards brand performance. The notion of PED, which can be integrated with technological advancements to evoke affective experiences for consumers and can thus trigger their perception of brand performance.

In addition, marketers can develop a profound design process that eventually makes the patron and every occasional visitor in the building a slightly better individual (Dushkes, 2012; Pallasmaa, 1991; Singh and Hajarnis, 2018). Considering the high expenditure on PED for a retail store, questions arise as to what advantages consumers will obtain from this asset to enhance their emotional well-being, and it ultimately promotes the brand. This study contributes to: 1) developing a broader understanding of consumers' emotions and the effect on brand; and 2) identifying the factors which induce positive consumer behaviour and increase engagement with brands (Bloch et al., 2003). Overall, this study advances towards a more comprehensive perspective regarding PED as a medium to improve consumers' emotional well-being in a store.

1.9 Definitions of constructs in this study

For the study, the research used the constructs as set out below. These definitions were formed on the basis of the thorough literature review and the findings of the qualitative and quantitative studies:

Physical environment design - Physical environment design (PED) refers to the atmosphere created by a unified ambience, artefacts and spatiality that comes from an

inner state of mind with an experience, and is responsible for connecting interior spaces with exteriority through awareness of human senses, which acts as an approach to attract consumers' attention and effect patronage decisions (Ainsworth and Foster, 2017; Gardner and Siomkos, 1985; Jeremy et al., 2002; Kotler, 1973; Mehrabian and Russel, 1974; Olson, 1977; Spangenberg et al., 1996; Terje et al., 2009; Vada., 2019; Vaikla-Poldma, 2003; Xin et al., 2007; Zeithaml, 1988).

Ambience - Ambience is an environmental characteristic of a particular place that affects the actions and feelings of a subject (through music, light, temperature, smell and design) (Sabrina, 2014; Wakefield and Baker, 1998).

Artefacts - Artefacts are multidimensional, physical elements created in the retail stores which are communicated by way of general meanings in exchanges with consumers to provide comfort and convenience (Ainsworth and Foster 2017; Dedeoglu et al., 2018; Sahoo and Ghosh, 2016).

Spatiality - Spatiality refers to an arrangement of design elements to make spaces recognisable and create a structure using the dimensions of that area which even influences the economic value of that place (Berman and Evans 1992; Law et al., 2000; Michalek et al., 2002).

Visual identity - This study describes visual identity an assembly of visual cues by which people can recognise the company and distinguish it from others (Abratt, 1989; Foroudi et al., 2014, 2016, 2017; Melewar and Saunders, 1998, 1999; Melewar, 2003).

Communication - Communication means conveying a message effectively through various design elements which induces moods, impacts on consumers' perceptions and behaviour, and helps organisations position themselves or differentiate themselves from competitors (Aslam, 2006; Tavassoli, 2001).

Cultural heritage - Cultural heritage is a medium for cultural identity and cross-cultural communication, an edifying destination for visitors, and a focus for traditional enrichment through structures and artefacts which helps in the

development of cultural infrastructure and the promotion of businesses (Evans, 2009; Jayne, 2005; Neill, 2005).

Emotional well-being - Emotional well-being is a psychological experience that can be defined as overall comfort and satisfaction through which an individual is revitalised, feels delighted, gains sensation through perceiving the external world, and is able to develop a purchase-making pattern available through multiple dimensions in (Diener, 2009; Hassenzahl et al., 2013; Michaelson et al., 2009; Sorrento, 2012; Stiglitz et al., 2009; Welch, 2013; Zikmund, 2003).

Sensorium - Sensorium refers to the sensory organs as a whole, which are responsible for receiving and integrating perceptions at different levels through design cues (Haase et al., 2018; Helmefalk et al., 2017; Welch, 2013).

Behaviour - Behaviour refers to an emotional state around a physical environment, which can either enhance or suppress feelings and emotion (Ali et al., 2014; Ryu and Jang, 2007; Sorrento, 2012).

Happiness - Happiness is a strong factor of consumers which has a remarkable effect on purchasing actions in the retail store environment that creates store attachment and develop cognitive behaviour (Badrinarayanan and Becerra 2018; Shaw, 2011; Watson and Spence, 2007).

Consumer's perception towards brand performance - Consumers' perception towards brand performance is the product/organisation-related influence on consumers' experience and decisions with the brand as a known identity, communicating from company to consumers, and having a positive effect on the profitability of the organisation (Cohen, 2011; Foroudi, 2019; Johnstone and Conroy, 2008; Keller, 2003; Khan, 2009; Melewar and Saunders, 2000; Nguyen, 2012; Nguyen et al., 2016; Sung, 2008).

1.10 Structure of thesis

This thesis has been divided into eight chapters along with appendices and references. This thesis has the following structure:

Chapter 1: Introduction - The first chapter presents the background and scope of the study, and the relevance and aims of the study. In addition, the applied research methodology, the study analysis and contributions of the study are briefly outlined.

Chapter 2: Literature review - This chapter provides an in-depth review of the relevant literature for this research. It presents the relevant concepts, paradigms and models in the area of PED, emotional well-being and brand performance.

Chapter 3: Conceptual framework and research hypotheses - This chapter demonstrates the theoretical framework linking the key constructs, and presents the evolving hypothesised relationships of the framework.

Chapter 4: Methodology and research design - This chapter provides the rationale for the research methodology and the methods chosen to collect the data. Additionally, this chapter highlights the data analysis techniques and the statistical software used in this study.

Chapter 5: Qualitative findings - This chapter presents the findings of the qualitative research, which are in the form of narrative summary statements and discussions. The findings are reported in direct quotations from respondents, based on the themes. The insights from the respondents are interpreted and further strategised.

Chapter 6: Data analysis - This chapter includes a summary of the conceptual findings emerging from the review of literature presented in previous chapters. In addition, an analysis of the various arguments is provided; and the procedures for validating the constructs as well as the testing of the model are presented.

Chapter 7: Discussion - In this chapter, the outcomes of the research are highlighted in more detail and the linkages between the literature and the outcomes are explained.

Chapter 8: Conclusion and implications- This chapter presents part of the foundational structure upon which this thesis has been developed and sets out how it contributes to theory and practical dimensions. In addition, the limitations of this

research are discussed, and further research suggestions are highlighted. Importantly, this chapter summarises the significance of PED for brand performance. The appendices and references follow this chapter.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

Physical environment design is an important area of research in the marketing discipline. Research on PED over the past few decades has put forward evidence that various factors such as ambience, artefacts and spatiality can influence consumers' mood and emotions (Baek et al., 2018; Han and Ryu, 2009; Quartier et al., 2009; Ryu et al., 2012; Veryzer, 1993; Wheeler, 2006) and affect emotional well-being (Baker, 2005; Cho and Lee, 2017; Papagiannidis et al., 2017), which can lead to increased brand performance (Baldry et al., 1997; Hafner et al., 2015; Khan, 2009).

The branding literature adds to the general view about PED by referring to design as a means to make service brands more tangible (Baker and Cameron, 1996; Bitner, 1992; Parasuraman et al., 1988). Despite the significant research, little direct attention has been paid to PED (Ainsworth and Foster, 2017; Hermann et al., 2013; Inman et al., 2009; Molinillo et al., 2018; McGrath, 1989). Although its influence on consumers' behaviour has gained some attention (Ainsworth and Foster, 2017; Ali, 2015; Andreau et al., 2006; Molinillo et al., 2018; Turley and Milliman, 2000; Vada et al., 2019), certain research pages remain unturned. Moreover, since PED plays an important role in developing a favourable brand (Hatch and Schultz, 2003; Melewar and Akel, 2005; Russel, 2001; Vada et al., 2019; Wheeler, 2006), examining its role as a new dimension of branding can provide valuable knowledge regarding its use, as an additional feature to increase consumers' emotional well-being.

The main concern of this chapter is to present the existing academic literature on PED, emotional well-being and brand performance. For this purpose an interdisciplinary approach has been adopted drawing on various disciplines such as marketing, psychology and other behavioural sciences. By doing so, this research identifies new ideas to interpret previous studies (Ariffin et al., 2017; Arrigo, 2018; Babin et al., 2004; Dennis et al., 2014); reveals any research gaps that exist in the literature; and most importantly places the current study in the context of its novel contribution to understanding the research problem under consideration.

The elements of PED and its effects on consumers' emotional well-being, which in turn results in an increase in brand performance, will be discussed. From the marketing perspective, it is vital for retail stores to use unique elements of PED to enhance prosperity and brand performance (Arrigo, 2018; Cartwright et al., 2016; Verhoef et al., 2015).

The aim of this research is multifaceted. Primarily, it intends to identify relevant researchers and related concepts and paradigms, thereby revealing how knowledge on the topics are structured and organised. It also provides and investigates an array of existing definitions. Moreover, reviewing the literature offers insights into past and ongoing discussions and debates in the field, leading to the identification of the research questions that have been addressed by academics so far (Arrigo, 2018; Azim et al., 2014; Kim et al., 2016). Finally, the aim of the researcher is to identify the significant perspectives for this particular research study.

This chapter explores relevant research studies, provides a critical evaluation of similar studies, and includes an integrated approach with regard to the research problem considered in this study. In the next sections, the following contents are presented. Section 2.2 discusses five paradigms of PED, Section 2.3 explains its definition, and Section 2.4 elaborates its role in retail settings. Section 2.5 describes PED and its elements (ambience, artefacts and spatiality), while Section 2.6 outlines its antecedents (visual identity, communication and cultural heritage). Section 2.7 defines emotional well-being, followed by Section 2.8 which describes emotional well-being and its elements (sensorium, behaviour and happiness). Section 2.9 defines consumers' perception of brand performance. Section 2.10 sets out the identification of research gaps. Finally, a summary of the chapter is presented in Section 2.11.

2.2 Paradigms in physical environment design

Physical environment design is becoming important as a marketing tool for organisations to distinguish themselves from their competitors (Cornelissen and Harris, 2001; Karaosmanoglu and Melewar, 2006; Ragin-Skorecka, 2010). After discussing the various concepts of PED, this section will depict key paradigms in the field in order to differentiate between the main academic perspectives. Being aware of the fact that other less prevalent paradigms have been proposed, based on the

categorisations by researchers (Balmer, 1995; 1998; 2001; Foroudi et al., 2017; Simoes et al., 2005; Van Riel Balmer, 1997) five key paradigms, namely the visual paradigm, the integrated communication paradigm, the organisation paradigm, the marketing paradigm and the multidisciplinary paradigm, will be discussed.

2.2.1 The visual paradigm

The previous literature has considered PED to be strongly equivalent to visual elements such as colour choices, physical stimuli, styles, interiors, architecture, decor, symbolic artefacts, logo and everything else that is related to graphic design (Alessandri and Alessandri 2004; Foroudi et al., 2014; Howard, 1998; Hussain, 2014; Hynes 2009; Melewar and Karaosmanoglu, 2006), and the literature on PED was put forward by practitioners and design consultants (Schielke, 2010). Moreover, He and Balmer (2007) highlighted that the “visual identity locus of analysis is the organisation’s symbolism, which includes all sorts of visual cues that identify and distinguish the focal organisation” (p. 772).

According to Balmer and Gray (2003), brands displayed in stores denote ownership, iconic illustrations, and significant symbols which create an enjoyable and pleasant experience for the consumers. An organisation markets itself as a brand when it engages various other brands (Argenti and Druckenmiller, 2004). Its reputability depends on a remarkable and well-communicated visual identity, as it serves as a foundation that enables consumers to engage with and encounter a unique experience (Melewar and Saunders, 1998; Tourky et al., 2020). ‘Servicescape’ was a term first used by Bitner (1992, p. 58) to describe the physical environment of an area where services were delivered to the customers. However, this has changed and various dimensions have increasingly been considered as means to influence the perception of customers (Baker, 1987; Custers, 2010; Kotler, 1973). The key purposes of PED have been identified in different ways by various scholars (Balmer and Greyser, 2006; Batraga and Rutitis, 2012; Chen and Hu, 2010; Han and Ryu, 2009; Koshki et al., 2014; Melewar and Karaosmanoglu, 2006), such as communicating a message and philosophy, providing a visualisation of cultural values, supporting communication strategies and finally ensuring an up-to-date visual, physical appearance of the organisation in consumers’ minds.

Moreover, PED has been associated with evoking memories in consumers' minds (Baek et al., 2018; Hussain, 2014; Jarvenpaa et al., 2000; Riewoldt, 2002). Its role has been widely acknowledged in the literature (Bertram and Chi, 2018; Hussain, 2014; Riewoldt, 2002; Schielke, 2010). The concept of visual identity relates to the approach an organisation takes in order to communicate its comprehensive identity to its diverse consumers (Hatch and Schultz, 2008). Visual identity does not just help organisations to achieve long-term benefits, creating positive images and better recognition than its competitors (Ragin-Skorecka, 2010), but it also influences consumer decisions (Bertram and Chi, 2018; Olins, 1990; Wilkins and Huisman, 2014).

Generally, organisations promote a visual identity as these impressions communicate values and provide information (Manning, 1991). However, PED also has an effect on customers' perceptions. The impacts due to ambient conditions such as artefacts and spatiality were explored by Bitner (1992). PED assists consumers to understand an organisation's values and how it differs from its competitors (Dale, 2017; Foroudi et al., 2017; Karaosmanoglu and Melewar, 2006). According to Bachynski (2009), PED enables organisations to communicate their identity enterprisingly in various ways other than visual expression, as physical environment can be employed in three dimensions and in different spaces. These spaces are highlighted by various cues that reflects the essence of an organisation's identity (Bertram and Chi 2018; Heding et al., 2009; Markwick and Fill, 1997).

In addition to this strategic aspect, research on PED has focused on the possibilities of communicating core values and beliefs, i.e. the interior design of the organisation, by means of visual identity (Aaker, 2004; Abratt, 1989; Balmer and Gray, 2003; Schielke, 2010; Van Rekom, 1997), by which an object allows people to describe, remember and relate to it. Researchers (Lambert, 1989; Schmidt 1995) highlighted this deeper perception by pointing out that the PED of an organisation consciously or unconsciously give messages through interior spaces.

2.2.2 The integrated communication paradigm

Integrated marketing communication is referred as “the strategic co-ordination of all messages and media used by an organisation to influence its perceived brand value”

(Duncan and Everett, 1933, p. 33). By consolidating communication strategies, harmony is created among different forms of communication. Design experts and managers have realised that there should be a consistent flow of communication to diverse consumers (Van Riel and Balmer, 1997). The integrated communication paradigm denotes harmony “within the marketing, communications and public relations disciplines with the coordination of communications, namely: corporate communications and total corporate communications” (Balmer, 2011, p. 1383; Palazzo et al., 2018; 2019).

Studies on PED have focused on how organisations create a unique feature that is transmitted through an organisation itself, embracing values and communication (Bellizi et al., 1983; Bitner, 1992; Kutlu et al., 2013; Lindholm et al., 2006; Nenonen, 2005; Rafaeli and Vilnai-Yavetz, 2004; Singer et al., 2007). PED is a concept that allows any form of communication and making the environment aesthetically appealing, which people can recognise and distinguish from others (Abratt, 1989; Joye et al., 2011; Melewar, 2003; Melewar and Saunders, 1998, 1999; Quartier et al., 2014) and which can develop consumers’ social-emotional inner being (Chen et al., 2015). Organisations harmonise internal and external communications to generate a favourable image of the company for customers (Van Riel, 1995).

The integrated communication paradigm particularly emphasises the effective integration of all the communication efforts of the PED of an organisation, and whether the marketing strategies and communication efforts are designed to deliver consistent and concurring messages through corporate communication activities (Abdullah et al., 2013; Bick et al., 2003; Dowling, 2001; Foroudi et al., 2017, 2018). The varied physical environments through consumer sensorium serve as a component of company-controlled communication (Bartholme and Melewar, 2011; Bertram and Chi, 2018; Welch, 2013).

All forms of communication that express a design and seek an integrated approach to an organisation’s comprehensible PED convey meaningful messages through internal and external forms of communication (Simoes et al., 2005). Communication effectiveness may relate to previous memories of the brand or organisation (Campbell and Keller, 2003). Moreover, the key objective of integrated communication is to

achieve high consistency in an organisation through the elements of PED (Custers et al., 2010; Elsbach and Stigliani, 2018; Quartier et al., 2014) and to ensure that the identity of an organisation is perceived as it was intended (Abratt, 1989).

Simoes et al. (2005) argued that the strategic positioning of all communication efforts (i.e. integrated communication) was based on the purpose and philosophy of the organisation and its use of the elements of PED. Moreover, Gray and Schmeltzer (1987) suggested that strategic communication programmes could build a strong personality for the organisation, and Simoes et al. (2005) proposed that integrated internal and external communication could lead to competitive advantage.

2.2.3 The marketing paradigm

The marketing paradigm puts consumers in the limelight and considers PED as a business objective, thus taking an external perspective. A great extent of the early work by a variety of marketing scholars (Astous and Levesque, 2003; Simoes et al., 2005; Stern, 2001) emphasised the promotion of the organisation's corporate image through the elements of visual identity (Balmer, 2008). Kotler (1973) introduced the term *atmospherics* into the marketing literature, evoking particular customer responses (Turley and Milliman, 2000), with PED understood as an element used to create cognition to develop positive attitudes among consumers.

By taking an external viewpoint, the marketing paradigm takes a receiver-oriented perspective (Stern, 2001), since PED is considered to reflect the images held by customers as a projective interpretation of an organisation's PED (Turley and Milliman, 2000). The corporate identity of an organisation illustrates the intrinsic factors that make it distinct by integrating its design features, communication, culture, behaviour and strategies (Dacin and Brown, 2002; Melewar et al., 2018; Melewar and Karaosmanoglu, 2006). The external perspective of the marketing paradigm was also accentuated by Grunig (1993), who argued that the marketing literature examined PED by taking the perspective of the receiver of the messages. Similarly, Spencer et al. (2005) argued that some researchers associated PED with the sender side, whereas the concept of PED was usually linked to the receiver side. This view was encapsulated by Baudrillard (1996), who pointed out that PED was an engaging and

powerful concept that summed up the organisational aspect of the interior environment.

However, PED in the retail stores aim to establish positive impressions among customers, thus arguing that PED can be constructed and controlled by the organisation and be transferred to customers (Aaker, 1996; 2004; Abdullah et al., 2013; Fournier, 1998; Holt, 2004). This relationship is particularly evident when the PED concept is applied to an organisation. Simoes et al. (2005) asserted that the marketing strategies are strongly related to the branding literature, and emphasised the intersection of PED and brand performance. In particular, Schmitt and Pan (1994) argued that PED and brand performance were synonymous at corporate level. Moreover, the relationship between PED and corporate branding has stimulated various marketing academics to apply a branding or marketing perspective to the concepts of PED and brand performance (Cartwright et al., 2016; Haase et al., 2018; Hafner et al., 2015; Munajjed and Sulaiman, 2015).

Marketing paradigms are market driven that include perspectives on corporate branding such as consumer evaluations (Brown and Dacin, 1997), consumer intentions (Goldsmith et al., 2000) and brand extensions (Keller and Aaker, 1998). In order to establish the desired identity in consumers' minds (Branscombe et al., 1999; Dedeoglu et al., 2018; Phinney and Chavira, 1992), PED can serve the purpose of marketers by creating a positive image of brands in consumers' minds (Salameh et al., 2018). Moreover, Hatch and Schultz (2003) stress the role of organisational values in order to establish a strong brand, arguing that "successfully managing the brand also involves reaching inside the organisation to better project and communicate organisational values to customers" (p. 103). By positioning the whole organisation appropriately, stores can build strong bonds with brands, thus gaining valuable differentiation (Balmer, 1995; Casidy et al., 2018; Hatch and Schultz, 2003).

2.2.4 The organisational paradigm

Organisational identity can be defined as "the degree of salience with which an individual defines himself by his membership of an organisation in given circumstances" (Van Riel and Balmer, 1997, p. 770). In line with this perspective, the identity of the organisation defined by Perez and Del Bosque (2014) is "as everything

that formal members of the company think and feel about it” (p. 7) and by Van Riel and Balmer (1997) as “rooted in the behaviours of members of the organisation” (p. 341). Furthermore, He and Balmer (2007) defined organisational identity as “organisational member’s perceptions of the defining characteristics of their focal organisation” (p. 769).

Since organisational identity has been defined according to the beliefs that are central, enduring and distinguishing to the members of an organisation (Hase and Heerwagen 2000), the organisational paradigm upholds the importance of the relationship between employees and their organisation, since employees’ perceptions about their organisation play an important role in PED. According to Balmer and Wilson (1998), organisational behaviour academics refer to PED as ‘the way that human resources identify with the organisation’.

In contrast to the marketing perspective, which emphasises PED as an external projection of consumers’ perceptions, organisational behaviourists (e.g. Bitner, 1992) focus on the internal relationship between employees and the organisation, based on organisational commitment (Foreman and Whetten, 2002) and organisational identification (Ashforth and Mael, 1989; Dutton et al., 1994). An organisation is responsible for creating favourable brand image and supporting brand reputation through its interaction with internal and external stakeholders (Chang et al., 2012).

The organisational studies perspective draws on cognitive theory, which postulates that organisational identification is a form of emotional identification, defining it as “the degree to which a member defines him or herself by the same attributes that he or she believes define the organisation”. Customers’ attachment to the organisation and thus the organisational feelings or emotions which combine and connect to create a typical stimulus when an individual perceives the environment (Tomkins, 1991), such as joy, can be observed through consumers’ behaviour.

The content of displayed items creates emotional feelings by evoking customers’ memories, which enables recognition of the items and thus helps them to take decisions (Chatterjee, 2003). Hence, stimulation is developed and bonding is strengthened if customers believe that the construed PED is attractive, i.e. it contains

attributes that distinguish the organisation in positive, socially valued terms (Dutton et al., 1994). Similarly, Bergami and Bagozzi (2000) argued that positive organisational prestige strengthened organisational identification (Simoes et al., 2005). Furthermore, Foreman and Whetten (2002) referred to the identity comparison process when they argued that consistency between perceived organisational identity and construed organisational identity had a positive effect on consumers. PED offers an interactive environment which psychologically influences consumers' stimuli (Arrigo, 2018).

2.2.5 The multi-disciplinary paradigm

PED has widely been acknowledged as a multifaceted construct whose dimensions have been related to different disciplines such as marketing, psychology, behavioral sciences (Esteky, 2017; Hanaysha, 2016; Lee and Jeong, 2012; Morland 2018). Baker (2005) pointed out that academics increasingly argued that PED refers to an organisation's unique characteristics which were rooted in the behaviour of its members.

According to Pittard et al. (2007), the concepts of PED have been broadened, based on influential work by researchers (such as Arrigo, 2018; Crilly, 2004; Silayoi and Speece, 2007). Holtzshue (1994) defined PED as consisting of interior spaces, created by colour and brands, that influenced consumers' emotional well-being and enhanced commercial activities. Matzler (2008) argued that PED comprised colour harmony, brand personality, and communication and design.

Due to the multidisciplinary nature of PED, various definitions of the concept have been put forward by researchers (see Appendix 2.1 to Appendix 2.4). However, physical environment can be defined as the setting of an area where people move about, explore and experience (Beyer and Holtzblatt, 1998); or a setting which encompasses people and has an inherent effect on their emotional well-being (Baker, 2005; Ladhari et al., 2017; Yalch and Spangenberg, 1990) through sensorium and behaviour.

Referring to the multifaceted character of PED, Engel and Roger (1982) stressed that investigating just one discipline would provide limited insight into the construct. In a similar way, Balmer (1998) and Keller (2009) emphasised the link between PED and

brand performance, which requires a multidisciplinary approach. Consequently, based on the multifaceted character of PED, emotional well-being and consumers' perception of brand performance, the perspective of the interdisciplinary paradigm intensifies the integration of various disciplines and aims to harmonise the visual paradigm, organisational studies and marketing perspectives (Simoes et al., 2005), as well as the need for collecting the elements of PED.

A number of researchers (Bitner, 1992; Casidy et al., 2018; Kotler, 1973; Mehrabian and Russell, 1974; Orth et al., 2012; Simoes et al., 2005; Stokols, 1995; Ulrich et al., 1991; Willems et al., 2012) have acknowledged an interdisciplinary perspective of servicescape and consumer experience. Owing to the multifaceted nature of PED, Geddes (2011) gave an interdisciplinary perspective and reflected through the following statement: "The retail interior is no longer just a platform for a brand to sell its products, but an embodiment of the brand and a destination for consumers where they can do much more than simply browse and transact" (p. 58).

Geddes (2011) statement clearly emphasises the interdisciplinary perspective by stating several objectives regarding PED, such as a store personality that fosters emotional well-being and brand personality. Orth et al. (2012) proposed that PED related to the charisma of impressions through a holistic interior perspective supported by Gestalt psychology, stating that any one of multiple interior design elements taken in isolation fails to convey the nature of the room, but content and meaning emerge from the arrangement of numerous parts to create a richer perceptual whole.

To sum up, the multidisciplinary paradigm emphasises the harmonised management of PED (i.e. identity, behaviour, brand experience) and advocates the integration of the visual, marketing and organisational disciplines (Baker, 1987; Bartholme and Melewar, 2011; Bitner, 1986; Booms and Bitner, 1982; Foroudi et al., 2017; Hanaysha, 2016; Kotler, 1973; Sen and Bhattacharya, 2001; Van Heerden and Puth, 1995; Wheeler, 2006; Yalch and Spangenberg, 1990; Zeithaml et al., 1985).

2.2.6 Overview and the focus of the study

This study addresses the concepts of PED, emotional well-being and consumers' perception towards brand performance from multidimensional perspective, and emphasises certain aspects of PED that positively impacts emotional well-being. PED is the most organised marketing tool (Baker and Lamb, 1992; Kotler, 1974; Ryu and Han, 2010), and strongly influences consumers perceptions (Nazarian et al., 2017; Ong and Yap, 2017).

PED in a retail setting is defined within the cultural sphere as involving aesthetic judgement and social recognition by customers (Kapferer and Bastien, 2009). For instance, Nguyen and Leblanc (2002) referred PED to the physical surroundings in which the delivery of service products takes place. However, consumers enjoy artistic presence and presentation in retail stores (Charters, 2006), which offers the brand through innovation within the store. Customer experience and innovation capability contribute to brand performance (Foroudi et al., 2017) in retail environments. All artefacts denote particular meanings and functions that enable customers to feel spellbound (Munster et al., 2017).

The distinguishing and enduring qualities of retail stores rely on the major theories of place identity theory (Brocato et al., 2015; Karlsson and Nilsson, 2017; Proshansky et al., 1983), affective theory (Damasio, 1999; Kahn et al., 2009; Kaplan, 1995; Plante et al., 2006) and emotional theory (Bechara and Damasio, 2005; Damasio, 1999; Karlsson and Nilsson, 2017) to deliver a coherent, comprehensive articulation of the conditions in which consumers are likely to identify with or feel a sense of belonging within (Healy et al., 2007; Karlsson and Nilsson, 2017; Tyler and Adhitya, 2015) a retail sector.

PED is a basis for positioning an organisation as a brand. A major focus of this study is the relationship between organisations and consumers' emotional well-being that enhances brand performance outcomes. PED can influence consumers' emotions and stimulate brand performance (Foroudi et al., 2017, 2019, 2020). It is thus regarded as an essential component of a stimulus that draws an emotional reaction from consumers (Alessandri, 2001; Cartwright et al., 2016; Irwin 2018; Lewicki, 1986). Designers and consultants regard the concept of PED as the interior structural

presentation of elements, decorative or symbolic, that are arranged in a specific manner to create a magnificent ambience in which an organisation communicates with the public (Balmer, 1998).

Corporate branding academics focus on PED as a concept that is formed on the basis of the brand ethics of an organisation, used to demarcate the physical features of a product/brand (Bennett, 1995; Leitch and Motion, 1999; Morland, 2018), and enables a company to build an image of itself in the consumer's mind (Hanaysha, 2016). Marketing research considers PED as a useful concept to create highly effective responses, and that generates cognitive responses (Gibson and Green, 2002). According to researchers (Ali and Amin, 2014; Balmer, 1998; Grzeskowiak et al., 2016), PED creates emotional reactions, as well as providing overall satisfaction for an individual through different aspects of ambient conditions, such as light, thermal settings, spatial layout, supportive design features and music, as well as access to outdoor spaces (Joseph et al., 2006).

Some scholars (Ainsworth and Foster, 2017; Borghini et al., 2009; Diamond et al., 2009; Park et al., 2019) have postulated that the physical view of a retail store significantly affects consumers' experiences and buying behaviours. PED matters immensely to customers as they not only welcome branded products but also embrace cultural heritage and traditions (Martineau, 1958), which is perceived by the customers' sensorium. Retailers and marketers must allocate substantial and noticeable design solutions in order to create an appealing physical environment in stores (Lin and Liang, 2011). Organisations offer PED as consumer experiences in stores, created through various dimensions of interior decoration. Customers engaged with art on display and a store's physical features that incorporate aesthetics at all levels.

Other researchers (Han and Ryu, 2009; Ryu et al., 2012; Ong and Yap, 2017; Park et al., 2019) have suggested that PED can elicit behavioural responses from diverse consumers. PED also impacts on familiarity with the store and its products/brands and leads to a favourable attitude towards the organisation and its brands (Khan, 2009; Li et al., 2012; Ong and Yap, 2017; Pizam and Tasci, 2019). The following sections provide the definitions of PED and its elements (ambience, artefacts and spatiality);

emotional well-being and its elements (sensorium, behaviour and happiness); the antecedents of PED (visual identity, communication and cultural heritage); and consumers' perception of brand performance.

2.3 Physical environment design

The notion of physical environment design takes its base from Kotler (1973), who considered “atmospherics” to be the quality of environmental design in a particular place. Kotler further highlighted the significance of PED as a marketing tool, and defined it as “the design of buying environments to produce specific emotional effects in the buyer that enhance his/her purchase probability” (p. 50). “One of the most significant features of the total product is the place where it is bought or consumed. In some cases, the place is more influential than the product itself in the purchase decision” (Kotler, 1973, p. 48). On the other hand, Pan and Zinkhan (2006) stated that atmosphere of a shopping store significantly affected consumers' perceptions. According to Teller and Reutterer (2008), the atmosphere of a store could be an even more crucial factor in the store's overall attractiveness than the merchandise itself. Physical design is a remarkable feature that determines the emotional well-being of consumers in the retail environment (El Hedhli et al., 2013). The existing literature suggests that PED influences customer perception of services within retail settings (Baker, 1987).

PED, as defined by Baker (1987) and Lucas (2003), is the man-made built environment that is a combination of ambience, aesthetic designs and social factors. It is also referred to as a servicescape, which has an impact on perceived service quality and purchase intention (Harris and Ezech, 2008; Park et al., 2019; Wakefield and Blodgett, 1996). Bitner (1992, p. 58) used the term “servicescape” to describe the physical environment in which services were provided to enrich consumers. An organisation's PED includes its aesthetically appealing design and artistic decoration, and its overall layout (Baker, 1986; Lee and Jeong, 2012; Molinillo et al., 2018). Moreover, servicescape was also used to represent the artificially created, man-made physical environment in which service products were delivered to customers (Bitner, 1992). Researchers (Mahnke and Mahnke, 1993; Pizam and Tasci, 2019; Ruiz et al., 2012; Ryu et al., 2012) found that such PED venues in retail settings were of great

significance from customers' point of views, as these areas played a critical role in differentiation and influenced customers' experiences.

According to Lee and Jeong (2012), PED is considered as an important factor for the success of any retail setting, and it is defined as an atmosphere which is a set of elements (ambience, artefacts and overall spatial arrangement) for ethnically diverse consumers. PED gives prominence to a company's services; it enables customers to distinguish and identify a brand or a company (Bennett, 1995; Leitch and Motion, 1999; Pizam and Tasci, 2019). It is regarded as an essential component of the stimuli that draw an emotional reaction from consumers (Alessandri, 2001; Lewicki, 1986).

Drawing on the definitions by researchers (Ainsworth and Foster, 2017; Bitner, 1992; Kotler, 1973), this research defines PED as the atmosphere that is intentionally created or designed to stimulate the human senses through tangible or non-tangible attributes in order to gain popularity. Scholars (Bitner 1992; Grzeskowiak et al., 2016; Han and Ryu 2009; Namasivayam and Lin 2005; Ryu and Jang, 2008; Pizam and Tasci, 2019) have recognised that PED has a significant effect on consumers' emotional responses and behavioural intentions. This notion of PED is extended to further investigate its influence on consumers' emotional well-being, which consequently increases consumers' perception of brand performance.

2.4 Physical environment design in retail settings

The significance of PED in a retail landscape has long been acknowledged (Ainsworth and Foster, 2017; Baker et al., 2002; Bitner, 1992; Bloemer and De Ruyter, 1998; Dedeoglu et al., 2018; Theodoridis and Chatzipanagiotou, 2009). This research on PED contributes to the retail experiences of diverse consumers. PED can enhance consumers' perceptions of a store environment and thus enhance the retailer's ability to provide opportunities to customers (Cartwright et al., 2016; Casidy et al., 2018; Grewal et al., 2011). According to Pine et al. (1999), retail offers consumers entertainment that gives them satisfaction. In addition, PED has been identified as one of the significant store components influencing commercial success in retailing (Kumar and Kim, 2014; Mazursky and Jacoby, 1986; Rayburn, and Voss, 2013; Wakefield and Blodgett, 2016).

PED allows retail stores to communicate their corporate identity in a more dynamic way than other visual expressions, because interiors can be employed in three dimensions and in different spaces (Bachynski, 2009). Its effects are mediated in and through individuals' perceptions and communicative action. Visitors come to a particular store with an intention or purpose that may be achieved or obstructed by the setting (Bitner, 1992). Furthermore, Barker (1968) implied that repeated social behaviour patterns were associated with particular PED in retail settings. Research in a retail setting suggests that customers have different needs and desires for PED (Baker et al., 2002; Hosseini and Jayashree, 2014; Verhoef et al., 2015).

Previous studies (Bargenda, 2015; Bennett, 1995; Compeau et al., 2016; Jang et al., 2018; Leitch and Motion, 1999; Quartier et al., 2009) in the field of PED serve as a support for ambient marketing initiatives, and also reinforce its sign value as an urban and cultural touch-point which represents a symbolically charged communication tool in its own right. Initially, Martineau (1958) posited that a retail store had a personality, defining store image as "the way in which the store is interpreted by the customer's mind, is partly by the functional features and partly by an aura of psychological attributes". In this proposed definition, functional refers to the physical aspects of a store, such as store layout and design factors, while psychological refers to aspects such as a sense of belonging and the feeling of friendliness. Furthermore, Martineau (1958) recognised that colour, symbols, ambience and layout were dimensions of the store's image which were relevant to the consumer and retailer.

According to researchers (Ainsworth and Foster, 2017; Alexander and Cano, 2019; Erdem et al., 2004; Obeng et al., 2015), the retail capability systems perspective suggests that, while foundational capabilities such as brand management are essential for retailers to remain competitive, supportive capabilities such as PED can also provide considerable benefits and prosperity for stores. Furthermore, PED is a key support that has strong association with retail brand management (Ainsworth and Foster, 2017; Alexander and Cano, 2019; Obeng et al., 2015). The merchandise sold in stores imposes the PED of that store (Cho and Lee, 2017; Foster and McLelland, 2015; Spence et al., 2014).

In retailing, PED is of significant relevance, since store design is critical to the attraction and retention of customers (Ainsworth and Foster, 2017; Alexander and Cano, 2019; Dennis et al., 2012; Grewal et al., 2009; Puccinelli et al., 2009). Moreover, it provides the opportunity for retail managers to create a pleasurable PED that influences customer experience (Dennis et al., 2012). The effects of PED in retailing have been studied broadly using environmental psychology theory by numerous scholars (Baek et al., 2018; Baker et al., 2002; Cho and Lee, 2017; Eroglu and Machleit, 1990; Michon et al., 2005). Retailers use colour, music, fragrance, design features and lighting to invite, engage and gain competitive advantage (Bolton et al., 2018; Eroglu and Machleit, 2008; Levy and Weitz, 2001; Turley and Milliman, 2000).

May (1989) describes retailing as an odyssey, a retailer's pursuit of customers, and a consumer's exploration in search of satisfaction. Retail memory, or "knowledge accumulated through repeated retail and service experiences that influence consumer experiences", gives meaning to what the consumer sees and experiences today (Babin and Borges, 2009, p. 161). Designers and consultants regard the concept of PED as the interior structural presentation of elements, decorative or symbolic, that are arranged in a specific manner to create a magnificent ambience in which an organisation communicates with consumers (Balmer, 1998).

On the other hand, Kozinets et al. (2002) contributed to the concept of retailing and considered that retail outlets had emerged to offer consumers a combination of leisure and brand experience. The authors noted: "Consumers go to themed flagship brand stores not only to purchase products, they go to experience the brand, company, and products" (Kozinets et al., 2002, p. 18). The physical design of a retail environment embraces all the visual elements (design cues) and non-visual elements (ambient cues) which create sensory experiences for consumers through which they feel a sense of belonging in that place. According to Sands et al. (2009; 2015), entertaining events can be staged to attract customers, offering fun with the purpose of creating excitement. Beyond the fact that consumers are physical beings with a fundamental need for the analogue, immediate, tactile, real-time shopping space has an important marketing role to perform for any retailer (Pine et al., 1999).

Retail environments represent a brand which adds value to an organisation (Arnold and Reynolds, 2003), and expresses its hedonic essence while addressing the consumer experience by entertaining and inspiring them (Sands et al., 2015). Retailers have the capability of providing exclusive experiences and making customers' visits to stores pleasurable (Jones, 1999). Customers discover ambient cues that are organised in such a way that it gives them happiness and satisfaction, which goes beyond the functionality of the products and services offered by retailers (Arnold et al., 2005; Chen et al., 2014; Hamilton and Wagner, 2014; Hammond et al., 2013; Kauppinen-Raisanen et al., 2014; Orth and Bourrain, 2008).

Scholars (Mattila and Wirtz, 2001; Sarkar et al., 2019; Seock, 2009) have suggested that there are three main types of retail stores: 1) In-store retailing; 2) Non-store retailing; and 3) Franchising. In-store retailing includes department stores, supermarkets, chain stores and multiple shops, whereas non-store retailing comprises of direct selling, telemarketing, online retailing and automatic vending. However, franchising is a marketing concept adopted by organisations for business expansion. Of the numerous examples of retailers, this research focuses on high-end retail stores in the United Kingdom. A department store is a retail unit that handles a wide range of merchandise and is organised into well-defined departments for numerous purposes (Martineau, 1958). These stores sell a variety of goods such as clothing, home appliances, furniture, jewellery, cosmetics, books, stationery and many more. The oldest department store in the world is Bennett's of Irongate in Derby in the UK, which was set up in 1734. The researcher has considered famous stores such as Harrods, which are famous for their own unique design features. This thesis highlights various significant factors of customers' experiences in stores, and thereby sheds light on how retailers can use PED in their spaces (Cox and Brittain, 2000; Martineau, 1958; Turley and Milliman, 2000).

2.5 Physical environment design and its elements

Physical environment design includes many elements or physical characteristics which are either man-made, such as electrical fittings and fixtures, or natural, such as daylight and weather conditions (Joseph et al., 2006; Zeithaml and Bitner, 2003). A retail store has many design features including its appearance, colour, decor, background music, aroma and so on, which play a significant role in engaging

consumers' senses (El Hedhli et al., 2013). These primary components create PED and promote merchandise activities (Ainsworth and Foster, 2017; Cox and Brittain, 2000; Lindberg et al., 2019).

In this section, to understand PED better, the different elements of a physical environment design, such as ambience (Ainsworth and Foster, 2017; Bitner, 1992; Kotler 1973; Polanyi, 1958; Vada., 2019); artefacts (Kent et al., 2018; Noonan et al., 2003; Xin et al., 2007); and spatiality (Li, 2004; Kent et al., 2018; Khare, 2011) are explored. The three elements of PED that influence customers' behaviour are ambience, artefacts and spatiality (Baker et al., 2002), as set out below:

1. Ambience is created by a number of physical installations developed to intrigue and influence positive attitudes, which helps to arouse consumers' senses; and helps them take decisions in the "servicescape" (Morrison et al., 2011; Sabrina 2014; Wakefield and Baker, 1998; Vada et al., 2019).
2. Artefacts are the tools which can be used as an inspiration for contemporary designs in creating various structures in the form of symbols or icons (Pizam and Tasci, 2019; Samuel and Douglas, 2006; Xin et al., 2007). The artistic details make the store very attractive and offer profound cues for people to linger and move slowly from one point to another (Joy and Sherry, 2003; Kent et al., 2018; Park et al., 2019).
3. Spatiality is the arrangement and functionality of objects that meet the design requirements and have a perceptual impact on customers' satisfaction and buying behaviour (Kent et al., 2018; Krukar and Dalton, 2013; Li, 2004; Lovelock and Wirtz, 2006).

The following sections elaborate on these elements of PED. Section 2.5.1 describes ambience.

2.5.1 Ambience

Ambience is the quality of the premises that is perceived by customers (Jang and Liu, 2009; Kent et al., 2018; Lindberg et al., 2019). It can be defined as the conscious designing of surroundings to create emotional effects in buyers which increase their purchasing probability (Kotler, 1973). Ambience is made up of a set of elements, such

as colour, lighting, music and scent (Lin, 2009), that supports in creating stimulations. (Gardner and Siomkos, 1985). Psychology research suggests that ambience has a strong impact on consumer's emotions and behaviours. According to Rys et al. (1987), customers judge the quality of a store on the basis of its environmental factors, using important cues like store ambience (with elements such as lighting, temperature, music and scent); and they found a link between store image, service quality inferences and merchandise.

In other words, ambience is the aura created through intangible cues developed to intrigue and influence positive attitudes and effect a level of behavioural change (Bitner, 1992; Cho and Lee, 2017; Kotler 1973; Polanyi, 1958; Rogers et al., 2010; Vada et al., 2019; Van Rompay et al., 2012). Furthermore, Mehrabian and Russell (1974) introduced a theoretical model to explain the impact of physical environmental stimuli on an individual's behaviour. Ryu and Jang (2007) noted that ambience was also created by thermal settings and aroma, which in turn affected customers' behavioural intentions.

According to Zeithaml and Bitner (2003), ambience includes the background characteristics of the surroundings, such as the entrance, physical settings, interior decoration, thermal settings, music, noise, odour and lighting. Moreover, some researchers (Jang and Ha, 2009; Kent et al, 2018; Lindberg et al., 2019) have discovered that the ambience in a retail store depicts traditional aspects and unique physical layout with aesthetic sense that is significantly related to customer satisfaction. Through aesthetic associations with consumers, ambience enriches the PED of a retail organisation to create a holistic atmosphere and communicate a comprehensive store image (Kumar et al., 2010).

Ambient cues in the form of fragrances, lighting and music influence consumers' perceptions on a sub-conscious level (Baker et al., 2002; Kumar, 2010; Singh, 2006). Furthermore, the ambience of an organisation triggers sensory involvement and forms an integral part of consumers' emotional well-being (Chebat and Michon, 2003; Garvin, 2009; Kim et al., 2007). A number of scholars (Bosmans, 2006; Chebat and Michon, 2003; Donovan and Roositer, 1982; Milotic, 2003; Mitchell, 2001; Morrison

and Ratneshwar, 2000; Spangenberg et al., 1996) have explained the effects of scents on consumers' perceptions in retail environments.

Kotler's (1973) theory of atmospherics was based on the ambient aspects of the physical environment. This related research focused on the ability of ambient aspects to affect consumers' senses. For example, consumers' feelings of pleasure and arousal, particularly those induced by the store environment, significantly predicted their attitudes toward the retail establishment and purchase behaviour (Donovan et al., 1994; Donovan and Rossiter, 1982; Sherman et al., 1997). All elements of the physical environment, including physical stimuli and ambience, function as service clues which can be sensed or recognised by their absence (Haeckel et al., 2003). Such perceptions give customers an indication of the quality of the services to be received (Reimer and Kuehn, 2005), and become important determinants of customer expectations and satisfaction (Bebko et al., 2006).

Furthermore, appropriate music can strongly influence consumers' responses to a particular store atmosphere (Areni and Kim, 1993; Bone and Ellen, 1999; Herrmann et al., 2013). In addition to that, the "right kind of music" can also help retailers to develop a desirable atmosphere which contributes to the PED of the store (Harrington and Capella, 1994). Studies have shown that music in a store can boost sales (Alpert et al., 2005; Chebat et al., 2001; Matilla and Wirtz, 2001; Morin et al., 2007; Vacaro et al., 2009), influence buying intentions (Baker et al., 2002), increase the length of time spent holding and buying the product (Milliman, 1982), reduce the perception of shopping and waiting time (Chebat et al., 1993), influence the rate of food consumption in restaurants (Milliman, 1986), influence consumer perception of a store (Hui et al., 1997), and facilitate consumers' formal interaction (Dube et al., 1995). "Lighting has the ability to attract the consumers and help them to give directions in a retail store, by shifting their focus from one display feature to another" (Pegler, 2010, p. 28). Lighting in retail stores is purposely used, not just to accentuate the merchandise on display, but also to create and alter consumers' mood (Dedeoglu et al., 2018; Kumar et al., 2010; Levy et al., 2012). The effective use of light contributes to consumers' experiences in retail stores (Barbaro, 2007; Schielke, 2010; Singh, 2006). Appearance of the venues in retail stores can be changed by changing the lighting levels (Fotios, 2006).

Ambient factors greatly affect how consumers respond to and evaluate the physical environment of a store. Ambience is a part of the servicescape that is sensorial in nature, and includes light, sound, smell, decor and air quality – factors that influence customer behaviours such as time and money spent at a specific location/on a specific brand and desire to stay (Baek et al., 2018; Morrison et al., 2011; Wakefield and Baker, 1998) in that premises. Section 2.5.2 outlines the concept of artefacts.

2.5.2 Artefacts

Artefacts are the tools for analysing traditional and cultural backgrounds (symbols or objects) which can be used as an inspiration for contemporary designs in creating structures (Kent et al., 2018; Pizam and Tasci, 2019; Xin et al., 2007). Artefacts in the form of signs or symbols create first impressions, and are used to introduce a new image or to direct customers to desired destinations (way-showing/wayfinding) or to communicate about the surroundings (Zeithaml and Bitner, 2003). Signs may be used as labels (e.g. on hoardings, or to show the name of a place) for way-showing (e.g. entrances and exits) and to communicate the rules of behaviour (e.g. smoking prohibited, pets not allowed).

Artefacts can be used for either decorative or utilitarian purposes, though the underlying principle is the end use or functional aspect. Moreover, decorative artefacts play a major role in serving both aesthetic and functional purposes, and are intended to be used for interior decoration (Lee et al., 2015; Munster et al., 2017; Pine et al., 1999; Rosenbaum and Massiah, 2011; Wakefield and Blodgett, 1996). Symbolic and decorative artefacts do not communicate as directly as signs, but instead give implicit cues to visitors about the surroundings (Zeithaml and Bitner, 2003).

The colour scheme used in decoration also plays an important role in creating the ambience of an interior environment. Customers evaluate the decor elements of the physical environment in terms of colour (Jordaan and Prinsloo, 2001; Kurtz and Clow, 1998; Stanger, 2012). Bright colours have a tendency to stimulate and trigger behaviour, whereas warm and cool colours nurture relaxation (Stroebele and De Castro, 2004).

Behavioral approach extends the application of the servicescape in retail stores (Bitner, 1992), as artefacts create recognition in material form (Klingmann, 2007). Specifically, artefacts enable the customers to gain information in retail stores as well as offering them a unique experience in their shopping journey (Kearney, 2016; Kent et al., 2018; Pullman and Gross, 2004). Artefacts are representations which serve the utilitarian aspect of a retail store's space (Alnasser, 2013; Kent et al., 2018; Kumar et al., 2010). The next section explains spatiality.

2.5.3 Spatiality

Spatiality is the configuration of physical design elements concerned with feasible locations and dimensions for a set of interrelated objects that meet all design requirements and maximise design quality in terms of design preferences (Baker et al, 1994; Bitner, 1992; Hanks et al., 2017; Kent et al., 2018; Khare, 2011; Li, 2004; Nilsson and Ballantyne, 2014). The spatial arrangement comprises three basic design dimensions: naturalness, elaborateness and harmony. Such an arrangement makes an attempt to stimulate creative trends, and consistently innovates styles through efficient PED when it comes to the shape and experience of the physical retail landscape. Previous researchers (Gilchrist, 1977; Kent et al., 2018; Nenonen, 2005) have stated that spatiality allows PED to support a sense of space that provides distinctive avenues to consumers for greater interaction with the store personality, and hence prepares their minds for buying.

Moreover, spatiality expresses the space representation perceived through artefacts by consumers in a retail store, creating a significant impact on the overall performance of the retail establishment (Kent et al., 2018). Spatiality also refers to the physical arrangements in which equipment, facilities and furnishings are put up, and in which their relationships with respect to the availability of space (Nilsson and Ballantyne, 2014; Siddhibhongsra and Kim, 2017; Zeithaml and Bitner, 2003) are unified. Moreover, spatial arrangements inherit the sensory and aesthetic properties of PED in the interior space of an organisation (Alnasser, 2013; Nilsson and Ballantyne, 2014) that accommodates social groups at different levels (Bargenda, 2015; Winter and Chapleo, 2017).

Previous studies (Knox et al., 2008; Stillerman and Salcedo, 2012; Yli-Kauhaluoma and Timonen, 2016) have found that design processes promote spatial or visual connections between spaces, interpret diverse kinds of spaces, and combine both subjective and objective information. Consumers have a deep desire for connectedness and inclusion, which is achieved by the recognition of a brand through the objects of knowledge and connectivity of the inner mind (Joye et al., 2011; Kent et al., 2018; Havenhand, 2004).

In addition, spatial arrangement is Lefebvre's (1991) final interpretation with regard to PED. According to Lefebvre (1991), spatial practice such as walking in the physical environment creates the production of spatiality by means of flow. This flow can be through different media in retail settings, such as flows of technology, interaction, information, images, sounds and symbols (Helmefalk and Hulten, 2017; Knox et al., 2008; Power, 2014; Stillerman and Salcedo, 2012; Yli-Kauhaluoma and Timonen, 2016).

The integration between spatial arrangements can be used as an active incentive within the philosophy of colour patterns and the identity of brand performance in a way that makes the brand related to the physical environment (Kent et al., 2018; Klingmann, 2007; Siddhibhongsa and Kim, 2017). This feature may help in providing this internal space with meanings that are closely attached to a consumer's emotional feelings, in addition to giving the physical environment a symbolic meaning (Hanks et al., 2017; Siddhibhongsa and Kim, 2017; Smith, 1997). Moreover, spatiality has the psychological effect of interior space on consumer's emotional well-being, which can be influenced by the use of design elements and principles in a space, as well as by more subjective outcomes such as inspirational and uplifting spaces (Power, 2014).

2.6 Antecedents of physical environment design

The elementary factors that contribute to the creation of PED are recognised as visual identity, communication and cultural heritage. These antecedents explain the evident construct that is PED. Their effects on PED in retail stores with regard to consumers' emotional well-being have been rarely examined. Understanding the antecedents of PED is vital, as this helps in exploring the relationships between other variables. This

research aims to examine the antecedents and desirable outcomes of PED from an organisational perspective. The following section highlights the key antecedents of PED based on the review of the literature.

2.6.1 Visual identity

Visual identity is an assembly of visual cues by which people can recognise a company and distinguish it from others (Abratt, 1989; Foroudi et al., 2014, 2016; Melewar, 2003; Melewar and Saunders, 1998, 1999). The design level concentrates on the effectiveness and functionality of specific elements of corporate visual identity to create and maintain an organisation's visual identity. According to Melewar (2008) and Melewar et al. (2018), the main features of visual identity are firstly a strategy for how an organisation wishes to identify itself with its customers, and secondly the management of visual displays themselves as metaphors for and the persona of that organisation.

Researchers (Dowling, 1994; Landstrom and Hall, 2015; Melewar and Karaosmanoglu, 2006; Siano et al., 2013) have suggested that visual identity is created and applied to an interior space with the purpose of endearing and promoting a brand to a customer. Previous studies have noted that visual identity is the visual expression of an organisation, which has gradually changed over the years and has become a more multi-faceted perspective of a company (Baker and Balmer, 1997; Cornelissen and Harris, 2001; Melewar and Karaosmanoglu, 2006; Nguyen et al., 2018), and which plays a significant role in communicating the enduring and unique characteristics of an organisation (i.e. its identity) to internal as well as external stakeholders (Dowling, 1994; Van den Bosch et al., 2006; Van Riel and Balmer, 1997; Van Riel et al., 2001). Furthermore, visual identity is considered as a crucial dimension of PED by many academics, one which conveys the identity of an organisation (Abratt, 1989; Baker and Balmer, 1997; Foroudi et al., 2014, 2016, 2018; Melewar and Saunders, 1999; Van den Bosch et al., 2006).

A review of the marketing literature reveals that the visual dimension (i.e. visual identity) is the most apprehended sensory dimension. This can be explained by the fact that visual sense is directly represented by the well-established construct of PED as a constituent of many corporate identity models (e.g. Foroudi et al., 2014, 2016;

Melewar, 2003; Melewar and Jenkins, 2002; Melewar and Karaosmanoglu, 2006; Melewar and Woolridge, 2001; Suvatjis and De Chernatony, 2005). In addition, visual offerings such as logos, brochures and advertisements can be noticed in the real world. According to Abratt (1989), visual identity is “the outward sign of the inward commitment”, which can help create a certain representation in the customer’s mind (p. 68).

According to scholars (Balmer and Gray, 2003; Chun et al., 2005, Melewar and Karaosmanoglu, 2006; Nguyen et al., 2018), visual identity constitutes the overall personality development of an organisation through active communication channels, which achieves sustainable brand performance and acts as a corporate identity driver. (Jain et al., 2016; Melewar et al., 2017; 2018) suggested that the focus on visual identity is an attempt to convey a strong and positive PED essence for consumers and support recognisability over competitors’ brands. It has also been indicated that non-visual senses can facilitate greater recognition and appreciation; however, this aspect has been ignored in the literature (Balmer, 2001; Bartholme and Melewar, 2009; 2011; Bolhuis et al., 2015). Owing to the purpose of this research, the visual identity construct will be addressed in such a way that PED will be used to see if and how it contributes to recognition and appreciation of a retail store.

2.6.2 Communication

For any retail store, it is essential to develop store image through the medium of marketing communication (Blut et al., 2018). Communication means conveying a message effectively through various design elements in order to induce particular moods, impact on consumers’ perceptions and behaviour, and help organisations position or differentiate themselves from competitors (Aslam, 2006; Landstrom and Hall, 2015; Tavassoli, 2001). In terms of PED, scholars (Joye et al., 2011; Mussol et al., 2019; Schmitt and Simonson, 1997) have argued that the materials used in products as well as print communications create a relational expression for consumers. According to Baker and Balmer (1997), the main objective of an effective PED through communication activities (Gray and Smeltzer, 1985) is to create a perception among consumers that enhances brand performance.

Balmer (1995) identified four key purposes of the visual sensorium: communicating philosophy, providing a visualisation of cultural values, supporting consistent communication activities, and ensuring an organisation's up-to-date visual appearance. A design is used to evoke a set of associations in order to communicate one clear desirable message to consumers (Durgee and Stuart, 1987; Keller, 1993; Kropp et al., 1990; Schmitt, 1999; Van Riel, 1995). PED typically reinforces the feeling of happiness and satisfaction through versatile visual identity, a concept that allows any form of communication and making an environment aesthetically appealing (Joye et al., 2011), ensuring people can recognise and distinguish it from others (Abratt, 1989; Melewar, 2003; Melewar and Saunders, 1998, 1999), and developing consumers' social-emotional inner being (Chen et al., 2015).

Therefore, PED should be regarded as a tool for the communication of ideas and unique concepts which can contribute to brand performance. According to Wheeler (2003), "the main challenge for the designer is to translate vision into a tangible expression and a visual language that resonates with all stakeholders" (p. 72). Additionally, corporate visual identity has been presented as a significant tangible asset in the expression of the firm and is used as the 'glue' in communication (Van den Bosch et al., 2006).

The colour concept can be considered as a medium of communication, and is an integral element of corporate and marketing communications that induces emotions and moods, impacts on consumers' perceptions and behaviour, and helps organisations position or differentiate themselves from competitors (Aslam, 2006; Tavassoli, 2001). Colour is instrumental in attracting consumers' attention towards the PED. Sophisticated colours denote elegance and clear communication as these are associated with various consumer rituals (Bellizzi and Hite, 1992).

The purpose is to create an atmosphere that will stimulate all five senses simultaneously. PED can be aligned with business strategy. When an organisation focuses on the design, use and management of its space in terms of the messages it communicates to consumers, it embraces the notion of "branding" as described in Olins' assertion that a brand has two roles: that of persuading outsiders to buy and insiders to believe Olins (2003). According to Van Riel (1995), a company's

communication is concerned with visual messages, while symbols relating to visual cues define the brand. PED can impede or enhance communication amongst visitors or retailers (Ulrich et al., 2008).

2.6.3 Cultural heritage

Cultural heritage is an integral part of PED that is in correlation with marketing segments (Arnould and Thompson, 2005; Bonn et al., 2007; Lindberg et al., 2019). PED is the foremost criterion for a brand's performance (Dion and Arnould, 2011). PED in a retail setting is defined within the cultural sphere as involving aesthetic judgement and social recognition by customers (Kapferer and Bastien, 2009). Consumers enjoy artistic presentations in a retail store (Charters, 2006), which promote the brand through innovation within the store. Borghini et al. (2009) and Diamond et al. (2009) postulated that the physical appearance of a retail store significantly affected consumers' experiences and buying behaviours.

From the aspect of marketing, cultural heritage is a medium for cultural identity and cross-cultural communication, an edifying destination for visitors, and a focus for traditional enrichment through structures and artefacts (Neill, 2005), which helps in the development of cultural infrastructure and the promotion of businesses (Evans, 2009; Jayne, 2005; Roquet, 2012). Cultural heritage within the marketing context has been described as "a composite of the history and coherence and continuity" of defining characteristics (Hakala et al., 2011, p. 450). Moreover, PED matters immensely to customers, who not only welcome branded products but also embrace cultural heritage and traditions (Martineau, 1958).

Cultural heritage is an invaluable resource that signifies a unique environment defined by history, that can be regenerated and renewed to adapt and integrate with new and modern concepts (Lu, 1999). The rich cultural association of a themed design has a precise role, as it gives a sense of belonging and identity, an invisible influence that helps to develop consumers' social-emotional and collective inner being (Chen et al., 2015). Consumers respond emotionally to cultural heritage in retail stores and associate it with life experiences which creates brand meaning and value (Schroeder et al., 2017).

The impact of a store's PED helps customers to understand the cultural factors of retail spaces which cannot be otherwise perceived (Norberg-Schultz, 1971). Such expressions provide a cultural narrative and develop diverse interpretations by consumers, and are thus associated with cultural traditions. According to Bradshaw et al. (2011), "Culture is the basis of all social identity and development, and cultural heritage is the endowment that each generation receives and passes on which is more effective and enhances legacy" (p. 110). The objective of a retail setting is to explore the role of cultural heritage through its artistic values and traditional resources (Matarasso, 1997), in order to enhance consumers' emotional well-being.

2.7 Emotional well-being

Consumers' emotional well-being refers to consumer satisfaction and happiness (Costanza et al., 2007) accomplished through shopping in a unique PED. According to Prahalad and Ramaswamy (2004), customer value is seen to be created by the organisation and the customer; hence stores need to be updated to create experiences that consumers can engage with. The physical environment can suggest whether or not a spatial arrangement exists, and has the ability to evoke feelings. Nasar and Augustin (2007) agreed with this suggestion, and explained that the perceived visual quality of places affected the human sensorium, with the potential to contribute to productivity, state of mind, consumer behaviour and people's emotional well-being. An efficient PED allows organisations to rise above the general market and create an opportunity for tech-savvy customers to explore the effects of smart systems, which contribute to consumers' emotional well-being in a traditional environment (Papagiannidis et al., 2017). This aspect positively shapes consumer perceptions and it helps anchor, safeguard and improve emotional well-being through enhanced brand performance (Droege, 1997).

PED is the function of developing a retail store image, or more precisely, a store environment, to build loyalty by providing a rewarding shopping experience and to increase sales during a customer's visit (Aureliano-Silva et al., 2018; Irwin, 2018; Levy and Weitz, 2012). In order to fulfil customers' expectations of sensory experiences, PED in retail stores has many objectives. Past researchers (Biswas-Diener, 2008; Brey et al., 2012; El Hedhli et al., 2013; Keinonen et al., 2013; Lockton et al., 2010; Pyke et al., 2016) have explained how PED acts as a great deal

and contributes to consumers' emotional well-being; and can therefore fulfil life aspirations in a constructive pattern. Moreover, the PED of a retail store must focus on image enhancement and customers' emotional well-being (Burt and Carralero-Encina, 2000).

The notion of well-being encompasses six interrelated dimensions: social, emotional, intellectual, physical, occupational and spiritual (Ares et al., 2015; Hettler, 1984; Thieme, 2012). Veenhoven (2000) meanwhile proposed four dimensions of an individual's emotional well-being: good living conditions, utility of life, appreciation and life aptitude. Well-being is considered to be multidimensional in nature in the PED context. Due to this multidimensional nature, consumers' emotional well-being can be strongly affected by PED in numerous ways, which can improve the brand performance of an organisation (Chandon et al., 2009; El Hedhli et al., 2013; Irwin, 2018).

Research on PED over the last few decades has put forward evidence that various design factors such as ambience, artefacts and spatiality can influence the mood and emotions of consumers (Quartier et al., 2009) and affects emotional well-being, which can lead to increased brand performance. Furthermore, PED in retail stores provides a space that stimulates consumers (Baker, 2005), providing an experience that elevates their emotional well-being (sensorium, behaviour and happiness).

2.8 Emotional well-being and its elements

Emotional well-being is defined as a state of happiness and satisfaction (Andreu et al., 2006; Baker et al., 2002; Thieme et al., 2012), therefore feeling comfortable in the presence of innovative physical design environments (Goldsmith, 2016; Lin, 2004; Tombs and McColl-Kennedy, 2003). PED typically reinforces feelings of happiness and satisfaction through versatile physical dimensions that allow different forms of communication and affect consumer behaviour (Suh and Yi, 2006). Emotional well-being is highly significant when PED components are perceived through consumers' senses and help to improve brand performance (Aktar et al., 1994; Bull et al., 2006; Lindstrom, 2005).

An environmental psychologist, McKechnie (1974), elucidated atmospheric responsiveness as one's tendency to be swayed by the qualities of one's immediate physical environment. Prior marketing research has suggested that PED provides an excellent example of reinforcing the sensory perspective (Haase et al., 2018; Kang and Johnson, 2010; Rick et al., 2014; Irwin, 2018). The present research takes the view that the existing PED perspective in the literature, which reflects various design concepts, is inadequate and points towards a lack of research. Therefore, owing to the criticised exclusiveness of PED and its dimensions, this study proposes a more holistic sensory perspective (Krishna et al., 2016; Krishna and Schwarz, 2014; Stout and Leckenby, 1988).

Previous marketing studies have explored the role of senses in consumer behaviour (Hilton, 2015; Krishna, 2012; Krishna et al., 2016; Krishna and Schwarz, 2014). However, the current research extends the notion of consumers' emotional well-being in retail stores. Stores not only provide a more engaging experience of a brand's essence, but also satisfy customers who are looking for contentment alongside their shopping activities (Kozinets et al., 2002). In order to stimulate consumers' sensorium, stores are providing indoor climbing structures, mountain bike test tracks, coffee shops etc. to create a more memorable and attractive consumer experience (Krishna et al., 2016; Lucas, 2015; Stout and Leckenby, 1988). Consumers who perceive a shopping experience to be more than a purchase opportunity view these experiences as something to be appreciated for all their distinctions (Atalay and Meloy, 2011; Krishna et al., 2016; Mathwick et al., 2001).

According to the UK's Office for National Statistics 2010 report, entitled 'Measuring subjective emotional well-being in the UK', Waldron (2010) reviewed what was meant by the term emotional well-being and what its significance was. On the basis of the findings of prior studies (Ares et al., 2015, Gibson and Green, 2002; Shimizu, 2003), emotional well-being has three main elements: sensorium, behaviour and happiness. These are described in the following sub-sections.

2.8.1 Sensorium

The notion of human senses associates with research areas of biology and psychology (de Villiers et al., 2018). However, for the purpose of this study, the researcher

follows the definition from the Oxford dictionary (2005) “a faculty by which the body perceives an external stimulus; one of the faculties of sight, smell, hearing, taste, and touch” (p. 1608). Moreover, Pines (2007) suggested that human beings physiologically perceive their surroundings by means of the five senses: seeing, hearing, touching, smelling and tasting. Sensorium refers to the sensory organs as a whole, which receive and integrate sensations from the outside world, effectively stimulating consumers’ behaviour (Atalay and Meloy, 2011; Bartholme and Melewar, 2011; Krishna et al., 2016; Welch, 2013). Elder and Krishna (2010) suggested that sensory stimulation developed an affective and cognitive component in consumers through multiple sensations which had a major impact on their judgement.

The marketing industry is heavily focused on engaging all five senses of customers (Krishna, 2010). The human senses apply reason and logic to understand distinctive styles in uniformity (Krishna and Schwarz, 2014). Past studies have found that multiple senses are linked to memories, emotions and feelings, which cumulatively develop consumers’ perceptions (Krishna, 2012; Krishna and Schwarz, 2014; Hulten et al., 2011). The interaction between the sensorium causes a sensory experience and as a result, bonding between a brand and customers is created (de Villiers et al., 2018). This bonding is known as the relational approach to consumption, as it enables customers to feel a connection to the brand and hence develop a relationship with the brand (Keller, 1993).

According to the literature, vision is the most seductive sense: it can perceive colours and colour contrasts (Lindstorm, 2005; Schiffman, 2001; Solomon et al., 2006; Stanger, 2012). Consumers can differentiate and make colour choices that evoke positive feelings (Krishna, 2010). Other senses such as auditory and olfactory create non-visual stimulants which effects consumers’ experiences (Yasin et al., 2019). Cues such as scent and music enables the customers to connect with the premises of the retail stores (de Villiers et al., 2018). Congruency of such cues are significant as it positively contributes to the environment and hence enhances the consumers’ experience (Mattila and Wirtz, 2001).

Furthermore, with the opportunity to walk through the store, consumers can experience the textures used on the surfaces, sense the dimensions of a room or smell

the particular smell of the interior as an immediate experience through the sensorium. PED, with its different cues of perception, therefore provides an excellent example through which to understand and illustrate sensory diversity. It allows for a full sensory connection at a level the visitor chooses (active or passive; immersive or absorptive) (Hulten et al., 2011; Krishna, 2012; Krishna and Schwarz, 2014).

The sensorium acts as an instrument to create a brand experience in which shoppers feel they can express themselves through their behaviour, that their happiness has been enhanced, and that their emotional well-being has bloomed (Larsson and Erikson, 2011). In practice, customers respond to the conditions (stimuli) of the store PED, which elicits a physiological or psychological response towards the brand (de Farias et al., 2014). Sensory features like colour and form are not realised except through sensation, subject to realise a state of happiness in the viewer as the integration of cues (Spence et al., 2014). Moreover, prior studies from scholars (Kim et al., 2016; Purushottam, 2011; Seekings, 2010) suggested that the sensory attributes develop perceptions and hedonic judgements which impact consumer brand associations within stores.

For instance, customers are more likely to make a purchase if they are allowed to touch or interact with products before buying them. The need to touch a product before purchasing it differs from consumer to consumer (Eriksson and Larsson, 2011). Smell is linked to consumers' memories (Lindstrom, 2005) and are, therefore subjective. According to Solomon et al. (2006), smells can evoke positive memories or cause consumers to relive stressful memories. Some of these responses are a result of previous associations resulting from prior life experiences. Spencer (2013) stated that the reason smells triggered memories was that the olfactory nerve, which carries sensory messages from the nose to the brain, is closely connected to the amygdala and hippocampus, areas of the brain which are connected to emotional memory.

Lindstrom (2005) suggested that retail spaces should fully integrate other components that could be picked up by the consumer's sensorium. Botha et al. (2009) extended Bitner's definition, using PED to refer to the aesthetic appeal and design structure of walkways, food courts and many more places of business. According to researchers (Patrol, 2010; Shabgou and Daryani, 2014), branding techniques are interwoven into

the overall PED of an organisation, causing a response in the sensorium and affecting the emotional well-being of customers. The sensorium construct encompasses all the sensory dimensions that reflect the senses, through which organisations can impart their identity to customers (Bartholme and Melewar, 2009).

2.8.2 Behaviour

PED of a retail store affects consumer behaviour and the image of the brands that are sold (Baker et al., 1994; Donovan and Rossiter, 1982; Solomon et al., 2002). These studies highlighted few individual factors such as music or scent. Prior researchers (Baek et al., 2018; Bloch et al., 1994; Davies and Ward, 2005; Diallo et al., 2013) in the relevant field have stressed the need for further studies to investigate the effects of a holistic retail environment on consumer experiences and their behaviours. Furthermore, Choi et al. (2016) concluded that such behaviour towards the retail store subsequently affected consumers' buying intention.

Since Kotler (1974) described "atmospherics" as the feelings created by the complex of variables comprising a service environment, considerable research has described how changes in various servicescape elements can alter the effect a customer experiences while interacting with the environment (Bitner, 1990; Bruner, 1990; Darden and Babin, 1994; Eroglu and Machleit, 1990). Borrowing from environmental psychology (Mehrabian and Russell, 1974), the atmosphere is assumed to facilitate relationships between its physical characteristics and behavioural outcomes (Babin and Darden, 1996; Hui et al., 1997; Krishna and Schwarz, 2014).

Research by Uline et al. (2008) has shown that poor physical environments can negatively affect the behaviour of consumers. The physical environment provides cues for the purpose of a location; this purpose sets up the social use of the location that in turn influences behaviour (Dennis et al., 2010; Ghani and Kamal, 2011; Loudon and Bitta, 1993). Perception has a close connection with consumers' behaviour, since individuals respond to an environment not as it is in reality, but on the basis of how it is perceived (Foster and McLelland, 2015; Loudon and Bitta, 1993; Priporas et al., 2017). This means that an individual's behaviour depends on how they perceive the things around them (Jain et al., 2014; Kim et al., 2016; Rajeh, 1968).

For instance, Dennis et al. (2002) stated that the perceived attractiveness of stores affected consumers' behaviour.

The PED of retail stores affects the emotional states of individuals, which consequently directs them to behave in a particular way (Newman et al., 2006; Priporas et al., 2017; Sherman and Smith, 1987). Therefore, retail set-ups with a variety of design cues trigger behavioural choices and outcomes. According to studies from a number of researchers (Goldsmith, 2016; Jain and Bagdare, 2009; Krishna and Schwarz, 2014), the intangible elements available in the PED of a store provides place associations that influence consumers' behaviour and hedonic values in the form of happiness.

2.8.3 Happiness

The experience of joy, contentment or positive emotional well-being, combined with a sense that one's life is good, meaningful and worthwhile, defines happiness (Goldsmith, 2016; Hassenzahl et al., 2013; Waterman et al., 2008). In the context of this research, happiness is determined by the way how the physical environment is designed (Dennis et al., 2016; Sailer et al., 2015; Wagner, 2007). Individuals can utilise their perceptual faculties to interpret and understand the surrounding environment by a simple method which can be controlled by the neural system (Saleh, 1982). In other words, happiness is a psychological process based on the perception of external objects and their properties, and their direct relationship with sensual operations, which gives a psychological response to a group of complex sensory stimulations (Rajeh, 1968).

Personal happiness is realised by the interaction of the sensory organs, which creates a sense of joy (Abbou, 1982). For decades, researchers have been aware that shopping is not just about procuring tangible products, but also about enjoyment and fun (Badrinarayanan and Becerra, 2018; Dennis et al., 2016; Tauber, 1972) – which is the ultimate goal of human functioning (Waterman et al., 2008). Happiness has a close connection with consumer behaviour, as consumers respond to PED not as it is in reality, but on the basis of how they perceive the environment (Rajeh, 1968). PED has an effect on the mind, creating feelings that induce comforting and satisfactory thoughts (Grzeskowiak et al., 2016). Thus, happiness is considered as a process

followed by mental imagination of the outside world through the effects of direct stimulants, which leads to the satisfaction of needs (Badrinarayanan and Becerra, 2018; Lykken and Tellegen, 1996; Veenhoven, 2004).

The psychological effects of PED are of two types. Firstly, there are direct effects that are experienced by consumers, such as merriness, joy, excitement, pleasure and happiness (Hassenzahl et al., 2013; Mogilner et al., 2011; Lyubomirsky et al., 2005). Secondly, there are indirect effects, which vary between different consumers, and are related to emotional factors and impressions induced by the effects of PED (El Hedhli et al., 2013). Happiness appears to have a direct effect on the shopping intentions of consumers. This relationship is rather emotional in every sense of the word, or probably aesthetic, attached to emotional stability (Goldsmith, 2016). The PED of retail stores gives a feeling of happiness through the psychological influences perceived from the surroundings (Srivastava and Kaul, 2014; Wagner, 2007; Waterman et al., 2008). It has been found that there are basic common reactions among consumers towards PED, taking into consideration cultural and economic factors. The process of PED perception affects the process of shopping behaviour (Goldsmith et al., 2011; Foster and McLelland, 2015; Mahnke and Mahnke, 1993).

The latest psychological studies have showed that consumers are aware of the PED in stores they use, and they love innovative environments (Ekici et al., 2018). The number of consumers who enjoy shopping environments that offer novel or escape-based experiences, with all their recreational values, is more limited than those who hold the same aesthetic values as architects who design unconventional environments. These are the conclusions of a study conducted at Goteborg University in Sweden, following a series of investigations which collectively indicated that most people were in great need of such designs. They showed a positive attitude towards such environments which provided them with a feeling of enjoyment (Mahnke and Mahnke, 1993). People feel depressed in an interior space which has less decoration and an atmosphere which is colourless (Muller and Lloyd, 2004). By means of these effects, it is possible to vary sensory perceptions, to have an effect on consumers' sentiments and on behaviour inside these interior spaces (Ladau and Smith, 1989). The PED should also satisfy their instinctive needs by providing comfort and familiarity to enhance social interaction and personal happiness.

Well-planned and enriched design structures of retail stores that attract customers and encourage them to roam around, becoming attracted by the goods on display, will increase commercial activities (Ekici et al., 2018). Borrowing from Lyubomirsky (2008), the researcher in the present study understands happiness as the experience of joy, contentment or positive emotional well-being, combined with a sense that one's life is good, meaningful and worthwhile. "One of the great but often unmentioned causes of both happiness and misery is the quality of our environment: the kinds of walls, chairs, buildings and streets that surround an individual" (Schmidt, 2015; p. 49).

2.9 Consumer's perception towards brand performance

The idea of brand performance has gained huge momentum due to the overlap of objectives in PED and marketing. Consumer's perception towards brand performance is the product-related influence on customers' experiences and decisions (Berry, 1989; Foroudi, 2019; Han and Sung, 2008; Hemsley-Brown and Alnawas, 2016) with the brand as a known identity (Cohen, 2011) communicating from the organisation to customers (Nguyen, 2012). More specifically, consumer perception is associated with consumers' beliefs regarding the reputation of the store, which help in making evaluations and influencing the consumer decision-making process (Jarvenpaa et al., 2000). This also represents the positioning of the brand (Foroudi, 2019; Johnstone and Conroy, 2008; Khan, 2009; Mussol et al., 2019) and has been seen to have a positive effect on the profitability of the organisation (Keller, 2003; Melewar and Saunders, 2000; Olins, 1989), creating a mutual and beneficial relationship between company and customers (Nguyen et al., 2016).

According to Griffith (2005), retail store PED results in greater consumer amplification and more positive outcomes such as consumers' perception towards brand performance. This perception is the result of the organisational culture types that contribute to the physical make-up of the organisation (Mussol et al., 2019). Modified design attributes in a retail store can result in an increase in the sale of products that influence consumers' perception of brand performance. When customers are satisfied with the environment where they shop, they are more likely to enter the

store, buy more and be more satisfied with both the store and the products bought (Areni and Kim, 1993; Baker et al., 2002; Michon et al., 2005; Mussol et al., 2019).

Consumers' perception towards brand performance is the primary product-related influence on customers' experience with the brand, and can add value to the reputation of a retail store (Casidy et al., 2018; Melewar, 2001; Van Riel and Van den Ban, 2001). For these reasons, retail marketing involves how the manufacturer communicates its product to customers, what recommendations customers can collect from other users, and how well the product delivers its brand promise and satisfies its customers, influencing consumers' decision-making (Foroudi et al., 2019, 2020; Turley and Chebat, 2002). Several influential factors can guide marketers to improve brand performance: the primary characteristics and secondary features of the product, product reliability, durability, serviceability, service effectiveness, efficiency, empathy, style, design, price and price tier (Casidy et al., 2018; Nguyen, 2012; Turley and Chebat, 2002). The rapidly changing conditions of retailing and their underlying strategies force organisations to ensure they have a competitive edge through PED. According to Keller and Lehmann (2003), "a successful business that creates customer's mindset can influence brand performance". Therefore, it is essential for an organisation to meet the customer's mindset and develop a favourable PED which can positively influence consumers' perception of brand performance (p. 27).

The branding literature (Kotler and Pfoertsch, 2007; Mudambi, 2002; Patrol, 2010; Pfoertsch et al., 2007) adds to the general view about design by referring to it as a means to make service brands more tangible. Despite such research, little attention has been given to the PED of retail stores with regard to consumers' emotional well-being (Chebat and Michon, 2003). Moreover, since PED plays an important role in developing a favourable brand (Diamond et al., 2009; Melewar and Akel, 2005; Russel, 2001), examining the role of design as a new dimension of branding can provide valuable knowledge regarding its use as an additional company-controlled communicator. Brand performance can be described as "an evaluation of a brand's overall excellence based on the fundamental properties and appearance" (Kirmani and Baumgartner, 2000). The present research further extends it in the context of consumers' perceptions, which are relevant to consumer behaviour, and focuses on consumers' perception towards brand performance.

A retail store's PED is a critical factor driving consumer movement and purchase response (Carrillat et al., 2009; Dodds et al., 1991; Grewal et al., 1998; Wu et al., 2011). While considerable attention has focused on stores' PED in respect to their external structure, their interior physical design has been virtually ignored. The literature records the significance of consumers' perception of brand performance and suggests that a pleasant environment promotes positive feelings within consumers (Khanna, 2015). Furthermore, the perceived attractiveness positively influences the affective response towards the brand (Pruyn and Smidts, 1998). The key advantage and importance of corporate branding lies not only in its positioning of the company, but in creating internal arrangements (e.g. physical design, organisational structure, values and culture) that support the meaning of the corporate brand (Khan, 2009). Consumers' perception of brand performance has a positive association with consumers' brand judgement, which affect consumers' perception of service quality (Lin, et al., 2012).

Factors such as in-store displays (Inman et al., 2009) and shelf facings (Chandon et al., 2009) have been shown to influence purchase behaviour. The branding literature supports the influence of cognitive behaviour towards a brand (Albert et al., 2008; Batra et al., 2012; Keller, 2001). The visual impact of the brand in the interior space of an organisation creates a positive interaction and stimulates the consumer's interest in specific products in order to trigger their requirements. A brand is considered as an essential element in the practice of PED, which displays its apprehension value that can be applicable in organisations reflecting the competitiveness of the product on display (Wu et al., 2011).

Consumers' perception of brand performance is defined as the efficiency of the servicescape, which gets boosted by comfortable and ergonomic interior design which is easily perceived by the consumers (Gupta et al., 2007; Wu et al., 2011; Foroudi, 2019). Better outcomes and increased brand performance are assumed to be the result of a better physical environment (Hameed and Amjad, 2009). The strategic importance of corporate branding lies in the positioning of the company in its marketplace as well as in creating internal arrangements (such as organisational structure, physical design and culture) that support the meaning of the corporate brand

(Hatch and Schultz, 2003). Overall brand performance therefore seems to be reliant on how consumers perceive the PED of a store.

A central question guiding the research perspective on PED and consumers' perception towards brand performance relationship is: What benefits can flow to an organisation when consumers experience a favourable PED? Harris and De Chernatony (2001) stressed the linkage between consumers' perception of brand performance, arguing that "buyers constitute the interface between a brand's internal and external environments and can have a powerful impact on consumers' perceptions of both the brand and the organisation" (p. 443). As indicated through previous research, empirical evidence suggests a relationship between specific environmental elements (e.g. space, furniture, seating arrangement, light, colour, peripherals, acoustics, temperature and living plants) and human behaviour such as engagement, achievement levels and overall development (Taylor, 2008; Veitch and Arkkelin, 1995).

A brand is considered as an identification card of the products displayed in the retail set-up. It is essential in any organisation's strategy, which consists of a variety of brands that identifies the product and gives it legitimacy from the marketing aspects. Moreover, a brand is not just developing a logo; a brand truly reflects what consumers think it is; therefore the display of products in an environment is very important (Wheeler, 2009). In other words, PED adds value to the branded products displayed in the store. According to Koehn (2001), brands have invaded all aspects of life creating new sets of values, and compelling and astonishing meanings, and as a result have attracted customers into the vast establishments of physical environment designed stores, thus improving brand performance (Loeschenbrand, 2016).

Mostly, spaces in the retail store are the three-dimensional, physical representations created purposely to promote the brand for potential customers (Harris and de Chernatony, 2001). Interior designers play an important role by skilfully uplifting the brand (Baker and Cameron, 1996) and providing consumers with evidence as to the voice of an organisation, creating a persona of a brand that embraces customers' expectations (Cherulnik, 1991). PED appeals to the senses in a powerful and virtually instant way, and is able to change consumers' thought processes. Alnasser (2013)

proposed four pillars of branding in terms of emotional aspects: relationship, sensorial experience, imagination and vision. Sensorial experience enriches customers through various emotional factors that helps in achieving brand performance. Architects and interior designers are now aware that PED has a vital role in creating a new spectrum between the environment and the beholder; and by creating such connection using specific brand messages, PED has the capability to shape perceptions and generate consumer behaviour (Cherulnik, 1991).

In order to look at the concept of branded environment from a design perspective, it is essential to understand that PED is a powerful medium for non-verbal communication and a generator of multisensorial experiences towards the brand. Environmental psychologists (Albert et al., 2008; Batra et al., 2012; Keller, 2001) have observed that customers respond to their physical surroundings cognitively, emotionally and psychologically, ultimately affecting consumer behaviour. Ladhari et al. (2017) conducted a study to see how PED as a spatial element was able to create a certain mood or feeling and trigger cognitive, emotional and psychological responses: the study showed how these responses generated brand-related experience. These responses are summarised in the following paragraphs.

Psychological responses: PED generates experiences. It does not create only cognitive and emotional triggers, but psychological aspects also play an important role. Physical responses towards anything such as spatial arrangement and ambience may have an impact on the emotional experience of the environment; hence the environment is the medium that creates multisensorial and multidimensional experiences (Baker and Cameron, 1996).

Cognitive responses: PED perception can be a way to lead an individual to beliefs and attributions that are associated with products, people and organisations. General perception of PED helps in translating the activity being performed, and interior space can give an individual a cue from its PED (Baker and Cameron, 1996). Cognitive responses are the symbolic categorisation of received information from the perceived environment (Chebat and Michon, 2003; Cho and Lee, 2017; Van Rompay et al., 2012).

Emotional responses: PED from an aesthetic aspect can be considered as a stimulus element. An experience that is pleasurable and fun creates an emotional connection between consumers and interior spaces. Consumers tend to feel they belong in interior spaces that feel compatible with the overall image of the environment: these spaces create experiences that make them sure that they are being taken care of emotionally. This creates an emotional bond with people with the help of aura and decor that act as conveyors of the organisation's messages and impact them emotionally (Gobe, 2009).

2.9.1 Physical environment design influences consumer's perception towards brand performance

Another influential factor when it comes to spatial layout, is the role of physical space in relation to brand performance. PED is a strategic resource for the retail stores that can be used to foster greater success (Mussol et al., 2019). The physical environment within a retail set-up is made up not only of tangible items, but of the behaviour of visitors as well as "behaviour transcends architecture" (Bloch, 1995, p. 187). By using more of the attractive design elements directed towards the buyer, and by ensuring a good supply of successfully designed presentations, a continuous kind of competition is realised among shop owners, with more profits, greater encouragement to producers to improve quality, and increased brand performance (Maitland, 1990). A store is where brand awareness is consolidated, where brands come alive, generating a significant increase in footfall (Mussol et al., 2019).

Previous studies have suggested a relationship between specific environmental elements (e.g. space, furniture, seating arrangement, light, colour, peripherals, acoustics, temperature and living plants) and human behaviour, such as engagement, achievement levels and the overall development of consumers (Hameed and Amjad, 2009; Taylor, 2008; Veitch and Arkkelin, 1995). Consumers use these cues to determine general perceptions, which influences their behaviour and develops their perception of brand performance (Chebat and Michon, 2003; Donovan et al., 1994; Donovan and Rossiter, 1982). The present study contributes to the emotional well-being of consumers, which in turn helps stores to focus on creating influential perceptions of consumers towards brand performance.

2.10 Summary

This chapter has mainly focused on the significant body of literature on PED. To understand the concept and recognise the significance of its elements (ambience, artefacts and spatiality), various theories and models have been studied and considered. In summary it can be stated that the PED of an organisation contributes to consumers' perception of brand performance; however the component of consumers' emotional well-being has not been considered, and therefore has not been explored in the marketing literature so far. Consequently, this research aims to fill this gap by exploring the emotional well-being dimension and its elements (sensorium, behaviour and happiness) in the context of PED. In the following chapter, the development of the conceptual framework of the study will be shown on the basis of the research hypotheses. The supporting theories of PED and consumers' perception in the retail sector will be combined to find the answers to the research questions. The next chapter will thoroughly explain the relationships between PED and its antecedents and consequences.

CHAPTER 3: CONCEPTUAL FRAMEWORK AND RESEARCH HYPOTHESES

3.1 Introduction

The scrutiny of academic literature provides a variety of conceptualisations of physical environment design, emotional well-being and consumers' perception towards brand performance (see Chapter 2). Based on different areas of research, various perspectives on the domain have come to light over a period of time. Focusing on a visual perspective, the visual paradigm, for instance, predominantly considers PED in relation to its role in consumers' emotional well-being and eventually influencing their perception towards brand performance (Hankinson and Hankinson, 1999; Khan and Afzal, 2011; Mangini, 2002).

Previous research in the field of retailing and consumer marketing has made contributions to knowledge about the foundation of creating effective PED which can positively impact consumers' emotional well-being (El Hedhli et al., 2013; Ladhari, 2010; Machleit et al., 1994; Turley and Chebat, 2002) and the process for developing the relationships between customers and retail stores (Loeschenbrand, 2016). Although, there have been discussions about the significant role of PED in the retail stores (Bitner, 1992; Dedeoglu et al., 2018; Turley and Chebat, 2002; Turley and Milliman, 2000), there is a lack of empirical research which demonstrates the importance of emotional well-being of consumers in integrating these two different areas.

This research conceptualises PED as a company-controlled communication cue that reflects the retail store to its diverse consumers (Pine et al., 1999). Therefore, this research incorporates the visual paradigm, which reflects the concept of conveying visual impact (Kim et al., 2016; Ladhari et al., 2017; Ong and Yap, 2017). Moreover, this research follows the marketing paradigm and in particular adopts an integrated communication perspective (Baker et al., 1992; Chen and Hu, 2010). The study is based on the viewpoint that PED in this research is conceptualised as a company-controlled communication factor that can be strategically planned and managed by the organisation in order to ensure consistent communication to

consumers (Bartholme and Melewar, 2011). Consequently, based on the paradigms adopted by this research, the following sections present definitions of the key constructs as used in this study.

This chapter sets out the theoretical foundations of the study and explains the primary research framework. Subsequently, hypotheses are deduced on the basis of the previous chapter, leading to the conceptualised research model. This thesis focuses on the influences of PED on emotional well-being and its impact on brand performance at a consumer level. In all, six constructs are considered: visual identity, communication, cultural heritage, physical environment design, emotional well-being, and brand performance. The chapter will illustrate the proposed consumer-level conceptual framework. A number of hypotheses, which are conceptually related to each other, will be examined and empirically tested. In addition, this chapter will set out the main advantages of PED (consequences), before providing a summary of the points.

To address the research problem set out by this research in Chapter 1, the PED of an organisation from the marketing perspective, as a link between the organisation and consumers' emotional well-being, needs to be identified. This thesis aims to study the influence of PED on consumers' emotional well-being and the resulting impact on perception of brand performance, by integrating the principles of atmospherics and marketing. On the basis of these principles, the research questions that are drawn from the literature review are:

RQ1: What is the role of visual identity, communication and cultural heritage in enhancing physical environment design?

RQ2: What is the contribution of ambience, artefacts and spatiality to consumers' emotional well-being?

RQ3: How can physical environment design enrich consumers' emotional well-being and enhance their perception of brand performance?

A theoretical model of the problems identified has been developed (see Figure 3.1). This model seeks to close the loopholes in the marketing literature by combining various elements of the physical environment, and to investigate the influence of PED

on consumers' emotional well-being and its contribution to brand performance, in order to test empirically whether PED affects consumers' emotional well-being.

The next sections include the following contents. Section 3.2 provides an overview of theories. Section 3.3 explains the research framework and development of the hypotheses. Section 3.4 elaborates on the notion of PED as a main focal construct. Sections 3.5 and 3.6 presents the hypotheses (antecedents) and hypotheses (consequences). Section 3.7 explains the relationship between PED, emotional well-being and demographic variables, followed by a summary in Section 3.8.

3.2 Overview of theories

The conceptual model tries to empirically test the contribution that can be made by visual identity, communication and cultural heritage to PED in terms of brand performance. The model uses PED as a link between the organisation and consumers' emotional well-being. The purpose of this research is to closely investigate the elements of PED that lead to an enhancement of consumers' emotional well-being. It also aims to examine how the emotional well-being of consumers can affect the brand performance of an organisation. The core theories behind the linkages shown in the model are place identity, and affective and emotional theories based on consumers' distinct experiences which unfold particular values, feelings and behaviour towards that PED and integrate place identity. The theoretical framework shown in Figure 3.1 illustrates the linkages identified from the literature review. The purpose of constructing this framework is to test the influence of PED on the variables identified as antecedents to the physical environment of retail stores. The following section describes the linkages and hypotheses related to these linkages generated for empirical testing.

To differentiate between various retail organisations, it is essential to create a superior customer experience. According to Lemon and Verhoef (2016), "customer experience is a multidimensional construct focusing on a customer's cognitive, emotional, behavioural, sensorial, and social responses to a firm's offerings during the customer's entire journey" (p. 3). In other words, customer experience is a holistic concept that connects customers' cognitive, affective, emotional and physical responses to the retailer. Background music and fragrances in a store are often used to

stimulate feelings (Lam, 2001), intensifying the emotional and cognitive processes. PED creates multisensory stimulation through the use of vivid physical features (ambience, artefacts and spatiality), which are likely to affect consumer emotions and feelings and further help them in decision making (Damasio, 1994; Frijda, 1986; Lerner et al., 2015; Zeelenberg et al., 2008). This section overviews the place identity, affective and emotional theories used in this study as drawn from the literature, and introduces their application in this research study. For this reason, PED is recognised as a stimulus through which retail stores strengthen their associations with customers. This section helps to demonstrate that when customers feel satisfied and happy, they will project this in their behaviour, which will eventually increase brand performance. More details on these theories are provided in the following paragraphs.

Place identity theory – Under place identity theory, individuals develop emotional bonds to places or physical settings that embody aspects such as emotional well-being (Droseltis and Vignoles, 2010; Jorgensen and Stedman, 2001; Knez, 2005; Morton et al., 2017; Scannell and Gifford, 2010). The concept of PED allows consumers' minds to reflect and appreciate "places" by thinking and talking about them, which evokes place identity (Tuan, 1980). Place identity stimulates consumers as it serves as a cognitive backdrop, or perhaps better said, as a physical environment "database" against which every physical setting experience can be "experienced" and responded to in some way. In other words, cognitions acquired from place identity express and reflect the physical settings that are relevant to the personal attributes of consumers, such as emotional well-being. Proshansky (1978, p. 150) stated that "there is no physical setting that is not also a social, cultural, and psychological setting".

Place identity makes a place unique and special because of its related feelings, purpose and memories (Proshansky and Fabian, 1987). Furthermore, the concept of place identity is attached to belongingness (Proshansky et al., 1983), which suggests that when individuals associate with a place, they experience a feeling of attachment. The physical and social servicescape frameworks presented by Bitner (1992) and Tombs and McColl-Kennedy (2003) provide the purpose for exploring how consumers respond to PED stimuli.

In addition, the emotional bonds created by place identification strengthen the emotional well-being of consumers (Knez, 2014). Place identity provides not only a cognitive component but an emotional component to consumers. According to a number of prior scholars (Droseltis and Vignoles, 2010; Knez, 2014; Knez and Eliasson, 2017), place-related events are emotionally processed due to place-related attachment and are easy to recall. The stronger the attachment or sense of belonging that consumers feel, the more emotionally and easily they connect with and perceive the retail store when they visit it again. Consequently, the related cognition creates the importance of place bonding and provides beneficial experiences in physical surroundings (Casey, 2000; Johnson et al., 2015; Karlsson and Nilsson, 2017). This phenomenon helps consumers feel associated with place through the establishment of visual recognitions such as signage or symbols, influencing consumer behaviour.

Affective theory - Affects are the feelings or emotions which combine and connect to create a typical stimulus when an individual perceives the environment (Tomkins, 1991), such as the affect of joy, which can be observed through the depiction of a smile. The PED of a store induces positive affects which provide deep relaxation through their positive experience (Eich et al., 2007), offer emotional and physiological restoration (Kaplan, 1995), and work as therapy to release stress (Gentile et al., 2007; Kahn et al., 2009; Plante et al., 2006). Affective theory emphasises the customers' experience of perceived emotion and feelings, which is an essential part of an individual's interaction with stimuli and triggers behavioural aspects.

According to Damasio (1999), emotionally adequate items gain affective meaning through selective perception combined with cognitive abilities. This theory can "shift gears" in diverse environments. Previous studies have characterised the role of affect experienced due to emotional stimuli prior to showing a particular behaviour prior to making decisions (Kahn et al., 2009). The affective attribute, i.e. feeling the emotional context of the visual expressions on display, helps in reducing physiological stress and improving the emotional well-being of consumers (Bechara et al., 2000).

Emotional theory - Emotion is the process that continues to make connections with the items displayed in a store, either perceived as they are, or in combination with

associated physical features (Cartwright et al., 2016; Irwin, 2018; Kim et al., 2016). Thus, visual perception is the estimation of pleasing, artistic, exquisite items that are recognised by a variety of cues affecting a consumer's attention (Kim et al., 2016; Ladhari et al., 2017; Ong and Yap, 2017). Consequently, the content of the displayed items creates emotional feelings by evoking customers' memories, which allows for the recognition of trends concerning the acquisition, processing, retention and retrieval of information and involving the emotional states of consumers.

According to Isen (1987), pleasant environments allow consumers to perceive and grasp more information, which anticipates more positive outcomes. Furthermore, the entire process of emotions precisely comprises stimulus (perception), emotional registration (interpretation) and emotional experience (physiological experience), which result in emotional responses in the form of behaviour or emotional attitudes (Frijda, 2007). These emotions flow through affective linkages and eventually reach the consumer's cognitive level of exploring and happiness (Elfenbein, 2014; Frijda, 2007; Hassenzahl et al., 2013).

3.3 Research framework and hypotheses' development

The literature review for this research has resulted in the creation of a conceptual framework which begins with a set of factors as antecedents to PED, followed by consequences. The six main constructs considered in this study are visual identity, communication, cultural heritage, physical environment design, emotional well-being and brand performance. According to previous studies (Bartholme and Melewar, 2011; Krishna, 2008; Melewar et al., 2006), visual identity, communication and cultural heritage have been identified as antecedents of PED. The chief elements of PED are identified as ambience, artefacts and spatiality. Furthermore, the key elements of emotional well-being are identified as sensorium, behaviour and happiness. Consumers' perception towards brand performance has been recognised as the main consequences of the relationships between PED and emotional well-being.

The synthesis of the conceptual model focuses on emotional well-being (sensorium, behaviour and happiness), and its impact on consumers' perception of brand performance in retail settings. In the following sections, each of the components of the framework is defined and developed. The proposed relationships based on the

framework are highlighted, and the implications for the retail sector are discussed. A rich framework for addressing the research questions and for exploring the role of PED in retail settings. The framework suggests that multiple physical environmental factors are perceived by customers (or visitors), and they respond cognitively, emotionally and physiologically to the environment.

The environmental psychology literature reinforces the idea that customers tend to respond to dimensions of their physical surroundings emotionally and physiologically, as well as making cognitive responses such as customer perceptions (Bitner, 1992; Golledge, 1987; Thang and Tan, 2003). For example, many environmental clues (e.g. accessories, furniture and fixtures, and decorative elements) in a retail store can deliver messages to customers (Bitner, 1992). Thus, in a global competitive scenario, shopping stores strive to create innovative and exciting designs that set them apart from the competition (Raajpoot, 2002). In fact, the PED of a shopping arcade may enable customers to cognitively evaluate, categorise and distinguish it from its competitors (Bitner, 1992). The framework and hypotheses provide the orientation for research on a topic that is incredibly affluent, and can enrich consumer methods and theories to gain a better understanding of the impact of PED.

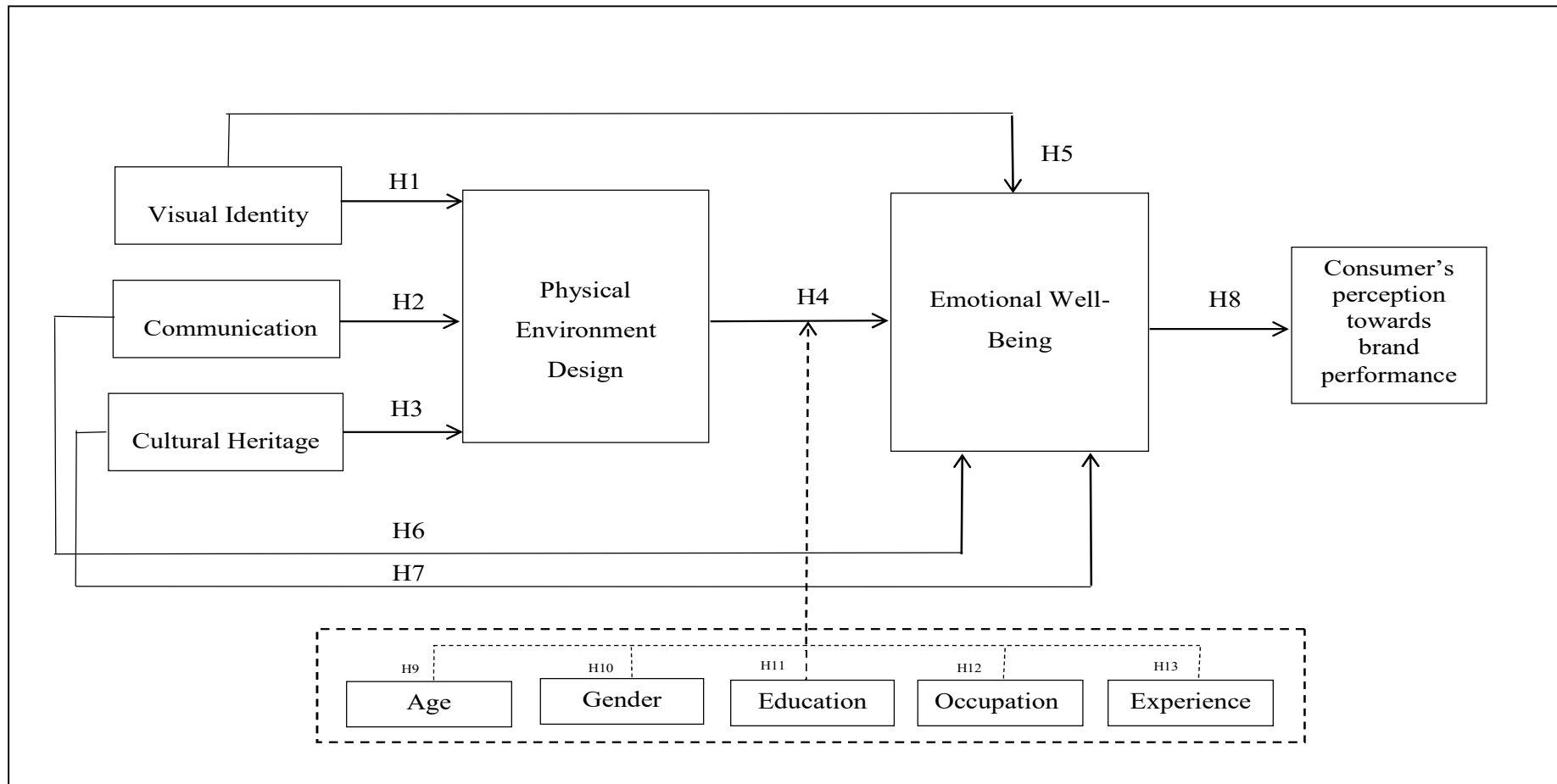
The logic underlying the relationship between PED and consumers' perception of brand performance also supports the link between PED and emotional well-being. Various non-verbal cues in the physical environment (such as ambience, decor, spatial layout) communicate to a customer that the organisation offers imposing branding strategies that are reasonable during an initial visit (Nguyen and Leblanc, 2002). In investigating customer behaviour in retail settings, Matilla (1999) found that in an organisation's retail setting, customer perception was important. In these studies, tangible PED was the most important dimension of consumers' perception of brand performance. Thus, it can be posited that PED in a shopping store is positively associated with consumers' perception of brand performance.

Matilla and Wirtz (2001) investigated the main effect of physical stimuli relating to perceived ambience on consumer behaviours in retail settings. Innovative and exciting PED may provide important clues for predicting and positively evaluating shopping experiences in a retail store. Some stores cannot impart an emotional well-being

factor until those design elements have been experienced. Thus, customers try to overcome their dilemma by choosing physical design indicators (cues or stimuli) to help them predict and evaluate the overall shopping experience.

The conceptual model will function in its initial stages using mixed-method research, with a quantitative study as the main component, augmented by a qualitative study. In illustrating the framework, qualitative research is more suitable for discovering distinctive features in order to understand the phenomenon (Carson et al., 2001) of PED and its components (ambience, artefacts and spatiality), and the relationship with emotional well-being and consumers' perception of brand performance: these require defining in more detail (Bell, 2008), while the quantitative study validates the questionnaire (Privette and Bundrick, 1987). Therefore, this study starts with qualitative research to develop the operationalisation of the model by first exploring the phenomenon being studied (Zikmund, 2003). These strategies help develop an understanding of the multiple dimensions of PED in the specific context of this study. The results from this study can also lead to further research in a different context and setting. In order to proceed with this study, a research model was developed (see Figure 3.1) to include the key constructs.

Figure 3.1: The conceptual framework



Source: Researcher's illustration

3.4 Physical environment design (focal construct)

Physical environment design constitutes the core domain of this research. However, in marketing there are several terminologies used to describe the term “environment”. In order to identify environment, researchers use concepts like environment design (Baek et al., 2018), atmosphere (Donovan et al., 1994), atmospherics (Foster and McLelland, 2015), physical surroundings (Bitner, 1992), environment cues (Baker et al., 2002), designed space (Arrigo, 2018), servicescape (Kearney, 2016), physical setting (Bitner, 1992), physical facilities (Grace and O'Cass, 2005), and physical evidence (Grace and O'Cass, 2005). In these various ways of describing physical environment, there are differences between the concepts commonly use to describe environment, in-built structure and atmosphere. This research follows the views of Kotler (1973), who described PED as an atmosphere that made “efforts to design a shopping environment able to produce specific emotional effects among buyers that increase the purchase probability”; and those of Bitner (1992), who suggested that PED focused on ambient cues (those cues that affect the five senses), layout and functionality (store arrangement and ability to facilitate consumer goals), and signs, symbols and artefacts (signals that communicate information to the shopper). The following sections describe the elements of PED.

3.4.1 Physical environment design and its elements

Physical environment design, as defined by Baker (1987) and Lucas (2003) is the man-made built environment which is a combination of ambience, aesthetic design and social factors; it is also referred to the servicescape, which has an impact on perceived service quality and purchase intention (Harris and Ezech, 2008; Wakefield and Blodgett, 1996). The three elements of PED are ambience, artefacts and spatiality, which influence customers' behaviour (Baker et al., 2002). Ambience is created by number of physical installations developed to intrigue and influence positive attitudes, which helps to arouse the consumer senses and assists them to take decisions in the servicescape (Morrison et al., 2011; Sabrina 2014; Vada et al., 2019; Wakefield and Baker, 1998). 2) Artefacts are the tools which can be used as an inspiration for contemporary designs in creating structures in the form of symbols or icons (Matthews et al., 2014; Samuel and Douglas, 2006; Xin et al., 2007). Artistic details make the store very attractive and offer profound cues for people to linger and move slowly from one point to another (Joy and Sherry, 2003). Spatiality is the arrangement

and functionality of objects that meet the design requirements and has a perceptual impact on customers' satisfaction and buying behaviour (Krukar and Dalton, 2013; Li, 2004; Lovelock and Wirtz, 2006).

Bitner (1992) claimed that the ambience of a store environment was one of the key determinants of success in the retail sector. The impact of ambience on PED are striking when they are extreme (e.g. loud music or high temperature), or when the customer spends considerable time in the organisation (Bitner, 1992), such as restaurants, banks, hospitals and stores. Researchers (Baker, 1987; Cheng et al., 2016; Sharma and Stafford, 2000) have found that ambience such as music, lighting and colour, supporting an underlying theme and presented by PED, is a crucial part of a store's image. The ambience of a store contributes to an atmosphere where visitors can relax and feel comfortable (Pullman and Gross, 2004). Ambience through PED gains recognition and appreciation from customers (Hui et al., 1997; Mattila and Wirtz, 2001; North and Hargreaves, 1998; Yalch and Spangenberg, 1993). Furthermore, the influence of ambience (music, lighting, temperature and pleasant scents), as a powerful tool to increase sales, has gained much attention in retail businesses (Bone and Ellen, 1999; Hirsch, 1995; Lin, 2004; Mattila and Wirtz, 2001).

Artefacts (decor or symbolic items) are inherent communicators as they refer to the physical signals which speak unspoken words to consumers (Ardley et al., 2012; Bitner, 1992; Matthews et al., 2014). These signals are connected by general meanings and give implicit cues to customers concerning the norms and expectations for behaviour in the organisation. According to Nguyen and Leblanc (2002), artefacts are the visual symbols used to create a favourable PED within the organisation. Thus, artefacts can influence a customer's interpretation of PED (Aaker et al., 2001; Bitner, 1992; Nguyen and Leblanc, 2002); offering aesthetic appeal to evaluate an organisation's PED.

The spatiality of a store may either ease or hinder movement, thereby evoking a sense of space in visitors (Kaya and Erkip, 1999). Retailers can display merchandise in almost any suitable fashion and can provide a sufficient area for the customers' movement, and thus overall PED becomes appealing to patrons (Kotler, 1973). Spatiality helps to make the organisation attractive and inviting, providing an

additional insight to PED (Bonn et al., 2007; Lindberg et al., 2019; Matilla and Wirtz, 2001; Serrato and Wineman, 1999).

The literature on design states that there has been a drastic shift towards retailers using the elements of PED (ambience, artefacts and spatiality) such as in-store music, specific enticing aromas and modified layouts and decor (Ainsworth and Foster, 2017; Lindstrom, 2005; Pine and Gilmore, 1998). However, to justify the rational impact of ambience, artefacts and spatiality, several marketing studies have also been carried out (Alexander and Cano, 2019; Baker, 1987; Bitner, 1992; Chebat and Michon, 2003; Hui et al., 1997; Kotler, 1973; Mattila and Wirtz, 2001; North and Hargreaves, 1998; Tuzunkan and Albayrak, 2017; Wakefield and Bakers, 1998; Yalch and Spangenberg, 1993). Research in the marketing field has recognised ambience, overall decor and artefacts, and spatiality as the ruling dimensions of PED which can establish the emotional well-being of consumers within the context of the retail industry (Aureliano-Silva et al., 2018; Han and Ryu, 2009; Lee and Jeong, 2012).

Physical environment design is a subset of the studies in retailing (Baker, 1986; Bitner, 1986; Booms and Bitner, 1982). Stores influence consumers through design cues which are easy to recognise and distinguish from others (Abratt, 1989; Melewar, 2003; Melewar and Saunders, 1998, 1999), and which develop consumers' social-emotional inner being (Aureliano-Silva et al., 2018; Bottger and Lee, 2017; Chen et al., 2015). Based on the literature review in Chapter 2, the three factors that create PED are visual identity, communication and cultural heritage. The following sections will discuss these factors in detail.

3.5 Physical environment design and its antecedents

The current study considers three main factors, visual identity, communication and cultural heritage, as the antecedents which positively influence the impact of physical environment design on consumers. The following section will elaborate the impact of these PED antecedents in a retail store. PED has been widely conceptualised as a significant tool in marketing, and has drawn attention from many researchers (Baker, 1987; Han and Ryu, 2009, Kotler, 1973, 1974; Messaoud and Debabi, 2016; Roy and Tai, 2003; Turley and Milliman, 2000). It has been suggested that the mainframe of PED generates a variety of positive outcomes for an organisation and strongly

influences customers' emotional well-being (sensorium, behaviour and happiness) (Gee, 2000; Hu et al., 2009; Ryu and Han, 2010; Turley and Milliman, 2000; Wakefield and Baker, 1998). These outcomes are related to various communication, strategic and economic aspects, thereby addressing the stakeholders (staff, visitors and customers).

Prior studies have suggested that PED influences image, reflecting the values and specific attitude of an organisation (Booms and Bitner, 1982; Hildebrandt, 1988; Karaosmanoglu and Melewar, 2006; Lindquist, 1974). The significance and benefits of PED in retail organisations has been widely acknowledged by researchers (e.g. Ali et al., 2013; Baker et al., 1992; Chen and Hu, 2010; Gee, 2000; Han and Ryu, 2009; Rose et al., 2012).

Researchers (Ainsworth and Foster, 2017; Bitner, 1992, Kotler, 1973) have carried out detailed investigations of the link between PED and its elements (ambience, artefacts and spatiality), and economic outcomes such as increased sales and increased brand performance. These findings, however, have only suggested a direct relationship between emotional well-being and brand performance (Baldry et al., 1997; Hafner et al., 2015; Khan, 2009), while other consequences appear to be more directly attached to PED (ambience, artefacts and spatiality). Moreover, the antecedents of PED (visual identity, communication and cultural heritage) impart signals that can convey specific attributes to internal and external audiences. These attributes act as informational cues (Baker and Balmer, 1997), bring innovation and add style (Melewar and Saunders, 1999) to an organisation. The aim of dissipating particular attributes of the organisation to a variety of people is to gain a higher market profile (Melewar et al., 2006).

3.5.1 Visual identity and physical environment design

According to the literature, visual identity is one of the most important elements of favourable PED. Elements such as corporate name, logo, font type, colour palette and slogan/tagline have been frequently mentioned by different researchers as components of corporate visual identity (Bartholme and Melewar, 2011; Dowling, 1994; Kaur and Kaur, 2019; Van den Bosch et al., 2006). Visual identity makes an organisation visible and recognisable (Melewar and Saunders, 2000) by providing people with

extra signs which creates a visual impact and hence, make their visit to an organisation memorable (Babin and Borges, 2009; Balmer and Gray, 2003; Dowling, 1993). Moreover, components of visual identity are connected to an overall view of PED and emotional appeal through corporate aesthetics (Hynes, 2009; Melewar et al., 2006; Melewar and Saunders, 2000; Munajjed and Sulaiman, 2015; Olins, 1985; Shimp, 1990; Van den Bosch et al., 2005). In addition, visual identity has been linked to “overall enjoyable user experience” (Schmitt, 1999). However, research in this area is limited. In the present study, it is argued that visual identity will favourably effect PED which strongly impacts the consumers.

Gibson (1966), conceptualised that as consumers move around an environment, they effortlessly ascertain information from the entire optic array, providing abundant and crystal-clear information without any processing. Additionally, information can be gathered in various forms of optical flowing patterns or texture gradients. The main concept of Gibson’s (1966) approach is that visual sensations received from the environment can be directly perceived, as they are rich and well-organised in information that is interpreted automatically to create a meaningful reaction. Furthermore, an individual uses various cues provided in the environment to interpret and perceive the information which initiate the spontaneous thought process. Gibson (1966) frequently mentioned that perception and action were interlinked. Consumers do not perceive the world from a fixed viewpoint but by moving around and interacting in it, and this reinforces the idea that perception is completely dependent on action (Landstrom and Hall, 2015). Perceptions of a meaningful vista can be enriched through sensory systems. Insightful interpretations of the concept of PED can be well explained using Gibson’s (1966) theory of direct perception, which claims that all the potential uses of an object, called affordances, are perceived directly.

Another important fact is that visual identity is a part of retailing that communicates overall values and promise of the retailing strategies, out of which physical environment design is one of them (Helmefalk and Hulten, 2007). Visual identity characterises visual aspect of a retail store in order to evoke feelings and provide experiences to the customers (Baker et al., 2002). It includes anything visual (symbol, design or any other visual composition) that is interesting and perceptible (Melewar, 2001; Pegler, 2010). Such imagery elements of visual identity are used to tangibly

express characteristics and associate the customers with the environment of the retail store (Lin, 2004). However, visual identity also provide intangible added values such as sensations (Parsons, 2003) which helps in strengthening the consumer' perception towards the store's performance.

Visual identity helps the retail stores to determine what story they want to tell through the visual clues and further such clues consistently show customers evidence of that story (Berry et al., 2002). According to researchers (Melewar and Saunders, 1999 and Melewar and Karaosmanoglu, 2006), the visual standardisation is an essential strategy for the retailers to achieve market success. Therefore, this study adopts the term 'visual identity' for the construct which is defined as the extent to which the retail stores use their 'structure design' and 'physical environment design' to create the overall look and feel of the store for the consumers (Helmefalk and Hulten, 2017; Lin, 2004; Melewar et al., 2001). Therefore, based on the discussion that highlights the significance of visual design elements in the retail stores, it is hypothesised:

Hypothesis 1: Visual identity positively contributes to the physical environment design of a retail store.

3.5.2 Communication and physical environment design

Physical environment design ranks as a critical factor in corporate communication. The communication policies of an organisation are a "corporate identity mix" which needs to be integrated as it conveys a message or creates effective strategies through an exclusive design (Andriopoulos and Gotsi, 2001; Balmer, 2001; Elsbach and Stigliani, 2018; Melewar et al., 2001; Van Riel and Balmer, 1997). PED allows organisations to communicate their corporate identity in a more dynamic way than other visual expressions, as environment can be determined in three dimensions and in different spaces (Ariffin et al., 2017; Bachynski, 2009; Bitner, 1992; Elsbach and Stigliani, 2018; Obermiller and Bitner, 1984; Sherman et al., 1997; Underhill, 1999).

Consumers expect retail stores to offer unique and integrated experiences in today's era of technological advancements (Ariffin et al., 2017; Brocato et al., 2015; Dennis et al., 2014), such as virtual shopping catalogues, kiosks or digital signage. This provides an opportunity for retailers to achieve the desired results. Prior studies have

revealed that the prominence of communication strategies in retail stores positively support the stores' PED (Bertram and Chi, 2018; Levy and Weitz, 2012; Pantano and Viassone, 2014).

Communication through designing is a design related stimuli that serves the purpose of communicating the common idea of the store and engages the customers (Berry et al., 2002). All context elements share this common idea or theme with existing evidence of its strengths and values, an approach that makes the store with a powerful identification (Berry and Bendapudi, 2003). These contextual elements collaboratively develop in-store brand strategies and related aspects to associate the customers and create an intended effect on the customer's experience (Mussol et al., 2019). The store's common message comes through multiple tangible sources which not just communicate story but also deliver the perceived integrity and trustworthiness of the store (Berry and Bendapudi, 2003).

Corporate PED serves as a communication tool which supports ambient marketing initiatives, along with promoting symbolic and cultural value (Bargenda, 2015; Crilly et al., 2004; Din, 2000; Munajjed and Sulaiman, 2015; Nguyen and Leblanc, 2001). For example, both emotional and functional aspects are communicated effectively through attractive display windows and motivating consumers to enter and explore the store (Oh et al., 2008; Pantano, 2016). In summary, communication is an important characteristic of PED and can positively affect it. PED is a focal point that communicates with customers and encourages them to interact and learn (Kent, 2003). On the basis of these studies, it is proposed that:

Hypothesis 2: Communication through elements positively contributes to the physical environment design of a retail store.

3.5.3 Cultural heritage and physical environment design

Cultural heritage is an invaluable resource that signifies a unique environment defined by history, regenerated and renewed to adapt to and integrate with new and modern concepts (Hakala et al., 2011; Lu, 1999; Wang and Mattila, 2015). The rich cultural association of a themed design has a precise role, as it gives a sense of belonging and identity, has invisible influence and helps to develop consumers' social-emotional and

collective inner being (Chen et al., 2015). Cultural heritage is a fusion of the history and consistency and continuity of a society's distinguishable characteristics, and its understanding depends on the consumer's own traditional and spatial context (Hakala et al., 2011). The present research aims to investigate the role of cultural heritage in enriching the PED of a store, thereby efficiently providing charm for customers.

According to Bradshaw et al. (2011), cultural heritage is the endowment that each generation receives and passes on which is very effective. Culturally designed cues in a retail store's environment can be used as a distinctive tool to perpetuate uniqueness in consumers' minds (Hakala et al., 2011). Various researchers have acknowledged the role of cultural heritage as consumer attractions that evolve into interactive, multisensory experiences (Bonn et al., 2007; Boyd, 2002; Poria et al., 2003; Wang and Mattila, 2015). Furthermore, these cultural attractions create an emotional atmosphere for consumers, and the experience positively affects the evaluation of the PED of that store (Obermiller and Bitner, 1984).

Cultural objects are the 'pull' factors which can richly influence the environment of the retail store and provide intellectual customer experiences (Palmer, 1999; Pine and Gilmore, 1998). Such objects stimulate the customers and make them feel immersed due to nostalgic reasons (Timothy and Boyd, 2003). Furthermore, Pine and Gilmore (1998) identified four dimensions of customers' experiences due to cultural portrayals in the retail stores : entertainment, education, aesthetics and escapism. Depiction of cultural heritage in the stores add supportive information to the environment which is perceived as the realistic representations of objects and provide deeper meaning (De Rojas and Camarero, 2008).

Design cues in stores can offer a robust medium for customers to experience meaningful and satisfying associations and interactions with elements of cultural heritage and traditions (Lin et al., 2009; Long, 2004; Okmus et al., 2007; Scarpato and Daniele, 2003). Culture can play a significant role in attracting customers, and hence in establishing social and place identity (Hakala et al., 2011; Hjalager and Richards, 2003; Mason and O'Mahony, 2007). PED helps to understand the cultural factors of spaces that cannot be otherwise perceived (Aaker et al., 2001; Dauce and Rieunier,

2002; Jiang et al., 2015; Norberg-Schultz, 1971; Vukadin et al., 2016). This perspective can be stated more formally for empirical testing as follows:

Hypothesis 3: Cultural heritage positively contributes to the physical environment design of a retail store.

3.5.4 Physical environment design and emotional well-being

Bitner (1992) discovered that consumers could respond to the PED of retail stores emotionally and physiologically, which consequently influenced their emotional well-being. The concept of PED in stores can be seen as an important tool which affects consumers' emotional well-being to the extent of point of sale (Donovan and Rossiter, 1982; Irwin, 2018; Kim et al., 2016). The PED of stores provides unique experiences and imparts meanings which influence emotional well-being (Irwin, 2018; Kim et al., 2016; Melamed et al., 1995).

The relationship between effective PED and consumers' emotional well-being has been recognised by Salama (2008). The built environment must be experienced and explored using the senses (touch, smell, taste, sight and sound), which can contribute to physical, psychological and emotional well-being (Shamai, 1991). PED does not only need to be essentially attractive; it also provides emotional worth to consumers and gives them an opportunity to enjoy and improve emotional well-being (Babin et al., 1994). Furthermore, some researchers (Atalay and Meloy, 2011; Irwin, 2018; Plastow, 2012; Williams, 2006) have suggested that retail stores can be used as a constructive idea with a strategic approach to intensify positive emotions, as these provide retail therapy and help consumers to reduce stress and negative emotions.

A number of marketing scholars (Arrigo, 2018; Grzeskowiak et al., 2016; Kim et al., 2012; Reynolds et al., 2003) have suggested the significance of consumers' emotional well-being in retail spaces. Shopping experience for consumers is associated with sensory, behavioural, cognitive and emotional values (Kim et al., 2016; Plastow, 2012; Schmitt, 1999).

Retail spaces create a positive holistic experience through intangibility to achieve long-term business success (Grzeskowiak et al., 2016; Kim et al., 2012; Schmitt, 1999;

Tyler and Adhitya, 2015). Moreover, the perception of emotional well-being is important, as consumers make decisions regarding products or services that will improve quality of life (Kim et al., 2016; Sirgy et al., 2008; Williams, 2006). The concern of such experiential marketing is centred on consumer relaxation and satisfaction followed by responses such as perception of well-being, word-of-mouth and intention to revisit (Grzeskowiak et al., 2016).

According to Tyler and Adhitya (2015), PED has an important role to play in the improvement of the quality of well-being, as it addresses and interacts with consumers and hence affects their emotional well-being. PED is the key element that brings positive change from positive experiences, and stimulates the multisensorial, emotional well-being of consumers (Howarth, 2016; Irwin, 2018; Klosowski, 2013; Menec et al., 2011; Solomon et al., 2006; Tyler and Adhitya, 2015). Consumers' emotional well-being (sensorium, behaviour and happiness) depends on PED (the built environment), the socio-cultural rules that govern these environments, and the socio-economic status of these environments (Lake and Townsend, 2006). This research therefore proposes the following:

Hypothesis 4: The physical environment design of a retail store positively contributes to the emotional well-being of consumers.

3.6 Physical environment design and its consequences

Physical environment design, which has been widely conceptualised as a significant tool in marketing, has been in the limelight of many researchers (Baker, 1987; Han and Ryu, 2009; Kotler, 1973, 1974; Messaoud and Debabi, 2016; Roy and Tai, 2003; Turley and Milliman, 2000). The mainframe of physical environment design has been claimed to generate a variety of positive outcomes for an organisation and strongly influences customers' emotional well-being (sensorium, behaviour and happiness) (Gee, 2000; Hu et al., 2009; Ryu and Han, 2010; Turley and Milliman, 2000; Wakefield and Baker, 1998). These outcomes are related to various communication, strategic and economic aspects, thereby addressing the stakeholders (staff, visitors and customers).

Prior studies suggest that physical environment design influences the image, reflecting the values and specific attitude of the organisation (Booms and Bitner, 1982; Hildebrandt, 1988; Karaosmanoglu and Melewar, 2006; Lindquist, 1974). The significance and benefits of physical environment design in retail organisations is widely acknowledged by researchers (e.g. Ali et al., 2013; Baker et al., 1992; Brown et al., 2018; Chen and Hu, 2010; Gee, 2000; Han and Ryu, 2009; Rose et al., 2012).

In detail, the authors investigate the link between physical environment design and its elements (ambience, artefacts and spatiality), and economic outcomes such as increasing sales, increasing value of marketing shares, and increased brand performance. Findings however, only suggest a direct relationship between emotional well-being and brand performance (Baldry et al., 1997; Hafner et al., 2015; Khan, 2009).

However, other consequences appear to be more directly attached to physical environment design (ambience, artefacts and spatiality). Moreover, the antecedents of physical environment design (visual identity, communication and cultural heritage) imparts signals that can convey specific attributes to internal and external audiences. These attributes act as a mark of quality (Baker and Balmer, 1997), brings prestige and adds style (Melewar and Saunders, 1999), to an organisation. The aim of dissipating particular attributes about the organisation to a variety of people is to gain a higher market profile (Melewar et al., 2006).

3.6.1 Visual identity and emotional well-being

Visual identity provides “a powerful way of differentiating the company, since they represent the distinctive attributes of a corporation” (Karaosmanoglu and Melewar, 2006, p. 200), and generates familiarity among consumers. Furthermore, consumers are able to recognise and gain trust in a company, which in turn influences their buying behaviour and buying decisions (Landstrom and Hall, 2015; Melewar et al., 2006; Van Riel et al., 2001). Research suggests that there is a connection between visual identity and emotional well-being (Ekici et al., 2018; Lorenzo-Hernandez and Ouellette, 1998, Martinez and Dukes, 1997; Kim et al., 2016; Phinney, 1996). In organisations, visual elements related to aesthetic appeal (Bitner, 1992) enhance a

certain mood in consumers, who are likely to experience positive emotional well-being as a result (Pervin, 1992).

The extent to which retail stores can contribute to consumers' emotional well-being is based not only on functional aspects (Ekici et al., 2018; El Hedhli et al., 2013; Sirgy et al., 2008; Meadow and Sirgy, 2008). Consumers' perception through the sensorium at acceptable levels also plays a significant role in developing emotional well-being, which triggers consumer behaviour (Arnold and Reynolds, 2012; Ekici et al., 2018; Kim et al., 2016; Sirgy et al., 2016). Retailers use visual identity as a means of engaging with consumers who are seeking emotional relationships with the physical space (Ageeva et al., 2018; 2019; Kim et al., 2016). In other words, visual design cues are positively associated with the emotional well-being of consumers.

Furthermore, the PED in a retail scenario enhances the communication of visual identity elements (Landstrom and Hall, 2015; Markin et al., 1976; Melewar, 2008) and thus influences the emotional well-being (sensorium, behaviour, happiness) of the consumers. The environmental cues of a retail store, such as visual identity, determine brand attributes and associations (Aaker, 1991; Foroudi et al., 2016, 2018) and leads consumers to think about the store's infrastructure (Arnold and Reynolds, 2012; Romaniuk and Sharp, 2004; Sirgy et al., 2016). According to Melewar and Saunders (2000), the components of visual identity are projected by PED, which is associated with the benefits of emotional well-being of consumers (Dale, 2017; Hung, 2014; Kasser and Ryan, 2001; Porter and Claycomb, 1997). Visual identity can successfully provide overall satisfaction to consumers (Ekici et al., 2018). Furthermore, events occurring in a retail store, such as shopping due to visual cues, contribute to overall quality of life, and visual identity is thus a positive predictor of life satisfaction. Drawing on this rationale, the following hypothesis with regard to visual identity is presented:

Hypothesis 5: The visual identity of a retail store positively contributes to the emotional well-being of consumers.

3.6.2 Communication and emotional well-being

PED is responsible for communicating an idea through its theme (Balmer, 2001) and fostering the emotional well-being of consumers (Dedeoglu et al., 2018; El Hedhli et al., 2013; Power, 2014). Store environments allow the communication of corporate identity in a more dynamic way than other visual expressions, because interiors can be employed in three dimensions and in different spaces (Seock, 2009). However, most prior research has been focused on consumers' emotional well-being in retail settings; far less is known about how the PED of organisations supports the communication of design concepts (Banat and Wandebori, 2012; Foroudi et al., 2018; Ulrich et al., 2008).

Previous studies have shown that emotional aspects in the retail store are an effective and fundamental driver of consumer's revisiting intentions (Dedeoglu et al., 2018; Kim et al, 2016; Pantano and Dennis, 2019). These aspects are a key factor for the retail segment and its communication strategies. The perception of emotional well-being emphasises the behavioural values communicated by stores (Schmitt, 1999). Hence, consumers develop perceptions about stores that are associated not only with the communication of the images around them, but also with an attempt by the retailers to sell an experience relating to the consumers' requirements (Grzeskowiak et al., 2016). For instance, technology-mediated interactions in a retail store impact on consumers' perception (Pantano and Dennis, 2019). Furthermore, consumers' perceptions lead them to develop cognitive values that are processed by several sources of information, such as advertisements and word-of-mouth (Bargenda, 2015; Fiore and Kim, 2007; Kim et al., 2016; Stout and Leckenby, 1988).

Emotional processes that are triggered by in-store communication create emotional reactions that help in the fulfilment of consumer desires (Lajante and Ladhari, 2018). These in-store communication strategies inherently influence the consumers, and produce sensory information such as advertising effectiveness, different pricing levels and buying decisions (Ladhari et al., 2017; Lajante and Ladhari, 2018; Lucas 2015). Consequently, physiological and behavioural reactions occur and improve emotional well-being in traditional retail stores.

Communication through physical space reveals aspects of the business (Aakhus and Laureij, 2012) and may provide the resources for improving emotional well-being (Dedeoglu et al., 2018; Elsbach and Pratt, 2007; El Hedhli et al., 2013). However, there is not much research on how PED intensifies or hampers communication (Ulrich et al., 2008). There is a relationship between in-store communication and consumers' emotional well-being (El Hedhli et al., 2013; Feenstra et al., 2015; Lajante and Ladhari, 2018; Lu, 1999; Rubio et al., 2017; Sailer et al., 2015). Accordingly, building on the relationship between communication and emotional well-being, the following hypothesis is proposed:

Hypothesis 6: Communication through the physical environment design of a retail store positively contributes to the emotional well-being of consumers.

3.6.3 Cultural heritage and emotional well-being

PED greatly impacts consumers' emotional well-being through its cultural values (Phinney and Ong, 2007). The cultural associations (Noonan et al., 2003) of the contemporary design of the physical environment (Banat and Wandebori, 2012; Dredge, 2004; Puczko and Bachvarov, 2006) help consumers to adapt and enhance their emotional well-being, spontaneously. Culturally rich PED positively contributes to the emotional well-being of consumers (Wei and Yonghong, 2008), and supports the building construction. Values from cultural heritage are directly related to the physical and psychological emotional well-being of consumers (Branscombe et al., 1999; Hwang and Lee, 2019; Phinney and Chavira, 1992).

Previous studies have suggested that cultural heritage representations in retail stores influence mindscapes, thereby helping consumers to understand themselves better culturally (Duran et al., 2015; Grzeskowiak et al., 2016; Vada et al., 2019). In addition, cultural transmission allows consumers to engage in observational learning and acquire the skills necessary to bring out the cultural meaning from the PED (Dedeoglu et al., 2018; Grzeskowiak et al., 2016; Hwang and Lee, 2019). This can be explained by the fact that cultural heritage plays an important role in recreating retail stores. In terms of improving the emotional well-being of consumers, cultural heritage provides consumers with a sense of satisfaction which significantly contributes to quality of life (Badrinarayanan and Becerra, 2018; Day, 1987; Vada et al., 2019).

Cultural heritage has the capability to connect ideas in terms of cultural values to consumers, offering new perspectives of cultural knowledge that build brand values (Pullman and Gross, 2004). Retail stores designed with cultural aspects possess the ability to engage customers using resources from particular cultures and traditions (Wheatley and Bickerton, 2017). Moreover, multiple cultural narratives mean that different meanings can emerge through diverse interpretations of the same cultural aspects (Badrinarayanan and Becerra, 2018).

It has also been shown that consumers develop memorable experiences by visiting culturally rich retail stores, thereby influencing place attachment (Badrinarayanan and Becerra, 2018). The objective of a retail setting is to explore the role of cultural heritage through artistic values and resources (Duran et al., 2015; Matarasso, 1997; Puczko and Bachvarov, 2006; Wheatley and Bickerton, 2017), in order to enhance consumers' emotional well-being. Therefore, on the basis of this discussion in the context of cultural heritage and consumers' emotional well-being, the following is proposed:

Hypothesis 7: Cultural heritage represented in a retail store positively contributes to the emotional well-being of consumers.

3.6.4 Emotional well-being and consumer's perception towards brand performance

The relationship between emotional well-being and consumers' perception of brand performance has acknowledged by numerous scholars (Badrinarayanan and Becerra, 2018; Baldry et al., 1997; Duran et al., 2015; El Hedhli et al., 2013; Grzeskowiak et al., 2016; Vada et al., 2019). It is crucial for organisations to understand the relationship between emotional well-being and consumers' perception of brand performance (El Hedhli et al., 2013; Gurhan et al., 2016; Hafner, et al., 2015; Harris, 2017; Loeschenbrand, 2016). Brand performance is a key element which lies not only in the positioning of the brand, but in creating the internal arrangements (e.g. physical design, organisational structure, values and culture) that support the meaning of the corporate brand (Khan, 2009; Loeschenbrand, 2016; Rihai-Belkaoui, 2003), having a positive effect on the profitability of the organisation (Elsbach and Pratt, 2007; Olins, 1978; Melewar and Saunders, 2000).

However, consumers' perception of brand performance relates to consumers' level of personal happiness and satisfaction; and how they evaluate a store within the parameters of PED (El Hedhli et al., 2013; Kim et al., 2016; Sirgy, 2008). This evaluation of the store generates positive beliefs in consumers' minds and creates an overall perception of the store's performance (Kim et al., 2016). Hence, consumers' emotional well-being redefines self-concept and personal values with regard to the association with the perceived elements of retail stores.

This association specifically connects and strengthens consumers' perception of the retail store, and also creates a clear identification which influences brand performance outcomes (Casidy et al., 2018). Eventually, this perception of brand performance ensures repatronage. To achieve a competitive advantage, retailers create a holistic experiential journey for consumers which in turn brings success to the business (El Hedhli et al., 2013; Kim et al., 2016; Sirgy, 2008). Consumers' emotional well-being is the end goal of design, by means of the psychological effect of interior space on one's personal interiority through natural community (El Hedhli et al., 2013; Hughes, 2013; Hwang and Han, 2014; Pallasmaa, 2008; Power, 2014). Moreover, consumers' emotional well-being contributes to their perception of brand performance. This discussion leads to the following hypothesis:

Hypothesis 8: Consumers' emotional well-being positively contributes to their perception of brand performance.

3.7 Physical environment design, emotional well-being and demographic variables

The study of human population is called demography (Yaukey, 1985). Demographic variables must be considered in any social science research as it strengthens the research study (Boslaugh, 2007). For the current study, the researcher studied the effects of the most common demographic variables (demographic characteristics) such as age, gender, education, occupation and consumers' personal experience of a store. Different people experience different impacts depending on their age group, gender, educational background, job profile and store's experience. For each of these demographic variables, the relationship between the PED of the retail store and the

emotional well-being of consumers was examined. The following section discusses the effects of PED in the light of demographic variables.

3.7.1 The moderator impact between age and emotional well-being

Prior studies in marketing have described how consumers in different age groups react differently towards the PED of retail environments (Priporas et al., 2017, Turley and Milliman, 2000; Yalch and Spangenberg, 1988, 1990). In addition the marketing literature explains that as people age, their preferences change (Blazquez, 2014; Ordun, 2015; Terwogt and Hoeksma, 1995). The research shows that reactions to retail store environments vary with age (Gulas and Schewe, 1994; Turley and Milliman, 2000; Yalch and Spangenberg, 1988, 1990). Younger consumers are highly influenced by the PED of a retail store, as they use it as a key reference to enhance the reputation of that store (Alessandri and Alessandri, 2007; Gazzola et al., 2017; Lunard and Roux, 2015). For instance, younger age groups view stores' digital signage as a potential source of entertainment (Newman et al., 2006). However, a recent study in the retail sector also suggested that the PED of a store was traditionally associated with older consumers, and they admired the atmosphere of a retail store (Berg et al., 2018).

Despite the importance placed on this topic by several researchers (Doss, 2017; Morimoto and La Ferle, 2005; Upadhyay and Singh, 2010), there has been little focus on the impact of consumers' age on the relationship between PED and emotional well-being. A store design that produces certain responses in an individual or group of people at a particular time may induce an entirely contradictory outcome in another individual or group (Bitner, 1992; Johnson et al., 2015; Turley and Milliman, 2000). For instance, PED that triggers a positive response in teenagers may trigger a negative response in older shoppers. To study this relationship, this research proposes examining the following hypothesis:

Hypothesis 9: The age of consumers positively moderate the relationship between physical environment design and emotional well-being.

3.7.2 The moderator impact between gender and emotional well-being

In addition to examining the impact of consumers' age on the link between PED and emotional well-being, this research also explores the effect of consumers' gender on this relationship. A number of researchers (Caminiti, 1993; Lim et al., 2007; Miller, 1990; Raajpoot, et al., 2008; Zbytniewski, 1979) have examined the perceptions and behaviour of male and female consumers in retail stores. Although the literature in this field is not extensive, a few researchers (Bhutada and Rollins, 2015; Turley and Milliman, 2000; Yalch and Spangenberg, 1988, 1990) have covered the main topics. Two main theories have been put forward: selective hypotheses theory and social learning theory, both of which suggest that men and women process promotional information differently (Bhutada and Rollins, 2015). "Men are more likely to be driven by overall message themes and women are more likely to be engaged in detailed elaboration of the message" (Bhutada nd Rollins, 2015; Edwards and La Farle, 2009, p. 26; Haj-Salem et al., 2016).

Males use salient cues to process information and are therefore termed as selective processors, while females use all available detailed clues and are therefore termed as comprehensive processors (Bhutada and Rollins, 2015). Previous studies (Bhutada nd Rollins, 2015; Edwards and La Farle, 2009; Klaus and Bailey, 2008; Koca and Koc, 2016) have suggested that females employ a more visionary and creative interpretation of informational cues, which means that they produce highly associative links of knowledge about the PED of a retail store and are more likely than males. Furthermore, some researchers (Bhutada and Rollins, 2015; Newman et al., 2006; Underhill, 1999) have suggested that females have the desire to browse and stay longer than males to avail themselves of the best bargain options, particularly if the store has visual stimuli (such as digital signage). This clearly suggests the enthusiasm of females will be followed by the satisfaction of shopping and the enrichment of their emotional well-being. The next hypothesis is therefore as follows:

Hypothesis 10: The gender of consumers positively moderate the relationship between physical environment design and emotional well-being.

3.7.3 The moderator impact between education and emotional well-being

Different categories of consumers appear to behave differently when presented with the same atmospheric stimuli (Gulas and Schewe, 1994; Turley and Milliman, 2000; Yalch and Spangenberg, 1988, 1990). Reactions to retail store environments are not universal among consumers of different educational backgrounds (Rana and Tirthani, 2012; Loudon and Bitta, 1993). Previous studies have suggested that the development of design connoisseurship requires education, exposure to beautiful things, and motivation (Osborne, 1986). Some researchers (Bellenger et al., 1977; Choi and Park, 2006; Hawkins et al., 2007) have observed that consumers' level of education influences their behaviour and store PED preferences. The current study also explores the effect of consumer's educational background on the relationship between the PED of the retail store and their emotional well-being.

In general, highly educated people are well versed in marketing tactics, and therefore respond positively to PED and its elements in a retail store; and this eventually has a positive effect on their emotions (Rana and Tirthani, 2012). However, among consumers with low education levels, a negative impact on emotions has been found, even in the same retail environment, and they are found to be impulse buyers (Loudon and Bitta, 1993). Paulins and Geistfeld (2003) concluded that consumers were more critical of a store's PED when they had a higher level of education, whereas consumers with a low level of education perceived the same PED differently. Moreover, retail repatronage experience for educated consumers is exhibited in their shopping patterns (Flavian et al., 2001; Miranda et al., 2005). To understand the effect of PED in the context of educational background, the following hypothesis was developed:

Hypothesis 11: The education level of consumers positively moderate the relationship between physical environment design and emotional well-being.

3.7.4 The moderator impact between occupation and emotional well-being

A number of previous studies (Bellenger et al., 1977; Choi and Park, 2006; Hasan and Mishra, 2015; Hawkins et al., 2007) has found that consumers' education level influences their occupation and also their preferences regarding store PED. The overall ranking of a retail store for repatronage is higher among the employed

category of consumers than among the unemployed group (Raajpoot et al., 2008). The current research also investigates the role of the occupation (or employment status) of consumers, and its impact on the relationship between store PED and consumers' emotional well-being. Oumlil et al. (2015) investigated the impact of the occupation of retail consumers. The findings show that the behaviour of professionals differs significantly from that of non-professionals such as housewives or retired people (Bartos, 1977).

Furthermore, currently employed consumers are more orientated and more responsive towards the PED of retail stores (Oumlil et al., 2015). The employed category of consumers is more familiar with latest trends, more knowledgeable and more receptive towards digitalisation in stores (Dennis et al., 2010). Additionally, technological innovations have a greater positive impact for shoppers who are employed and earning than for those who are retired or on state benefits (Rogers, 1995). Consequently, the researcher proposes the following hypothesis regarding the moderating role of a consumer's occupation on the relationship between PED and consumers' emotional well-being:

Hypothesis 12: The occupation of consumers positively moderate the relationship between physical environment design and emotional well-being.

3.7.5 The moderator impact between store's experience and emotional well-being

A store's PED plays a vital role in consumers' experience, as it enhances sensory perceptions (Hasan and Mishra, 2015). PED involves a conscious designing of space to effect customers' sensory experience. "It mostly has to do with the 'spatial aesthetic' features of the store and serves as a 'silent language' in communication to customers" (Kotler, 1973-1974, pp. 48-50). Some prior researchers (Grewal et al., 2009, Lemon and Verhoef, 2016; Puccinelli et al., 2009, Verhoef et al., 2009) and firms (Accenture, 2015, Marketing Science Institute) have acknowledged the importance of understanding and leading consumers' experience and engagement levels, but overall there has been limited research investigating the impact of in-store retail experiences on consumer behaviour. The concept of store's experience is based on the notion that a consumer's experience is not solely about the individual atmospheric components that can be found within the store (Baker et al., 2002).

Instead, experience incorporates and extends atmospheric variables to encourage and include the engagement of the consumer in several ways (Holbrook 1999; Kozinets et al., 2002; Vargo and Lusch, 2004).

Such environments potentially impact consumers by offering an aesthetically pleasing experience and an opportunity to escape. Store experience is created in an escapist environment where consumers can engage and interact with products and differentiate between the store they are in and other retail stores (Barbaro, 2007; Grewal et al., 2009; Verhoef et al., 2009). The holistic consumer experience concept “involves the consumer’s cognitive, affective, emotional, social and physical responses to the retailer. This experience is created not only by those elements which the retailer can control (e.g. service interface, retail atmosphere, assortment, price), but also elements that are outside of the retailer’s control (e.g. influence of others, purpose of shopping)” (Verhoef et al., 2009, p. 32).

Furthermore, consumers strongly participate in influencing the execution of the store’s aesthetic experience as they are immersed in the atmosphere (Pine et al., 1999). Entertaining experiences in the retail store are more thrilling and absorptive because such atmospheres push the consumers toward escapism (Pine et al., 1999, p. 33). It is possible to conclude that the PED of a retail store can evoke aesthetic responses in consumers. Holbrook and Zirlin (1985, p. 21) described this as a “deeply felt experience that is enjoyed purely for its own sake without regard for other more practical considerations”. Several researchers (Parsons, 2003; Pine et al., 1999; Sit et al., 2003) have investigated the effect of PED on consumers in the shopping centre context, and consumers’ store experiences and decisions. Appealing products and well-displayed merchandise can produce strong emotional reactions among consumers (Holbrook, 1980). The next hypothesis proposed in the current study is therefore:

Hypothesis 13: The experience of consumers in a retail store positively moderate the relationship between physical environment design and emotional well-being.

3.8 Summary

In this chapter, the distinct literature on PED, emotional well-being and consumers' perception of brand performance was investigated to provide a theoretical ground for the development of a conceptual framework. The exploration of the constructs resulted in the generation of 13 hypotheses (as shown in Table 3.1). This chapter reviewed academic as well as anecdotal literature on PED and its related avenues in order to establish the relationships between the antecedents and consequences of PED, and the moderating effects of demographic variables (age, gender, education, occupation and store's experience) on PED and emotional well-being, leading to the hypotheses. Consequently, the linkages that are expressed by the hypotheses have led to the conceptual research model (as shown in Figure 3.1). The next chapter lays out the research methodology and method adopted in this research to test the proposed model, in order to find the answers to the research questions.

Table 3.1: The overall hypotheses	
Main effects hypotheses	
RQ1:	What is the role of visual identity, communication and cultural heritage in enhancing physical environment design?
H1	Visual identity positively contributes to the physical environment design of a retail store
H2	Communication through elements positively contributes to the physical environment design of a retail store
H3	Cultural heritage positively contributes to the physical environment design of a retail store.
RQ2:	What is the contribution of ambience, artefacts and spatiality to consumers' emotional well-being?
H4	The physical environment design of a retail store positively contributes to the emotional well-being of consumers
RQ3:	How can physical environment design enrich consumers' emotional well-being and enhance their perception of brand performance?
H5	Visual identity of a retail store positively contributes to the emotional well-being of the consumer
H6	Communication through the physical environment design of a retail store positively contributes to the emotional well-being of consumers
H7	Cultural heritage represented in a retail store positively contributes to the emotional well-being of consumers
H8	Consumers' emotional well-being positively contributes to their perception of brand performance
Moderating effects hypotheses	
H9	The age of consumers positively moderate the relationship between physical environment design and emotional well-being
H10	The gender of consumers positively moderate the relationship between physical environment design and emotional well-being
H11	The education level of consumers positively moderate the relationship between physical environment design and emotional well-being
H12	The occupation of consumers positively moderate the relationship between physical environment design and emotional well-being
H13	The experience of consumers in a retail store positively moderate the relationship between physical environment design and emotional well-being

CHAPTER 4: METHODOLOGY AND RESEARCH DESIGN

4.1 Introduction

In the previous chapters, the philosophy and approach of the research study have been discussed. The literature review has helped to establish the parameters for the current study (Sanders and Courtney, 1985). Furthermore, the theories from the prior literature related to the research topic have been identified, in order to create the foundations of the conceptual model (Dean and Bowen, 1994). In the light of the review of the existing literature and the gaps that have been identified in the context of PED and consumers' emotional well-being, the conceptual model specifies the relationships between the variables under investigation. This will further strengthen the existing theories on PED (Klein et al., 1994).

Anderson (2002) noted that the research problem, when examined with a philosophical outlook and a strategic approach, recognised the exemplar information required to address it. Furthermore, Creswell (1998) added that the research approach would ensure that the research questions identified had been properly addressed on the basis of the propositions developed during the study and the findings. Research design advocates the methods appropriate for the gathering of information required to answer the research questions (Wind, 1978).

The previous chapters have described how the marketing literature has focused on PED as a tool to develop the wellness of customers (Ali and Amin, 2014; Kellert, 2005; Pine and Gilmore, 1998); as a key to long-term success (Kim et al., 2016; Hirschman, 1984; Sweeny and Soutar, 2001); as an experience that has a strong influence on the perception of the products on display (Obermiller and Bitner, 1984; Sherman et al., 1997; Underhill, 1999); or as a conscious designing of space associated with the emotional aspect of customers that compels them into a buying activity (Kim et al., 2016; Kotler, 1973; Vogel et al., 2008).

On the basis of previous studies, it has been recognised that PED is capable of influencing a wide range of physical and psychological behaviours among customers

(Casidy et al., 2018; Hoffman and Turley, 2002; Tai and Fung, 1997). In addition, the effects of PED have been measured using a wide variety of dependent variables. However, the literature has not considered that PED influences emotional well-being, which in turn increases consumers' perception of brand performance. The focus of the literature available on PED is from the perspective of retailers; but very little attention has been given to the design elements that can establish the emotional well-being of consumers (Ali and Amin, 2014; El Hedhli, 2013; 2016; Kellert, 2005), which can actually enhance consumers' perception towards brand performance.

The aim of this chapter is to set out the research methodology and research design chosen for this study. Specifically, this chapter outlines the philosophical foundation of the methodologies that were adopted, and the research strategies and research design on which the study was based. Subsequently, the development of the measurement scales, including construct definition and item generation, are outlined. Additionally, the main survey and questionnaire are presented, and the results of the qualitative scale purification are presented. The chapter discusses the process of data collection, including aspects such as interviews, focus groups, sampling frame, sampling procedure and data collection procedure. The main ethical issues are then discussed, followed by a summary of the chapter.

4.2 Justification of the research methodology

The selection of research methodology depends on the aims and objectives of the study (Deshpande, 1983). Previous studies suggest that the marketing paradigm is important as it helps the researcher to determine the principles of research, so as to achieve the precise research objectives (Shao, 2002). A paradigm is a set of beliefs that specifically determines what should be researched, how research should be conducted and how the results should be interpreted (Bryman, 2004). In other words, the paradigm gives the perspective and directs the scientists in a particular discipline. The section below illustrates the philosophical bases of the two basic approaches to social research which leads to qualitative and quantitative methods.

4.2.1 Philosophical foundation of the research

According to Deshpande (1983) and Morgan (1979), it is essential to define a set of underlying assumptions by means of paradigms, which will guide the research process

in order to understand the research topic as well as to obtain well-grounded results. The research study needs to be comprised of ontology, epistemology, methodology and methods (Scotland, 2012).

To begin with, ontological assumptions, which take place on a more philosophical level than epistemological assumptions, are primarily concerned with “the nature of social entities” (Bryman and Bell, 2007, p. 22), and ask the question “What is the nature of reality?” (Collins and Hussey, 2003, p. 49). Ontology refers to the understanding of how a researcher perceives reality (Blaikie and Priest, 2017). According to detailed ontological assumptions, there are three depths of reality: what can be observed, all that exists independently from the observer, and underlying mechanisms that cannot easily be observed (Blaikie and Priest, 2017). This study will attempt to identify the underlying mechanisms that influence consumers’ perception of brand performance.

Epistemology refers to understanding derived from what researchers perceive as knowledge, based on the reality they believe in; and how and which mechanisms influence and/or caused an observed regularity (Blaikie and Priest, 2017). The research methodology is about “how to find out whatever the researcher can believe to be known” (Guba and Lincoln, 1994, p. 108), whereas the procedures and techniques are the methods used by the researcher. The methodology paradigm is the procedure to establish the reality (Creswell, 2003; Gupta et al., 2011) and is considered to find out “why, what, from where, when and how the data is collected and analysed” (Scotland, 2012, p. 9).

This study will create knowledge by understanding the mechanisms of PED that influence consumers’ perception of brand performance in a retail store, and by establishing what mechanisms can be used to develop an experiential PED in a retail store. According to prior researchers (Burrell and Morgan, 1979; Deshpande, 1983), it is important to define a set of paradigms prior to the research study. Table 4.1 illustrates the various alternative names of the paradigms.

Table 4.1: Alternative paradigm names	
Positivist	Interpretive
Quantitative	Qualitative
Objectivist	Subjective
Scientific	Humanistic
Experimentalist	Phenomenological
Traditionalist	Revolutionist

Source: Foroudi (2012); Malhotra and Birks (2000)

Mixed-method research is “pragmatic in the sense that the researcher is free to use all methods possible to address a research problem” (Creswell and Clark, 2007, p. 13). According to Tashakkori and Teddlie (2003), “pragmatism” is the best reason worldwide to employ mixed-method research. A pragmatic aspect is considered to achieve the objectives of the research (Robey, 1996). The rationale of pragmatism includes the use of both abduction, which is the process of discovering and relying upon well-explained results, and of induction, which can be described as the testing of hypotheses and theories (Harrison and Reilly, 2011; Johnson and Onwuegbuzie, 2004). The induction technique (qualitative data collection) was employed before the main survey to strengthen the study’s validity (Deshpande, 1983).

Qualitative approaches are specifically related to “how ordinary people observe and describe their lives” (Silverman, 1993, p. 170). According to Malhotra and Birks (2003), an individual can manifest an unreasonable explanation of events, whereas qualitative methods uncover the superficial information. Moreover, qualitative research not only explains any regularity or statistical patterns, but gives detailed explanations to enable better understanding (Branthwaite and Patterson, 2011; Malhotra and Birks, 2003; Payne and Payne, 2006). A quantitative approach, in contrast, includes questionnaire surveys and observation techniques to acquire information about the research idea (Malhotra and Birks, 2003). Table 4.2 illustrates the comparison between mixed-method approaches.

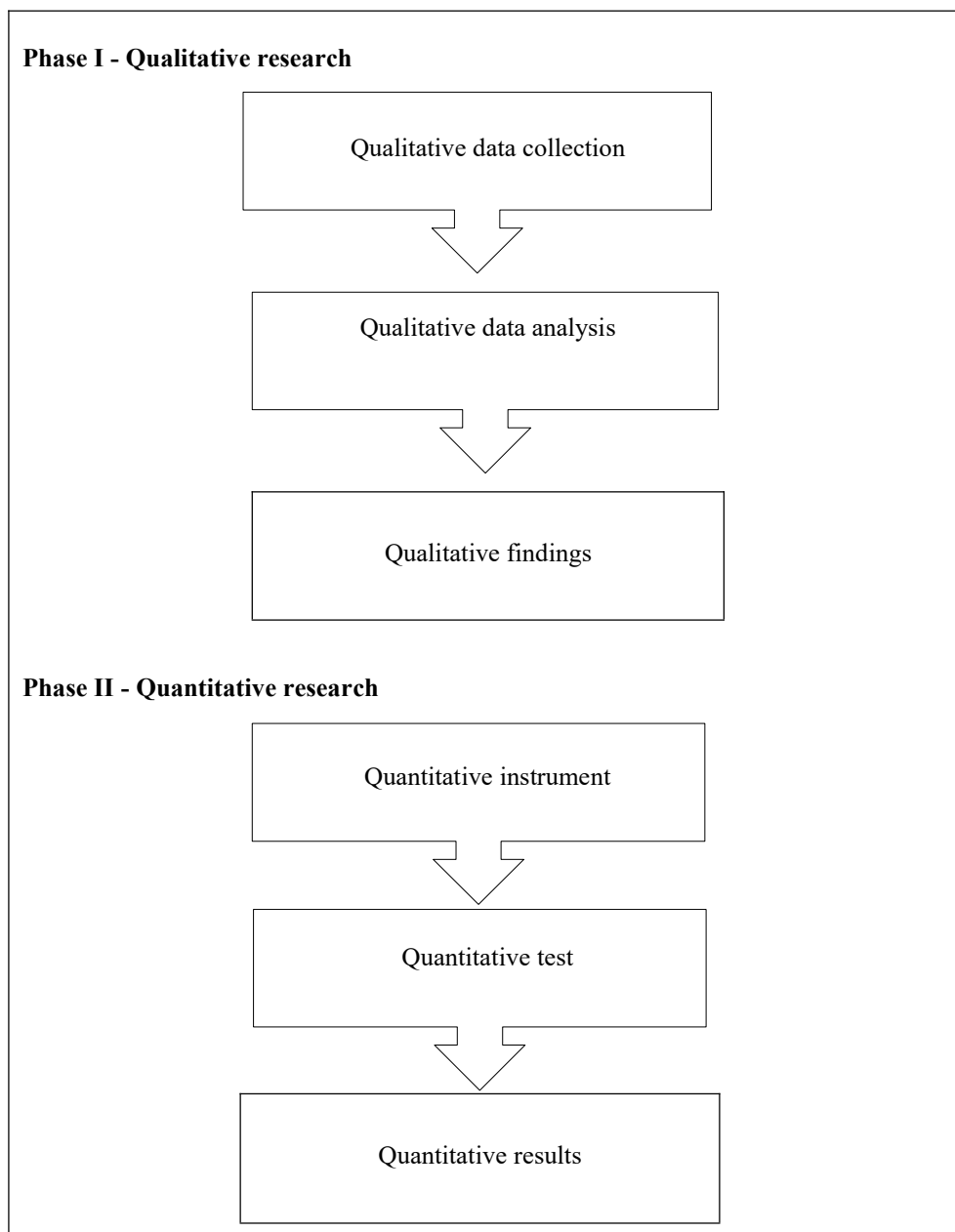
Table 4.2: Comparison between qualitative and quantitative approach		
	Qualitative research	Quantitative research
Purpose	Inductive: discovery and process oriented Meaning Context Process Discovering unanticipated events, influences and conditions Inductive development theory	Deductive: verification and outcome oriented Precise measurement and comparison of variables Establishing relationships between variables Interface from sample to population
Research questions	Process questions How and Why Meaning Context (holistic) Hypotheses as part of conceptual framework Causality (physical)	Variance questions Truth of proposition Presence or absence Degree or amount Correlation Hypothesis testing Causality (factual)
RESEARCH METHODS		
Relationship	Use of influence as a tool for understanding (research as part of process)	Objectivity/reduction of influence (research as an extraneous variable)
Sampling	Purposeful sampling	Probability sampling Establishing valid comparisons
Data collection	Measures tend to be subjective Inductive development of strategies Adapting to particular situation Collection of textual or visual material	Measure tend to be objective Prior development of instruments Standardisation Measurement/testing-quantitative/categorical
Data analysis	Textual analysis (memos, coding, connecting) Grounded theory Narrative approaches	Numerical descriptive analysis (statistics, correlation) Estimation of population variables Statistical hypothesis testing Conversion of textual data into numbers or categories
Reliability/Validity	Valid Self as instrument (the evaluator is close to the data)	Reliable Technology as instrument (the evaluator is removed from the data)
Generalisability	Ungeneralisable The insider's perspective Case orientated	Generalisable The outsider's perspective Population oriented

Source: Foroudi (2012); Maxwell and Loomis (2003, p. 190) and Steckler et al. (1992)

To address various issues with regard to mixed methods approach, numerous scholars suggest that both, qualitative and quantitative approaches should be considered complementary to each other in a research study (Teddle and Tashakkori, 2003,

Malhotra and Birks, 2003; Payne and Payne, 2006). A combination of qualitative and quantitative methods enables the researcher to gain a broad understanding of the phenomenon of interest (Creswell et al., 2003). In order to study and understand respondent's behaviours, both, qualitative and quantitative approaches were considered (Malhotra and Birks, 2003). Figure 4.1 explains illustrates the data collection phase.

Figure 4.1: Mixed-method procedures



Source: Researcher's illustration based on Creswell et al. (2003, p. 235)

4.2.2 The qualitative-quantitative distinction and triangulation

The two key epistemological perspectives of positivism and phenomenology, presented in the last section, are frequently linked to the split between qualitative and quantitative research (Bryman and Bell, 2007). While quantitative research methods are associated with positivism, qualitative research methods generally are associated with phenomenology (Deshpande, 1983; Tashakkori and Teddlie, 1998).

In detail, quantitative research covers basic characteristics such as emphasising a deductive approach and theory testing (Bryman and Bell, 2007; Corbetta, 2003; Creswell, 2003), following the natural science model and positivism in particular. Thus, quantitative research generally rejects a natural science approach, but rather considers how individuals interpret the social world, and refers to the ontological orientation of constructivism (Creswell, 2003). In short, qualitative research is concerned with “understanding the social world through an examination of the interpretation of that world by its participants” (Bryman and Bell, 2007, p. 401). Quantitative research focuses on theory testing and “embodies a view of social reality as an external objective reality” (Bryman and Bell, 2007, p. 28).

However, there is some criticism associated with each of the two methods. Qualitative methods, for instance, are criticised for not being scientific, and for being biased by the researcher’s subjective view, difficult to scrutinise or to repeat and restricted regarding the generalisation of results (Payne and Payne, 2004). The general contradiction between these two research methods has led to a dispute between theorists and researchers who completely support either the quantitative or qualitative paradigm (Tashakkori and Teddlie, 1998). Table 4.3 explains the types of mixed-method research based on rationale.

Table 4.3: Types of mixed method research based on rationale	
Rationale	Description
Triangulation	Convergence and corroboration of results amid qualitative and quantitative data
Offset	Combination of qualitative and quantitative data to neutralise their weaknesses and focus on their strengths
Completeness	Integration of both qualitative and quantitative data to highlight the comprehensive account
Process	Qualitative research gives a sense of process whereas quantitative research gives an account of the structures in social life
Different research questions	Qualitative and quantitative categorically answer different research questions
Explanation	Each finding easily explains the other
Unexpected results	Qualitative and quantitative research propagate surprising results that can be understood by employing each other
Instrument development	Qualitative research is employed to develop the questionnaire and scale items
Sampling	Single approach is used to promote the sampling of respondents or cases
Credibility	Applying both approaches enhances the integrity of the findings
Context	Qualitative research gives contextual understanding along with either generalisable, externally valid findings or broad relationships among variables uncovered through a survey
Illustration	Qualitative data is employed to illustrate quantitative findings, often referred as putting “meat on the bones” of “dry” quantitative findings
Utility	Combining the two approaches will be beneficial for practitioners and others
Confirm and discover	This involves qualitative data to generate hypotheses and using quantitative research to test them within a single project
Diversity of views	Bringing together researchers’ and participants’ perspectives through qualitative and quantitative research respectively, and uncovering relationships between variables through quantitative research while also explaining meanings among research participants through qualitative research

Source: Harrison and Reilly (2011, p. 10)

4.3 Research design

The outcomes of research depend on the selection of a research design that identifies the information required by the researcher (Corbin and Strauss, 1990). The right type of research design can facilitate the researcher in collecting and analysing the appropriate information needed to investigate the research questions (Hutchinson, 1999). Moreover, the research design enables the researcher to study social behaviour by examining theories and to conclude the empirical findings (Markus and Robey,

1988). Research design is mainly classified as exploratory research design or conclusive research design (Aken, 2004). Exploratory research design precisely identifies the relationships between key variables (Straub, 1989), and provides the researcher with a deep understanding of the constructs being studied. Research findings gathered using an exploratory approach form the basis of conclusive research work (Escalona, 1952).

Conclusive research design helps to develop hypotheses, which are further tested to investigate the relationships between the variables under observation (Chatterji, 2005). The data required in a conclusive research design is articulated very clearly by the researcher, as compared to the exploratory research design, which includes open-ended and unstructured way of data collection. In research design, the settings of the study posit limitations to the propositions developed on the basis of the theoretical and conceptual model, as it determines the generalisability of the findings (Kohli and Jaworski, 1990).

4.3.1 Research setting

Conducting successful research is of crucial importance, and depends significantly on the selection of the research setting (Baker et al., 1994; Bernard and Bernard, 2012; Sweeney et al., 2016). Moreover, Whetten (1989) states that circumstantial factors such as the location of the research do not just “place limitations on the propositions generated from a theoretical model”, but also “set the boundaries of generalisability, and as such constitute the range of the theory” (p. 492). Attempting to understand and interpret the phenomenon in terms of meanings that individuals bring to the research with their experiences has led the researcher to undertake this study in the chosen research setting.

So far, a lot of research on PED and consumers’ perception of brand performance has been carried out in developing countries in Asia and Africa, and only a few have been pursued in Western countries such as the US, UK, etc. (Solomon et al., 2006). Consequently, the findings are inconclusive and may not be generalised to a larger population. To bridge this gap, and to understand PED with regard to emotional well-being, both phases of this research, i.e. the qualitative as well as the quantitative phase, took place in the UK.

Moreover, the researcher is of the view that organisations located in Western countries such as the UK have adequate familiarity and experience with aspects such as ambience and design cues, which for instance is reflected by the prosperity and success of the organisation (more detailed discussion in chapter 4). In addition, by conducting research in the UK, the researcher has taken into consideration the choice of using measurement scales that have previously been tested.

4.3.2 Industry

With regard to the industry context, this research is placed in the retail shopping sector. The key rationale for focusing on the retail industry derives from the findings of the qualitative research conducted as part of this study. In detail, the qualitative data provides evidence that in the selected industry, the topic of PED appears to be more relevant or has been applied to some considerable degree in comparison to other industries. In other words, several of the respondents argued that shopping stores were most likely to have implemented design elements to stimulate human senses.

The total number of retail outlets in the UK is 290,315, which generates a total of 5% of GDP (gross value added). In addition, based on the views of several respondents, who argued that PED was more relevant for organisations operating in the retail service-focused industry, the department store was selected, since this sector can be considered to represent a typical service-focused industry. The retail industry is growing its recognition of the need to provide ‘cognitive’ brand experiences and to stimulate sensory and affective dimensions (Arnold and Reynolds, 2012; Arrigo, 2018; Brakus et al., 2009; Foster and McLelland, 2015).

In addition to the fact that the retail sector is strongly service-focused, a number of studies have investigated PED and related topics in the context of the shopping centre and retail sector over the past few decades (Karrholm, 2016; Voss and Zomerdijs, 2007; Lonsway, 2009). The existence of such literature was considered by the researcher to provide support for the analysis of the research results. The researcher considered a list of professionals who hold positions such as marketing, brand or retail managers, design consultants, architects and academics in marketing, for whom the research instrument (i.e. questionnaire) was prepared.

Stores like Harrods, is a customer-focused retail store, aspire to provide full accessibility to customers through well-designed frontage and planned indoor structure (Foroudi et al., 2020). The store makes all reasonable physical adjustments to improve customers' shopping experience, as it is a huge store with specific areas for particular products (Harrods.com, 2017). Artistic details make the store very attractive and offer profound cues for people to relax and move slowly from one section to another (Joy and Sherry, 2003).

Customer experience and innovation capability contributes to consumers' perception towards brand performance (Foroudi et al., 2017) in retail environments. A number of other major London stores, such as Harrods, Liberty, John Lewis, Selfridges, Debenhams, also have much to say about PED, as the consumer experiences in these stores are created through the various dimensions of interior decoration, innovative technology and designer mystique. According to Dennis et al. (2014), high-end stores such as Harrods can influence consumers' perception associated with its brand identity.

Furthermore, an empirical investigation was undertaken in order to validate the conceptual model to clarify the physical environment design concept, followed by the quantitative stage (questionnaire) for generalising the research in a large sample. This study relates to the example of Creswell et al. (2003), which mainly involved quantitative method to examine a theory with a small number of personal interviews (qualitative method) during the data collection. The following section shows how information was combined, distinct scales were developed for the questionnaire development.

4.4 Research and scale development

4.4.1 Phase I: Qualitative study (exploratory fieldwork)

Exploratory fieldwork, known as an “experience survey”, consists of “a judgement sample of persons who can offer ideas and insights into the phenomenon” (Churchill, 1979, p. 66). To gain a better understanding of the different facets of PED, an exploratory study was carried out to determine the research questions. This study is among the few carried out on understanding the components of PED and its

contributions to consumers' emotional well-being and perception towards brand performance, and to follow Churchill's (1979) procedures to develop an appropriate scale. For this research, exploratory fieldwork was conducted for the following reasons: (1) to acquire in-depth understanding of the research area (Dacin and Brown, 2002); (2) to achieve insights into PED, consumers' emotional well-being and consumers' perception of brand performance; (3) to understand the relevance of the proposed research; and (4) to obtain insightful information, understand the proposed research questions, generate hypotheses and purify the measures for a questionnaire (Churchill, 1979).

4.4.1.1 Unit of analysis

Defining the unit of analysis is one of the first steps in any research project (Bernard and Bernard, 2012) and requires the researcher to consider on which level the data collection will take place (Zikmund, 2003). A unit of analysis has been defined as "the social object to which the properties investigated appertain" (Corbetta, 2003, p. 66), and as "the entity that forms the basis of any sample" (Easterby-Smith et al., 2002, p. 44). The unit of analysis is generally determined by the research question (Bryman and Bell, 2007). Consequently, based on the fact that this research investigates the antecedents and perceived consequences of PED from an organisational perspective, the unit of analysis for the qualitative and quantitative phases of this research is the consumer of a retail organisation.

Based on the research questions, the unit of analysis is the consumers of the well known retail stores in the UK such as Harrods, Liberty, John Lewis, Selfridges, Debenhams. Due to the restriction policies of these retail stores, the researcher was not allowed to contact the visitors in the premises of retail stores. According to Sen and Bhattacharya (2001), consumers are more likely to share negative than positive information. Therefore, a non-probability sampling method was adopted for the current study. However, the generalisability of the non-probability sampling approach results are quite limited (Blumberg et al., 2008). This research study is mainly based on a convenience sample which includes non-random sampling method. Moreover, convenience samples are extensively used by international researchers (Griffin et al., 2004). In the marketing field, "convenience samples are very common and indeed are

more prominent than are samples based on probability sampling” (Brymann and Bell, 2007, p. 198).

Methodical and precise data should be gathered from more than 300 respondents (Stevens, 1996). In addition, Bentler and Chou (1987) concluded that five cases per variable was justifiable when the data was perfectly distributed. For this study, 800 questionnaires were distributed in the main survey on the basis of engaging participants who were conveniently accessible. According to Denscombe (2007), a survey seldom achieves a response from each and every contact. The questionnaires and the link to the online questionnaire (alternative source) were emailed. Denscombe (2007) also suggested that postal questionnaires drew a low response rate and thus reduced the validity of the findings.

The questionnaire was 12 pages long, and started with a covering letter in accordance with the suggestion of Dillman (2000). According to Armstrong and Overton (1977), non-response bias “involves the assumption that people who are more interested in the subject of a questionnaire respond more readily and that non-response bias occurs on items in which the subject’s answer is related to his interest in the questionnaire” (p. 107).

According to Churchill (1979), face-to-face questionnaire collection is the most frequently used sampling methods in mass surveys. Furthermore, Van Heerden and Puth (1995) concluded that students as a fairly heterogeneous group could be regarded as a very important target group of retail stores. During human information processing, consumers can be best replaced by university students. Three-hundred questionnaires were distributed face-to-face at various destinations such as Middlesex University and Brunel University.

In addition, the researcher also visited shopping destinations like areas around stores and other public spaces such as public squares, parks, public libraries, indoor walkways in the shopping centres to collect data from visitors. This method also ensured that the questionnaire was answered by the respondents being targeted. To increase the sample size and to ensure that the sample included the most proficient participants, the non-probability ‘snowballing’ technique was used as a distribution

method, by asking previous participants to suggest additional knowledgeable individuals who could take part (Andriopoulos and Lewis, 2009; Bryman and Bell, 2011; Denzin and Lincoln, 1994; Kirby and Kent, 2010). This is one of the best technique as it helps the researcher to access the hidden population (Spreen, 1992). Snowballing is a non-probability sampling technique which includes referrals from existing subjects (Goodman, 1961). After a concerted attempt to increase the response rate, a total of 258 valid filled questionnaires were received and assessed.

An online survey was used as a second means of distribution, in order to acquire more responses. Based on the suggestions of Srinivasan et al. (2002), “an email invitation, containing an embedded URL link to the website hosting the survey, was sent to each of the potential respondents”, as well as “a summary of the survey results was offered to those who requested it” (p. 45). For this research, 500 questionnaires were shared through the link which was emailed and provided face-to-face during the last week of November 2017. Resultantly, 477 questionnaires were collected by the cut-off date of 31 December 2017. In aggregate out of 800 questionnaires, researcher received 735 responses. Out of these 232 responses were discarded due to missing values and remaining 503 responses were considered for the confirmatory factor analysis.

In order to develop a purified and complete synthesis and interpretation of the information collected, QSR NVivo software Version 10 was appropriately used for data administration. Software assisted qualitative data analysis was useful for finding the patterns and to check the initial ideas collected by the respondents (Bazeley, 2007). In addition, this software facilitates analytical flexibility and can enhance transparency and trustworthiness of the qualitative research process (Castleberry, 2014; Esterberg, 2002; Welsh, 2000) that includes "references about a specific theme, place, person or other area of interest" (Bryman, 2012; p. 570)".

Software NVivo allowed the researcher to organise the discrete units of data into highly flexible containers, or nodes which is the real part of data (like an audio extract or a passage of text in the current research). The remarks made by various respondents were originally coded as free nodes (Bryman and Burgess, 1994; Richards and Richards, 1991). Further, these codes were categorised into themes based on the theoretical framework (Miles and Huberman, 1994). At the next level,

these themes were arranged in a schematic form of tree nodes (Richards and Richards, 1991).

Moreover, NVivo has a wide range of tools for analysing more accurate and more reliable data (Gibbs, 2002). To bring order and structure, all data that was audiotaped and the interview transcripts were thoroughly read to become immersed in the data, and then analysed. Further, the coded data was categorised into various themes on the basis of established links. The software further allowed the researcher to examine the data to a certain extent and address the validity and reliability of the result findings (Bazeley, 2007).

The questionnaire was developed to fulfil the objective of scale development after the assessment of validity and reliability of the constructs and items used in this research (Churchill, 1979). In order to verify the reliability of the coding through content analysis and to ensure identification of the themes, the codes were established more than once (Weber, 1985; Weston et al., 2001). Furthermore, content analysis was performed for producing replicable and valid conclusions from data.

However, the concepts of validity and reliability are not applicable with the similar approach as in the case of quantitative research (Kumar, 2014). According to Smith (1991), “validity is defined as the degree to which the researcher has measured what he has set out to measure”(p. 106). Lincoln and Guba (1985) referred to the fact that “there is no validity without reliability, an expression of the former validity is sufficient to establish the latter reliability” (p. 316). Reliability addresses how accurate research methods produce data which is the outcome of the validity in a research study (Patton, 2002). According to Lincoln and Guba (1985), if the account specified by the researcher and the study participants is credible and trusted, then it is important to consider the validity and reliability to establish in the qualitative study. The current study adopted triangulation method as suggested by scholars (Creswell, 1998, Creswell and Clark, 2007; Creswell and Miller, 2000).

The collection of qualitative data through interviews covering aspects of PED, consumers’ emotional well-being and consumers’ perception towards brand

performance with regard to the perception of the organisation, as well as the perception of their customers, is described in the next section.

4.4.1.2 Interview

The literature review points to a lack of a measure of PED in marketing. Existing scales on the perception of PED do not often measure the phenomenon that is the subject of this study. In addition to the literature review, a qualitative study was considered crucial. Consequently, to gain insights into and a deep understanding of the research topic, exploratory fieldwork was considered necessary by the researcher (Churchill, 1979). In this study, the data collection methods used were focus groups and in-depth interviews. Exploratory fieldwork with a qualitative study allows the researcher to understand the purpose of the research questions in practice, to identify missing links and to generate item measures (Melewar, 2001). The advantages of these methods will be set out and their relevance to the aim of this study justified.

In-depth interviews allow for good validity of the data collected, since they are generated by the respondents and are more likely to reflect reality (Khedri, 2013). Additionally, given the nature of the information sought for this study, this method is relevant given the wealth of information potentially collected (Helme-Guizon, 2002). Table 4.4 describes the structure of in-depth interviews.

Table 4.4: Structure of in-depth interviews	
Phase	Stages of coding process
Opening phase	The researcher discusses the purpose of the interview and the importance of the interviewee's response. The researcher develops trust regarding anonymity and research ethics.
Questioning phase	The researcher asks predetermined questions.
Probing phase	The researcher asks follow-up questions based on earlier responses.
Closing phase	The researcher appreciates the respondents' cooperation.

Source: Adopted from Fororudi (2012); Kolb (2008, p. 142-146)

Participants addressed these questions, offered ideas and insights into the phenomenon, individually (Churchill, 1979). However, some of the interviewees answered from a common perspective, whereas others from different perspectives. This process helped the researcher to draw themes from these responses by coding their answers. Additionally, these themes allowed the researcher to understand how the concept of PED in practicality fulfils the requirements of construct validity for emotional well-being and consumers' perception towards brand performance. Thus, the explanation drawn from the themes was on the functional aspect of PED in the retail stores. It was concluded that the PED of the retail store enhances the consumers' perception towards brand performance.

The semi-structured interview method enabled the researcher from undeviating the interviewees from the research topic, whenever the need was felt. The experts and professionals in the field emphasised the potential of PED to enable the retail stores in order to understand consumers perceptions and feelings.

This process of semi-structured interviews uncovered more central aspects about the role of PED in retail stores. The researcher had to read the scripts, very thoroughly to understand what the respondents were trying to reveal and make relationships with the constructs under investigation. The questions emphasised certain patterns in the data in the form of a matrix which assisted in developing the conceptual framework.

The current study will consider qualitative matters, taking into account the hurdles of interpreting judgement data. For instance, shopping stores should focus on a striking indoor environment and its functionality should support internal activities; however, consumer response is equally significant (Dewulf and Meel, 2004). While some indicators of PED can be measured objectively, others result in tangible assets, depending in part on the subjective views, experiences and preferences of the people questioned (Gann et al., 2003). Table 4.5 presents details of the in-depth interviews carried out with experts.

Table 4.5: Details of in-depth interviews with marketing and retail experts			
Interview date	Organisation	Interviewee profile	Duration (approx.)
02.03.2017	Retail store	Retail manager	90 minutes
03.03.2017	Private organisation	Architect	85 minutes
03.03.2017	Retail store	Marketing manager	90 minutes
05.03.2017	Retail store	Retail manager	75 minutes
07.03.2017	Middlesex University	Professor (marketing)	80 minutes
08.03.2017	Design consultancy firm	CEO	90 minutes
08.03.2017	Design consultancy firm	Communication and design manager	80 minutes
10.03.2017	Newcastle University	Professor (marketing)	80 minutes
12.03.2017	High-end retail store	Visual head of merchandising	70 minutes
14.03.2017	Design consultancy firm	Chairman	90 minutes
Topics discussed			
<ul style="list-style-type: none"> - The understanding of physical environment design (ambience, artefacts and spatiality) of a retail store - The factors that influence the physical environment design of a retail store - The contribution of visual identity, communication and cultural heritage to physical environment design - Discussion of the impact of physical environment design on consumers' emotional well-being (sensorium, behaviour and happiness) - The contribution of sensorium, behaviour and happiness to consumer's emotional well-being - The main impacts of consumers' emotional well-being and consumers' perception of brand performance 			

Source: Developed by the researcher

4.4.1.3 Focus group

Focus groups are another form of qualitative research, comprised of a group of people who are asked about their opinions and perceptions on a research topic. A group discussion is carried out for the purpose of marketing research, in which participants who are not known to each other are brought together to obtain feedback. Researchers in the field of marketing opt for the focus group method as a remarkable source of qualitative data, as it provides inductive reasoning, allowing the researcher to gain a thorough and comprehensive understanding (Krueger and Casey, 2009).

According to Byers and Wilcox (1991), focus groups can provide substantial information in a limited time (Morgan, 1998). Implementing focus group allowed the researcher to attain deeper knowledge about PED and its influence on consumers'

emotional well-being and finally its impact on consumers' perception of brand performance (Fern, 1982).

For this research, five focus groups were organised involving 33 persons (mixed gender groups), ranging in age from 25 to 60 years, and from diverse backgrounds, which strengthens the research (Smithson, 2000). The groups lasted between 80 and 110 minutes, which is a common duration of focus group (Krueger and Casey, 2014). The main reason was to ensure adequate group interaction that proceeds into a discussion (Krueger and Casey, 2014), and to investigate more precisely the concept of PED. Hence, the researcher was able to acquire a large amount of information on the topic by the variety of answers given (Kover, 1982).

The focus group members were asked for their opinion about PED (ambience, artefacts and spatiality), visual identity, communication, cultural heritage, emotional well-being (sensorium, behaviour and happiness), and consumers' perception of brand performance of high-end retail stores. All the questions were unstructured and open-ended, which allowed the participants to answer from various aspects. The groups included PhD researchers of Middlesex Business School, Middlesex University, postgraduate students at Middlesex University, consumers and professionals (see Appendix 4.2 for the focus group discussion questions). Detailed information about the focus group interviewees is given in Table 4.6.

This method of collecting data helped the researcher to acquire detailed information in a shorter period of time than individual interviews. Furthermore, the researcher got a current and real insight into participants' opinions with clear, in-depth answers. Having diverse group members helped to get a range of views. The setting and timing of the focus groups were approved by participants, and they gathered in a boardroom, a comfortable room in a convenient location, and a library at Middlesex Business School. According to Malhotra and Birks (2000), focus group participants should feel comfortable to express their viewpoints and communicate extensively (Ritchie et al., 2003). Mindful of that, the researcher aimed to provide a conducive environment for the participants, in which the discussion was free-flowing and spontaneous. The comments of some participants were stimulating and influenced the thought processes of others. Table 4.6 also shows the subjects that were discussed during the focus groups.

Table 4.6: Details of participants in focus groups				
Interview date	Group size	Participant profile	Age range	Duration (approx.)
01.03.2017	6	Doctoral researchers	25-30	90 minutes
08.03.2017	8	Consumers	30-45	110 minutes
13.03.2017	7	MBA students	25-29	90 minutes
20.03.2017	6	MBA students	25-35	80 minutes
11.05.2017	6	Professionals	30-60	90 minutes
Topics discussed				
<ul style="list-style-type: none"> - The concept of physical environment design - General discussion about service retail stores - The impact of physical environment design on consumers' emotional well-being - Discussion of ambience, artefacts and spatiality - Discussion of sensorium, behaviour and happiness - The effect of consumers' emotional well-being and consumers' perception of brand performance 				

Source: Developed by the researcher

The researcher was able to achieve a conversational flow which encouraged participants to build on their thinking and verbalise their perspectives about PED. The focus group discussions were put in order with proper labelling, and, after gaining a sense of the recordings, the data was transcribed. All the interviews were audiotaped and transcribed verbatim after each interview. The researcher assigned the participants' codes to maintain their confidentiality.

4.4.2 Phase II: Quantitative study (research instrument and scale development)

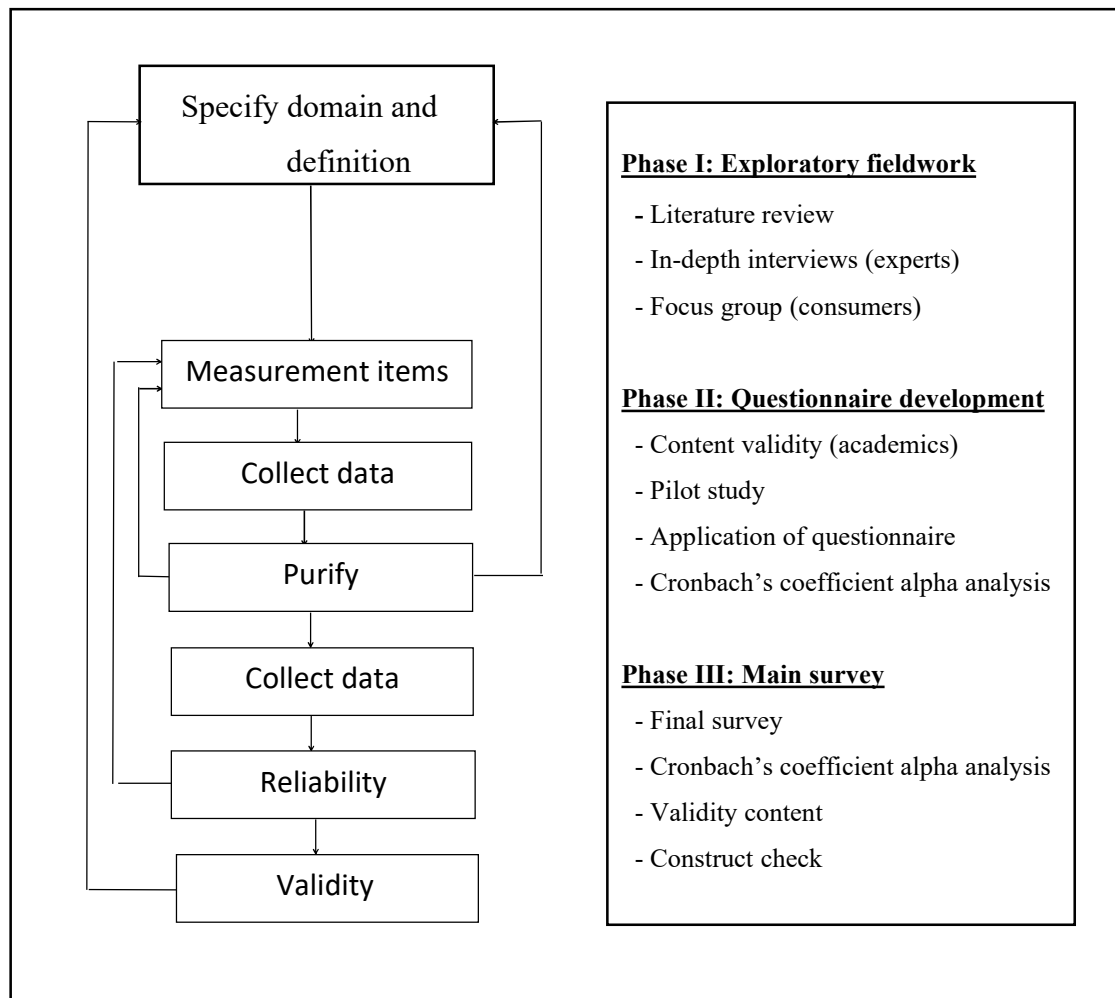
When developing a questionnaire (quantitative research instrument) for this research, particular attention was given regarding the development of measurement scales and the issues of validity and reliability. According to DeVellis (2003), measurement scales are “collections of items combined into a composite score, and intended to reveal levels of theoretical variables not readily observable by direct means” (pp. 8-9). Churchill (1979) explained that scale development was “a critical element in the evaluation of a fundamental body of knowledge in marketing as well as improved marketing practice” (p. 64). The technique of scale development is related with the conceptual framework to empirical testing, and helps to perform validity and reliability testing. When developing a questionnaire, which constitutes the quantitative research instrument for this research, particular attention is required

regarding the development of measurement scales and the issues of validity and reliability. According to DeVellis (2003), measurement scales are “collections of items combined into a composite score, and intended to reveal levels of theoretical variables not readily observable by direct means” (pp. 8-9). Churchill (1979) explained that scale development was “a critical element in the evaluation of a fundamental body of knowledge in marketing as well as improved marketing practice” (p. 64). The technique of scale development is related with the conceptual framework to empirical testing, and helps to perform validity and reliability testing.

In other words, in order to measure constructs that cannot be measured directly (latent variables), ideally scales consisting of more than one item are developed that capture the construct. DeVellis (2003) also stressed the pitfalls of scale development and argued that “poor measurement imposes an absolute limit on the validity of the conclusions one can reach” (p. 12). Therefore, in order to systematically develop valid and reliable measurement scales, the procedure by Churchill (1979), which offers guidance on the “development of better measure with which marketers work” (p. 64) was principally used in this research (as shown in Figure 4.2).

Four key steps were undertaken and are presented in detail in the next sections as follows: (1) specifying the domain of the constructs (literature and qualitative data); (2) generating an initial pool of items (literature and qualitative data); (3) questionnaire design; and (4) scale purification through expert judgement (i.e. content validity).

Figure 4.2: Course of action for scale development



Source: Adapted from Churchill (1979, p. 66)

4.4.2.1 Specifying the domain construct

The relevant literature and qualitative studies are generally used to derive the specification of the construct domain, which is the initial stage in questionnaire development. To the best of the researcher's knowledge, as yet, no study has provided a reliable and valid scale to measure PED. The aim of this study is to generate a valid and reliable scale for PED and to fill the gap in this field. To encapsulate the construct domains, the researcher has followed Churchill's (1979) paradigm to develop preferable measures to create a set of items extracted from the literature and expert interviews (as shown in Figure 4.2).

The constructs that support this research are presented in Table 4.7. According to Churchill (1979), it is essential to refer to the relevant literature. Based on the aims of this research, the literature review consisted of topics in the areas of visual identity, communication, cultural heritage, emotional well-being, sensorium, behaviour, happiness and consumers' perception of brand performance. The measurement scales with regard to the domains and items were acquired from numerous retail, management, marketing and design journals. To establish better measurement, the functional definition and dimensions of the focal construct were specified. Table 4.7 shows the main constructs and their definitions.

Table 4.7: The main constructs and their definitions		
Construct	Definition	Major references
Physical environment design	Physical environment design (PED) refers to the atmosphere created by a unified ambience, artefacts and spatiality that comes from an inner state of mind with an experience, and is responsible for connecting interior spaces with exteriority through awareness of all consumer senses, which provides informational cues to customers about merchandise and service quality, provokes consumers' behaviour, mood and perceptions, communicates with consumers, and acts as an approach to attract consumers' attention and patronage decisions.	Ainsworth and Foster, 2017; Gardner and Siomkos, 1985; Jeremy et al., 2002; Kotler, 1973; Mehrabian and Russel, 1974; Olson, 1977; Spangenberg et al., 1996; Terje et al., 2009; Vada., 2019; Vaikla-Poldma, 2003; Xin et al., 2007; Zeithaml, 1988
Ambience	Ambience is the aura created through displays represented by a number of physical installations developed to influence, intrigue and influence positive attitudes and a level of behavioural change.	Bitner, 1992; Kotler 1973; Polanyi, 1958; Vada et al., 2019
Artefacts	Artefacts are the tools for analysing traditional and cultural backgrounds (symbols or objects) which can be used as an inspiration for contemporary designs in creating structures.	Xin et al., 2007
Spatiality	Spatiality is the configuration of physical design elements concerned with feasible locations and dimensions for a set of interrelated objects that meet all design requirements and maximise design quality in terms of design preferences.	Khare, 2011; Li, 2004
Visual identity	Visual identity is an assembly of visual cues by which people can recognise the company and distinguish it from others.	Abratt, 1989; Foroudi et al. 2014, 2016, 2020; Melewar, 2003; Melewar and Saunders, 1998, 1999
Communication	Communication means conveying a message effectively through various design elements which induces moods, impacts on consumers' perceptions and behaviour, and helps organisations position themselves or	Aslam, 2006; Tavassoli, 2001

	differentiate themselves from competitors.	
Cultural heritage	Cultural heritage is a medium for cultural identity and cross-cultural communication, an edifying destination for visitors, and a focus for traditional enrichment through structures and artefacts which helps in the development of cultural infrastructure and the promotion of businesses.	Evans, 2009; Jayne, 2005; Neill, 2005
Emotional well-being	Emotional well-being is a psychological experience that can be defined as overall comfort and satisfaction through which an individual is revitalised, feels cheerful and delighted, gains sensation through perceiving the external world, and is able to develop a purchase-making pattern available through multiple dimensions in the physical environment.	Diener, 2009; Hassenzahl et al., 2013; Michaelson et al., 2009; Sorrento, 2012; Stiglitz et al., 2009; Welch, 2013; Zikmund, 2003
Sensorium	Sensorium refers to the sensory organs as a whole, which are responsible for receiving and integrating sensations from the outside world.	Welch, 2013
Behaviour	Behaviour is a critical component which creates harmony and balance through interior design, allowing consumers to be comfortable in the environment.	Sorrento, 2012
Happiness	Happiness is defined as the experience of joy, contentment or positive well-being, combined with a sense that one's life is good, meaningful and worthwhile.	Hassenzahl et al., 2013
Consumers' perception towards brand performance	Consumers' perception towards brand performance is the product/organisation-related influence on consumers' experience and decisions with the brand as a known identity, communicating from company to consumers, and having a positive effect on the profitability of the organisation, creating a mutual and beneficial.	Cohen, 2011; Foroudi, 2019; Johnstone and Conroy, 2008; Keller, 2003; Khan, 2009; Melewar and Saunders, 2000; Nguyen, 2012; Nguyen et al., 2016; Olins, 1989; Sung, 2008

Source: The researcher

The focus of this study is the construct of PED, which affects consumers' emotional well-being and influences consumers' perception of the brand performance of a retail store. Based on the literature review (see Chapter 2), which includes visual identity, communication, cultural heritage, physical environment design (ambience, artefacts and spatiality), emotional well-being (sensorium, behaviour and happiness) and consumers' perception of brand performance. The existing scales and items were extracted from a number of retail marketing and management journals such as the Journal of Marketing, Journal of Business Research, Journal of Product and Brand Management, Journal of Shopping Organisation Research, Journal of Psychology and

Marketing and Journal of Retailing. Based on the theoretical facts, the conceptual framework was developed (see Figure 3.1 in Chapter 3).

4.4.2.2 Generation of measurement items

Subsequent to the definition of the constructs, the generation of an initial item pool of 161 items, which reflects the second step of Churchill's (1979) procedure, was carried out. According to Clark and Watson (1995), defining the initial item pool is crucial, as deficiencies in it cannot be remedied by any data-analytic technique. Reviewing the literature is an important initial step in order to investigate other attempts to operationalise the same and similar constructs, and to identify existing scales of the construct (Clark and Watson, 1995). In addition, the literature review can help to identify problems with the existing measures, and indicates whether a scale is needed at all (Clark and Watson, 1995). Consequently, based on a broad literature review, the majority of items were adapted from existing scales that had demonstrated high reliability and validity in previous studies published in various marketing and management journals. In addition, some items were added based on the qualitative data.

For measuring the antecedent constructs as well the focal construct, multi-item scales were developed. Nath and Bawa (2011, p. 136) noted that multi-item scales had advantages over single-item scales, for example that they could measure different aspects of multi-faceted constructs and could produce more reliable results. In contrast, constructs that are defined as the consequences of PED were measured using single-item scales, owing to the fact that the proposed consequences of PED in this research are not conceptualised as actual consequences but rather as perceived consequences. In other words, since the perception of respondents (i.e. key informants) towards PED in relation to the proposed consequences was being measured, using single-item scales to measure each of these consequences was considered an adequate way of operationalisation.

However, the main survey included 134 questions after filtration, which aimed to understand and analyse the familiarity of the respondents with department stores (William and Moffitt, 1997). It is important for respondents to easily comprehend the language of the questionnaire, and to understand its structure and layout (Schaefer and

Dillman, 1998). Attitude scales require that the questionnaire is answered carefully and that the questions can be readily understood (Churchill, 1999). The questionnaire closed by gathering the demographic details of the participants.

4.4.2.3 Questionnaire design

Following the development of the individual measurement scales for each of the constructs, the scales were assembled to form an elementary transcript of the questionnaire. Based on the constructs that had been identified thus far, seven-point Likert-type scales were used as the main scaling method of the questionnaire, where 1 = strongly disagree, 2 = disagree, 3 = slightly disagree, 4 = neither agree nor disagree, 5 = slightly agree, and 7 = strongly agree. The neutral grade, i.e. “4 = neither agree nor disagree”, was included so as to reduce uninformed responses (Hawkins and Coney, 1981), by assuring respondents that they did not have to commit themselves in one direction or the other for each item mentioned in the questionnaire (Wang and Ahmed, 2004).

While writing up items for the questionnaire, instructions with regard to clarity, length, guidelines, prevention of slang vocabulary, lack of questions and prevention of double-barrelled items were followed by the researcher (Clark and Watson, 1995; DeVellis, 2003; Spector, 1992). Furthermore, to ensure a clear and interesting pattern that would increase response rate, consideration was given to the design of the questionnaire, including the use of uniform font style, font size and colours (Bryman and Bell, 2007).

Referring to Churchill's (1979) procedure for scale development, measurement scales need to undergo a purification process. The purification of the measurement scale is related to issues of validity and reliability, and has been carried out in this research by employing qualitative assessment techniques. The following section presents the qualitative assessment of the initial questionnaire (i.e. scale items) through expert judgement.

4.4.2.4 Purifying measurement scales

The purification of the scale items includes reliability and validity testing (Churchill, 1979). In general, validity “is the ability of an instrument to measure the constructs

which they are designed to measure” (Kumar et al., 2014, p. 213). In addition, validity “is primarily based upon the logical link between the questions and the objectives of the study” (Kumar et al., 2014, p. 214). The first step in assessing validity as part of scale purification is to test for content validity by using qualitative techniques (Schlegelmich et al., 1993).

Generally, content validity is concerned with the question as to whether a scale assesses the domain of interest (Hinkin, 1995) or “with the extent to which a specific set of items reflect a content domain” (DeVellis, 2003, p. 49). Cronbach and Meehl (1955) argued that “content validity is established by showing that the test items are a sample of a universe in which the researcher is interested” (p. 282). Furthermore, Churchill (1979) argued that “if the sample is appropriate and the items ‘look right’, the measure is said to have face or content validity” (p. 69). The academic experts were asked to review the questionnaire (i.e. scales) not only with regard to the quality of the phrasing in order to eliminate misleading wording, but more importantly to analyse scale content in order to provide recommendations to discard inappropriate and redundant items (DeVellis, 2003).

To conduct the content validity of the item measures, the initial item pool was discussed with faculty members in the department of marketing from the Middlesex University Business School, Newcastle University Business School, Brunel University Business School and Kingston Business School. Academics from various universities, as expert judges, who are well versed with the topic (Bearden et al., 1993; Foroudi et al., 2014; Zaichkowsky, 1985), bring refinement to the written content. The experts were asked to comment on the relevance of the items, the clarity of the wording, and whether the items represented the topic of interest (Foroudi et al., 2014).

Overall, the majority of academics provided very detailed recommendations and the quality of the responses was excellent. Based on the experts’ suggestions, the wording of some items was optimised. Furthermore, on the basis of suggestions made by the experts, 31 items were dropped. The actual scale wording is shown in Appendix 4.4 and the final scales are in Table 4.8. All the constructs discovered in the academic literature, and the validated scales (acquired from the interviews and focus group

discussions), were analysed intensely by the academic experts. The qualitative phase with the final items and codes is shown in Table 4.8.

The items derived from the interviews and focus groups were generally consistent with the ones on the existing scales. However, additional items for measuring some constructs (C4, CH9, PEDAR10 and BP18) were found. These items were therefore added to the pool (C4: The store communicates through digitalisation; CH9: The store creates charm in a place; PEDAR10: The store possesses utilitarian artefacts; BP18: The store is well known). The remaining items were adapted from the academic literature in the related field (Alhudaithy and Kitchen, 2009; Bravo et al., 2013; Chiou et al., 2010; Park and Gretzel, 2007). The four additional items were included in the course of the content and face validity (see Table 4.7) conducted for the final items for the pilot study. However, of these four items, two were discarded after experts' evaluations.

According to Bagozzi and Philips (1982), the fundamental objective behind the development of scales in research is to link the constructs in a theoretical framework with valid measures to test the hypotheses. The development of a measurement scale involves the generation of items which are based on the definition and dimension of the constructs (Hinkin, 1995). Furthermore, the generated items, when combined, reveal the scores of the theoretical relationships hypothesised between variables in the theoretical framework (Zhang, 2004). The literature review and identification of the field enables the researcher to consider the viable scales and generated items from several studies (Melewar, 2001). Additional items obtained from the qualitative data (interviews and focus groups) can also be considered (Swafford et al., 2006). Valid and reliable scales enable the researcher to generalise the findings by reducing the chances of making wrong arguments (Churchill, 1979).

A pool of 161 items generated prior to the examination of the constructs under investigation was empirically examined (Peter, 1991; Shimp and Sharma, 1987; Webb and Green, 2000). The generated items were for testing the influence of PED on consumers' emotional well-being and its impact on consumers' perception of brand performance in retail markets. Eventually, the measurement scales materialised in the

form of a questionnaire (Reynolds and Diamantopoulos, 1998), which comprised of a refined list of items and was used for data collection.

In brief, although the interview responses were in alignment with the extant literature, these remarks yielded four new items. The findings revealed that, although the constructs under investigation had the same meanings in distinct research settings, the measurement scales were different. Particular attention should be given to the applicability and equivalence of a construct and its measure, considering that a construct identified in one research setting may not hold the same meaning in another setting (Craig and Douglas, 2000). Hence, when a measurement scale is adapted and applied to a different context, the applicability of the definition and its meaning in the functionality of the existing scale must be reconsidered (Craig and Douglas, 2000).

Appropriate items for measuring the constructs investigated in this research setting were derived from the interview results and were added to the item pool. In general, candidates agreed with the subject matter of the items from the literature. Hence, the researcher determined that these items possessed content validity and could be adapted to measure the concepts in this study. The items relating to each construct are discussed in greater depth in the following paragraphs.

Physical environment design and its antecedents

The total number of items for visual identity construct was 18. The visual identity construct was taken from existing validated scales from physical environment design studies (Balmer 1995; Balmer and Burghausen, 2015; Balmer and Chen, 2016; Buil et al., 2016; Coleman, 2011; Csordas, 2008; Dennis et al., 2016; Dowling, 2001; Foroudi et al., 2014; 2016, Kirhenstein, 2013; Melewar and Saunders, 1999; Olins, 1985; Van den Bosch et al., 2006). Taking into consideration expert judges' comments three items were removed: 1) 'the store's visual identity communicates with me strongly' is closely related to the 'communication' construct, which already exists in this study, 2) 'the store's visual identity is interesting' and 'the store's visual identity is attractive' have a similar meaning', and 3) 'the store's visual identity is appealing to multiple senses' is also closely related to 'the store's visual identity is attractive' and it is closely related to the 'sensorium' construct, which already exists in this study. The 18 items in the visual identity construct became 15 items.

The communication construct was built on existing scales from the studies of (Alwi, 2009; Balmer, 2001; Bartholme and Melewar, 2009; Coleman, 2011), and is also supported by the qualitative study. From the empirical studies (Alwi, 2009; Balmer, 2001), a scale of 11 items was adopted without any change as it was taken from the validated work which is supported by the literature. Furthermore, based on the comments of the academic experts, one item 'the store's communication is a part of luxury, sophistication and exclusivity' was removed. Another item 'the store communicates clear message to the customer' was readjusted to 'the store communicates clear message to me'. In addition, the measure from the qualitative findings, 'the store communicates through digitalisation' was included. The total number of items in the communication construct were 10.

The items for the cultural heritage construct were related with the traditional and historical experiences created in the store (Chianese et al., 2015; Choi et al., 2016; De Rojas and Camarero, 2008; Napoli et al., 2014; Paige and Littrell, 2002; Qu et al., 2011). This construct included 8 items from the literature and 1 new item was found from the qualitative study. Out of these 9 items, 3 items were removed 'the store offers me an interesting, traditional experience', Considering expert judges' evaluation, 'the store offers me an interesting, traditional experience', this item is a sub-part of item 'the store offers me an enriching, traditional experience'; 'the store offers local cuisine', Taking into consideration experts' evaluations, 'the store offers local cuisine' as the stores in specific do not offer prepared food. It is more relevant for the restaurants, as the stores offer edible products or condiments'; 'the store creates charm of a place' item was added based on the results from the interview and focus group results. However, based on the expert judges' suggestion, 'the store creates charm of a place' means that the store's PED is captivating which is a repetition as the component 'ambience' already exists in this study.

Items were based on the validated scales of (Choi et al., 2016; Paige and Littrell, 2002), 'the store exhibits interesting cultural objects', 'the store offers me an enriching, traditional experience', 'the store's product is ethnic'. One other item was selected to test the traditional happenings and regional affairs (Napoli et al., 2014; Qu et al., 2011) such as 'the store organises cultural events/ festivals', this item was also supported by the qualitative study. Rest of the items of this construct were used to

measure the PED and consumers' emotional well-being (Aaker et al., 2001; Duran et al., 2015; Jiang et al., 2015; Puczko and Bachvarov, 2006; Vukadin et al., 2016; Wheatley and Bickerton, 2017). While putting up the question 'the store's cultural heritage positively contributes to consumers' emotional well-being' actually does not make right sense, so it was changed to 'the store's cultural heritage positively contributes to my emotional well-being', making it easier for the respondents to understand and reply. Finally the cultural heritage construct has 6 items for pilot study.

The construct of ambience has been well-validated by numerous scholars in a unified way (Dennis et al., 2012; Dube and Morin, 2001; Duncan Herrington, 1996; Han and Ryu, 2009; Hui et al., 1997; Mattila and Wirtz, 2001; North et al., 1999; Singh, 2017; Wakefield and Baker, 1998; Yalch and Spangenberg, 1990). The experts considered that one item, "the store's music is appropriate" was included in another item, "the store's music goes together well with other features", and hence it was excluded. Furthermore, in line with the experts' comments, "accentuates" was considered a difficult word to understand, and so was replaced by the word "highlights", so "the store's lighting accentuates the displayed products" was replaced by "the store's lighting highlights the displayed products". In addition, "the store has good lighting" was removed because the judges felt the item "the store's lighting is appropriate" covered this item. Another item, "the store's lighting improves general visibility" was closely related to "the store's lighting highlights the displayed products", and was thus removed. The item "the store's air quality is acceptable" was removed because the judges felt it was included in "the store's temperature is comfortable". Also taking into consideration the expert judges' evaluation, "the store's aroma is enticing" was considered synonymous with "the store's aroma is appealing". The item "the store's aroma is fitting" was seen as overlapping with "the store's aroma is adequate" and "the store has gender-appropriate aroma", and the latter two items were seen as more appropriate. Altogether, six items relating to ambience were dropped, leaving a total of 28.

The items for the artefacts construct were based on the work of researchers such as (Dennis et al., 2012; Eroglu et al., 2003; Singh, 2006), and on the qualitative findings by the researcher. This construct reflects the display information available for

customers. There were initially 10 items. Taking into consideration the expert judges' evaluation, "the store's artefacts are appreciable" was seen as identical to "the store's artefacts are helpful". One new item, "the store possesses utilitarian artefacts", was identified during the qualitative study. Consequently, there were nine items relating to this construct.

For the spatiality construct, which initially had 24 items, the validated scales were taken from researchers (Mathur and Goswami, 2014; Paige and Littrell, 2002; Wakefield and Blodgett (1994). From Mathur and Goswami (2014), five items were adopted. Three items were taken from Wakefield and Blodgett (1994) and was supported by numerous researchers (Bonn et al., 2007; Jang and Namkung, 2009; Qu et al., 2011; Wakefield and Baker, 1998; Wakefield et al., 1996). The scales from the previous studies were used with slight adjustments according to the expert judges' evaluation as follows: the items "the store has easy access by personal vehicle", "the store has easy access by public transport" and "the store has ample parking space" were not considered relevant to this study and were therefore omitted; and "the store has sufficient billing counters" was removed due to its similarity with the more relevant "the store has convenient billing counters". Consequently, 20 items were left.

The construct of emotional well-being, as proposed by the theory and reflected by the qualitative interviews, refers to a state of relaxation and mental satisfaction (Harris 2017; Kim et al., 2012; Lee et al., 2002; Sweeney and Soutar, 2001). Three items were adopted from the scales of El Hedhli et al. (2013) and were also supported by qualitative findings. Most of the items were adopted without change; however, based on the expert judges' recommendations, one item, "the store's PED plays a very important role in my social well-being", was removed because it was considered as a subset of the item "the store provides mindfulness". The original total of eight items was therefore reduced to seven. These items were supported by extensive literature, as shown in Table 4.7.

The sensorium construct has been defined by some researchers (Craig Roberts et al., 2009; Dube and LeBel, 2003; Gentile et al., 2007; Korichi et al., 2009; Pine et al., 1999; Schmitt, 1999), in an almost identical way, although different perceptions of the construct exist. For the aim of this study, which relates to the senses of individuals,

the most relevant work is that of Pine et al. (1999). Based on the comments of the academic experts, the item “the store arouses pleasure in my sensorium” and “the store arouses excitement in my sensorium” have a similar meaning, as a result the latter statement was chosen. Furthermore, the item “the store arouses pleasure in my sensorium” does not make sense, as the sensorium cannot be pleased, so this was also inappropriate. The rest of the items were found in the literature and supported by the qualitative findings. The final number of sensorium-related items for the pilot study therefore decreased from 10 to 9.

The behaviour construct was examined in the literature, and the scale was adopted from the works of Baumgartner (2002) and Ebrahim et al. (2016). Out of 11 items, two were omitted: (1) “I tend to impulse buy when shopping”, because the experts felt it was similar to “the store engages me in physical actions”; and (2) “I buy a product/brand because of curiosity” because it was judged to be closely related to “I love to browse when shopping”. As a result, nine items were chosen for the study, all of which are supported by the literature (Baksi, 2013; Dennis et al., 2014; Haselwandter et al., 2015; Ladhari et al., 2017; Lee et al., 2015; Levy and Weitz, 2004; Turley and Chebat, 2002; Wakefield and Blodgett, 2016).

The happiness construct was taken from the validated work of researchers (Ali et al., 2016; Babin et al., 2005; Beckman et al., 2013; Brakus et al., 2009; Grace and O'Cass, 2005; Han and Ryu, 2009; Yvette and Turner, 2003), supported by the literature (see Table 4.7). With respect to the judges' comments, two items were removed: (1) the item “the store makes me feel content”, because it was closely related to “the store gives me satisfaction”; and (2) “the store makes me feel entertained”, which was considered similar to “the store puts me in a good mood”. Out of 12 items, 10 items were therefore included in the pilot study.

Consumers' perception towards brand performance

Consumers' perception towards brand performance was based on a number of previous studies (Harris and de Chernatony, 2001; Lehmann et al., 2008; Weerawardena et al., 2006). The items were taken from the studies of (Gupta et al., 2016; Keller, 2010; Mudambi, 2002). From the validated scales of researchers (Beverland et al., 2015; Nguyen et al., 2016; Punjaisri and Wilson, 2011), five items

were adopted. A total of 17 items was found from the literature and one from the qualitative study. In all, seven items were dropped for the following reasons: (1) “the store is achieving customer performance” could not be answered by customers as the study was consumer focused; (2) “I believe that the store’s brand performance is enhanced by brand conduct” was identical to “I believe that the store’s brand performance is enhanced by brand support”; (3) “I believe that the store’s brand performance adds to the contribution to profits” could not be answered by customers as the study was consumer focused; (4) “I believe that the store’s brand performance adds to the contribution to growth” could not be answered by customers as the study was consumer focused; (5) “the store is consistent in quality” was a subset of the item “the store is synonymous with high quality in overall”; (6) “the store delivers its promises promptly and correctly” was similar to the item “the store is professional and helpful”; (7) “the store is well known”, which was added based on the results from the interviews and focus groups, was considered by the expert judges to be a part of the item “the store is successful”, and was removed as it had almost the same meaning. The original 18 items were therefore reduced to 11 for the pilot study. The final total of 134 items with the codes is depicted in Table 4.8.

Table 4.8: Final items for pilot study (after qualitative analysis)			
Construct	Item	Major references	Code
Visual identity			
The store’s visual identity is recognisable	Buil et al. (2016); Coleman (2011); Csordas (2008); Dowling (2001); Foroudi et al. (2014, 2016); Kirhenstein (2013); Van den Bosch et al. (2005)		VI1
The store’s visual identity has a symbolic meaning	Dennis et al. (2016); Melewar and Saunders (1999); Van den Bosch et al. (2005)		VI2
The store’s visual identity is attractive	Balmer (1995); Balmer and Burghausen (2015); Balmer and Chen (2016); Buil et al. (2016); Ebrahim et al. (2016); Olins (1985)		VI3
The store’s visual identity is artistic	Balmer (1995); Balmer and Burghausen (2015); Balmer and Chen (2016); Buil et al. (2016); Olins (1985)		VI4
The store’s visual identity is novel	Balmer (1995); Balmer and Burghausen (2015); Balmer and Chen (2016); Buil et al. (2016); Olins (1985)		VI5
The store’s visual identity is elegant	Balmer (1995); Balmer and Burghausen (2015); Balmer and Chen (2016); Buil et al. (2016); Olins (1985)		VI6
The store’s visual identity is honest	Balmer (1995); Balmer and Burghausen (2015); Balmer and Chen (2016); Buil et al. (2016); Olins (1985)		VI7
The store’s visual identity is	Cohen (1991); Foroudi et al. (2014, 2019, 2020);		VI8

familiar	Robertson (1989)	
The store's visual identity is meaningful	Foroudi et al. (2014, 2019, 2020)	VI9
The store's visual identity reflects the personality of the company	Bernstein (1986); Foroudi et al. (2014, 2019, 2020); Van Heerden and Puth (1995); Van Riel et al. (2001)	VI10
The store's visual identity is distinct	Fombrun and Van Riel (2004); Foroudi et al. (2014, 2019, 2020)	VI11
The store's visual identity evokes a positive effect	Foroudi et al. (2014, 2019, 2020)	VI12
The store's visual identity is a powerful source of differentiation	Melewar and Akel (2005)	VI13
The store's visual identity positively contributes to the PED	Hynes (2009); Melewar et al. (2006); Melewar and Saunders (2000); Munajjed and Sulaiman (2015); Olins (1985); Shimp (1990); Van den Bosch et al. (2005)	VI14
The store's visual identity is positively related to my well-being	Dale (2017); Hung (2014); Kasser and Ryan (2001); Porter and Claycomb, (1997)	VI15
Communication		
The store communicates through advertising and promotions	Alwi (2009); Grace and O'Cass (2005); Hogan and Coote (2014)	C1
The store's communication is influential	Alwi (2009); Grace and O'Cass (2005); Hogan and Coote (2014)	C2
The store's communication is an interactive experience	Brakus et al. (2009); De Rojas and Camarero (2008); Ebrahim et al. (2016)	C3
The store communicates through digitalisation	Found from qualitative study	C4
The store's communication of sponsoring activities is exciting	Brakus et al. (2009); De Rojas and Camarero (2008)	C5
The store's communication of sponsoring activities is entertaining	Brakus et al. (2009); De Rojas and Camarero (2008)	C6
The communication positively contributes to the PED	Bargenda (2015); Crilly et al. (2004); Munajjed and Sulaiman (2015); Nguyen and Leblanc (2001)	C7
The in-store communication is positively related to my well-being	El Hedhli et al. (2013); Feenstra et al. (2015); Rubio et al. (2017); Sailer et al. (2015); Ulrich et al. (2008)	C8
The store has a good understanding of marketing communication tools	Buil et al. (2016); Coleman (2011)	C9
The store communicates a clear message to me	Balmer (2001); Bartholme and Melewar (2009); Coleman (2011)	C10
Cultural heritage		
The cultural heritage positively contributes to the PED	Aaker et al. (2001); Jiang et al. (2015); Vukadin et al. (2016)	CH1
The cultural heritage is positively related to my well-being	Duran et al. (2015); Puczko and Bachvarov (2006); Wheatley and Bickerton (2017)	CH2

The store exhibits interesting cultural objects	Chianese et al. (2015); Choi et al. (2016); De Rojas and Camarero (2008)	CH3
The store offers me an enriching, traditional experience	Choi et al. (2016); De Rojas and Camarero (2008); Paige and Littrell (2002)	CH4
The store organises cultural events/festivals	Napoli et al. (2014); Qu et al. (2011)	CH5
The store offers ethnic products	Choi et al. (2016); Paige and Littrell (2002)	CH6
Physical environment design		
Ambience		
Music		
The store's music is pleasing to me	Dennis et al. (2012); Dube and Morin (2001); Duncan Herrington (1996); Han and Ryu (2009); Hui et al. (1997); Martinez and Casielles (2017); Mattila and Wirtz (2001); North et al. (1999); Singh (2017); Yalch and Spangenberg (1990); Wakefield and Baker (1998)	AM1
The store's music is appropriate	Dennis et al. (2012); Dube and Morin (2001); Duncan Herrington (1996); Han and Ryu (2009); Hui et al. (1997); Mattila and Wirtz (2001); North et al. (1999); Singh (2017); Wakefield and Baker (1998); Yalch and Spangenberg (1990)	AM2
The store's music makes the environment a more enjoyable place	Banat and Wandebori (2012); Kim et al. (2016); Milliman (1982); Oakes (2000); Siddhibphongsa and Kim (2017)	AM3
The store's music influences my decisions	Banat and Wandebori (2012); Eroglu et al. (2003); Holbrook and Anand (1990); Siddhibphongsa and Kim (2017)	AM4
The store's music is suitable for my shopping experience	Ballouli and Bennett (2014); Beverland et al. (2006)	AM5
The store's music fits well with the merchandise	Ballouli and Bennett (2014); Mattila and Wirtz (2001); Oakes and North (2008)	AM6
Light		
The store's lighting is appropriate	Babin et al. (2004); Bonn et al. (2007); Martinez and Casielles (2017); Wakefield and Baker (1998)	AL1
The store's lighting is pleasing to me	Babin et al. (2004); Bonn et al. (2007); Dennis et al. (2012); Han and Ryu (2009); Martinez and Casielles (2017); Singh (2017); Summers and Hebert (2001)	AL2
The store's lighting highlights the displayed products	Babin et al. (2004); Bonn et al. (2007); Dennis et al. (2012); Han and Ryu (2009); Singh (2017); Summers and Hebert (2001)	AL3
The store's lighting creates a warm atmosphere	Han and Ryu (2009); Munajjed and Sulaiman (2015)	AL4
The store's lighting creates a comfortable atmosphere	Hanaysha (2016); Jang and Namkung (2009)	AL5
The store's lighting influences my decisions	Eroglu et al. (2003); Martinez and Casielles (2017)	AL6
The store's lighting differentiate shopping areas	Sahiner (2016)	AL7
Temperature		
The store's temperature is	Han and Ryu (2009); Jani and Han (2014); Kim et al.	AT1

comfortable	(2016); Wakefield and Baker (1998)	
The store's temperature is appropriate	Ghosh et al. (2010); Martinez and Casielles (2017)	AT2
The store's temperature influences my decisions	Eroglu et al. (2003); Martinez and Casielles (2017)	AT3
The store's temperature is well maintained	Ng (2003); Kim et al. (2016)	AT4
Aroma		
The store's aroma is appealing	Mongkol (2016); Ryu and Jang (2007)	AA1
The store's aroma is adequate	Bogicevic et al. (2016)	AA2
The store has a pleasant smell	Jani and Han (2014); Martinez and Casielles (2017); Mattila and Wirtz (2001)	AA3
The store has a gender-appropriate aroma	Dennis (2012); Spangenberg (2006)	AA4
The store's aroma evokes positive influence	Martinez and Casielles (2017); Ryu and Jang (2007)	AA5
Security/Privacy		
The store offers a safe and secure environment	Haj-Salem et al. (2016); Qu et al. (2011)	AS1
The store ensures personal safety within the store	Sit et al. (2003)	AS2
The store's safety generates positive emotional responses	Bogicevic et al. (2016)	AS3
The facilities and equipment are safe in the store	Kim et al. (2016)	AS4
The level of security/safety felt makes me feel comfortable	Sit et al. (2003)	AS5
The store's ambience positively contributes to the PED	Baker (1987); Bitner (1992); Chebat and Michon (2003); Cheng et al. (2016); Han and Ryu (2009); Hui et al. (1997); Kotler (1973); Lee and Jeong (2012); Mattila and Wirtz (2001); Nguyen and Leblanc (2002); North and Hargreaves (1998); Tuzunkan and Albayrak (2017); Wakefield and Bakers (1998); Yalch and Spangenberg (1993)	AS6
Artefacts		
The store's artefacts provide an adequate display of information	Singh (2006)	AR1
The store's artefacts are helpful (in-store signage)	Singh (2006)	AR2
The store's artefacts have attractive colours	Bogicevic et al. (2016); Dhurup et al. (2013)	AR3
The store's artefacts affect patronage behaviour (digital signage)	Dennis et al. (2012); Eroglu et al. (2003)	AR4
The store's artefacts are memorable	Siu et al. (2016)	AR5
The store's artefacts provide aesthetic sense	Du Randt (2016)	AR6

The store's artefacts positively contribute to the PED	Baker (1987); Bitner (1992); Chebat and Michon (2003); Cheng et al. (2016); Han and Ryu (2009); Hui et al. (1997); Kotler (1973); Lee and Jeong (2012); Mattila and Wirtz (2001); Nguyen and Leblanc (2002); North and Hargreaves (1998); Tuzunkan and Albayrak (2017); Wakefield and Bakers (1998); Yalch and Spangenberg (1993)	AR7
The store possesses attractive paintings/pictures	Tuzunkan and Albayrak (2016)	AR8
The store possesses utilitarian artefacts	Found from qualitative study	AR9
Spatiality		
Spatial layout		
The store has easy accessibility (entrance)	Mathur and Goswami (2014); Paige and Littrell (2002); Wakefield and Blodgett (1994)	SL1
The store has multiple windows and gates	Wakefield and Blodgett (1994)	SL2
The overall layout of the store is easy to get around	El Hedhli et al. (2013); Mathur and Goswami (2014); Wakefield and Baker (1998)	SL3
The store's layout provides spatial density (space)	Sahiner (2016); Wakefield et al. (1996)	SL4
The store's layout is eye-catching	Sundar and Kellaris (2016)	SL5
The store's area is big enough to handle the crowds	Sahiner (2016); Wakefield et al. (1996)	SL6
The store provides sufficient open space	Baker et al. (1995); Singh (2017)	SL7
Functionality		
The store's spatiality offers a good and relevant functionality	Bonn et al. (2007); Du Randt (2016); Riviezzo et al. (2009)	SF1
The store has comfortable equipment	Ebrahim et al. (2016); Mongkol (2016)	SF2
The signs and symbols made it easy to get where I wanted to go	Bogicevic et al. (2016)	SF3
The store has well-designed escalators	Daniel et al. (2016)	SF4
The store has adequate price displays	Du Randt (2016)	SF5
The store is well equipped with surrounding facilities (lounge)	Kim et al. (2016)	SF6
Comfort		
The store provides easy accessibility	Bonn et al. (2007); Jang and Namkung (2009); Qu et al. (2011); Wakefield and Baker (1998); Wakefield and Blodgett (1994); Wakefield et al. (1996)	SC1
The store provides comfortable arrangement	Bogicevic et al. (2016); Han and Ryu (2009); Qu et al. (2011); Steen (2016)	SC2
The store is convenient	Haj-Salem (2016); Singh (2006)	SC3
The store has logical location of products	Baker et al. (1995); Singh (2017)	SC4
The store has sufficient aisle space and width	Du Randt (2016); Kim et al. (2016); Steen (2016) (developed and based on Baker et al. (1994))	SC5

The store has convenient billing counters	Kim et al. (2016); Mathur and Goswami (2014)	SC6
The store's spatiality positively contributes to the PED	Baker (1987); Bitner (1992); Chebat and Michon (2003); Cheng et al. (2016); Han and Ryu (2009); Hui et al. (1997); Kotler (1973); Lee and Jeong (2012); Mattila and Wirtz (2001); Nguyen and Leblanc (2002); North and Hargreaves (1998); Tuzunkan and Albayrak (2017); Wakefield and Bakers (1998); Yalch and Spangenberg (1993)	SC7
Emotional well-being		
The store makes me feel relaxed	Harris (2017); Sweeney and Soutar (2001)	EWB1
The store's ambience makes me feel satisfied	Harris (2017); Kim et al. (2012); Lee et al. (2002)	EWB2
The store provides mindfulness	Brown and Kasser et al. (2005)	EWB3
The store's PED arouses positivity	Harris (2017); Sweeney and Soutar (2001)	EWB4
The store's PED plays a very important role in my leisure well-being	El Hedhli et al. (2013); Harris (2017)	EWB5
The store's PED enhances my quality of life	El Hedhli et al. (2013); Harris (2017)	EWB6
The store's PED is positively related to my well-being	Arnold and Reynolds (2003); Butcher (1998); Harris (2017); Howarth (2016); Klosowski (2013); Menec et al. (2011); Solomon et al. (2006); Tyler and Adhitya (2015)	EWB7
Sensorium		
The store arouses excitement in my sensorium	Craig Roberts et al. (2009); Dube and LeBel, (2003); Gentile et al. (2007); Korichi et al. (2009); Pine et al. (1999); Schmitt, (1999)	S1
The store arouses satisfaction in my sensorium	Craig Roberts et al. (2009); Dube and LeBel, (2003); Gentile et al. (2007); Korichi et al. (2009); Pine et al. (1999); Schmitt (1999)	S2
The store makes a strong impression on my senses	Beckman (2013); Brakus et al. (2009); Ngo et al. (2016)	S3
The store induces perceptions	Beckman (2013); Ngo et al. (2016)	S4
The store generates emotional experiences	Beckman (2013); Brakus et al. (2009); Ebrahim et al. (2016)	S5
The store engages my senses	Beckman (2013); Ngo et al. (2016)	S6
The store stimulates my curiosity	Beckman (2013)	S7
My store perception positively contributes to well-being	Frederickson (2001); Goldstein (2009); Howes (2008)	S8
The store's PED is positively related to my sensorium	Dennis et al. (2014); Hulten et al. (2011); Krishna (2010); Lindstrom (2005); Madzharov et al. (2015); Morrison et al. (2011); Rozendaal and Schifferstein (2010)	S9
Behaviour		
The store engages me in physical actions	Beckman (2013); Ebrahim et al. (2016)	B1
The store engages me in a lot of thinking	Brakus (2009); Ebrahim et al. (2016)	B2

I love to browse when shopping	Liu et al. (2007)	B3
I buy a product/brand for utilitarian reasons	Baumgartner (2002)	B4
I buy a product/brand based on certain social image	Baumgartner (2002)	B5
I buy a product/brand because of routine purchase behaviour	Baumgartner (2002)	B6
I buy a product/brand without much thinking	Baumgartner (2002)	B7
My behaviour in the store positively contributes to well-being	El Hedhli et al. (2013); Hsu and Chen (2014); Sirgy et al. (2006)	B8
The store's PED is positively related to my behaviour	Baksi (2013); Dennis et al. (2014); Ladhari et al. (2017); Lee et al. (2015); Levy and Weitz (2004); Haselwandter et al. (2015); Turley and Chebat (2002); Wakefield et al. (2016)	B9
Happiness		
The store gives me more satisfaction	Ali et al. (2016); Babin et al. (2005); Beckman et al. (2013); Brakus et al. (2009); Grace and O'Cass (2005); Han and Ryu (2009); Yvette and Turner (2003)	H1
The store helps me to enjoy	Ali et al. (2016); Babin et al. (2005); Beckman et al. (2013); Brakus et al. (2009); Grace and O'Cass (2005); Han and Ryu (2009); Yvette and Turner (2003)	H2
The store puts me in a good mood	Ali et al. (2016); Babin et al. (2005); Beckman et al. (2013); Brakus et al. (2009); Grace and O'Cass (2005); Han and Ryu (2009); Yvette and Turner (2003)	H3
The store is part of something fun	Brakus et al. (2009)	H4
The store is part of something happening	Brakus et al. (2009); Martinez and Casielles (2017)	H5
The store is part of something exciting	Brakus et al. (2009)	H6
The store's shopping experience is very pleasant	Brakus et al. (2009); Ebrahim et al. (2016)	H7
I am pleased with my decision to visit the store	De Rojas and Camarero (2008); Sands et al. (2015)	H8
My happiness attained from the store positively contributes to well-being	El Hedhli et al. (2013); Dennis et al. (2016); Hassenzahl et al. (2013); Hofmann et al. (2014)	H9
The store's PED is positively related to my happiness	Arnold and Reynolds (2003); Hassenzahl et al. (2013); Jang and Namkung (2009); Michon et al. (2005); Ryu and Han (2011)	H10
Consumers' perception towards brand performance		
I believe that the store is successful	Harris and de Chernatony (2001); Lehmann et al. (2008); Weerawardena et al. (2006)	BP1
I believe that the store is attracting new customers	Irving (1995); Kohli et al. (1993); Kumar et al. (1993)	BP2
I believe that the store is attaining desired growth	Irving (1995); Karpen et al. (2015); Kohli et al. (1993); Wu et al. (2006)	BP3
I believe that the store is providing value for customers	Irving (1995); Kohli et al. (1993); Nguyen et al. (2016)	BP4

I believe that the store is keeping current customers	Irving (1995); Kohli et al. (1993)	BP5
I believe that the store's brand performance is enhanced by brand support	Gupta et al. (2016); Keller (2010); Mudambi (2002)	BP6
I believe that the store's brand performance is enhanced by relationship commitment	Gupta et al. (2016); Keller (2010); Mudambi (2002)	BP7
I believe that the store's brand performance adds to the contribution to sales	Irving (1995); Karpen et al. (2015); Weerawardena et al. (2006); Wu et al. (2006)	BP8
I believe that the store is professional and helpful	Lehmann et al., (2008); Nguyen et al. (2016)	BP9
I believe that the store is synonymous to high quality in overall	Beverland et al., (2015); Nguyen et al. (2016); Punjaisri and Wilson (2011)	BP10
I believe that my emotional well-being positively affects the brand performance	El Hedhli et al. (2013); Gurhan et al. (2016); Harris (2017); Hughes (2013); Hwang and Han (2014)	BP11

Source: The researcher

There were 165 initial items, which related to the constructs as follows: 18 for visual identity, 11 for communication, 9 for cultural heritage, 34 for ambience, 10 for artefacts, 24 for spatiality, 8 for emotional well-being, 10 for sensorium, 11 for behaviour, 12 for happiness, and 18 for consumers' perception of brand performance. Table 4.9 shows the initial number of items and the items after the pilot study.

Table 4.9: Constructs, number of initial items and the items after pilot study			
Constructs		Initial number of items	Items after pilot study
Visual identity		18	15
Communication		11	10
Cultural heritage		9	6
Physical environment design elements	Ambience	34	28
	Artefacts	10	9
	Spatiality	24	20
Emotional well-being		8	7
Sensorium		10	9
Behaviour		11	9
Happiness		12	10
Consumers' perception towards brand performance		18	11
Total		165	134

According to Malhotra and Birks (2000), a questionnaire should be used after pilot testing which helps to purify the items (see Appendix 4.3). A refined questionnaire is more convenient for respondents to answer (Saunders et al., 2007), and develops a more effective survey. For the purpose of the pre-test study, the item measures were refined and modified to generate reliable and valid measures. The table (see Appendix 4.4) depicts the item sources initially derived from the literature.

As a result of the purification of the scales by means of expert judgement, content validity was established for all the scales used in the research instrument (i.e. questionnaire). In the following section, each step of the data collection process, using the revised questionnaire, is described in detail.

4.5 Quantitative assessment: Pre-testing and pilot study

After qualitative analysis, the questionnaire for testing the hypotheses was again revised. On the basis of the advocacy of respondents, requisite changes were made for holding the actual survey (Gupta et al., 2011) to decipher whether the constructs were valid and the measurement scales were able to evaluate reliability through the pilot study (Saunders et al., 2007). The term pilot study (or feasibility study) refers to small interpretations of a full-scale study, or the specific pre-testing of a research instrument such as a questionnaire (Van Teijlingen and Hundley, 2002, p. 33).

A small number of respondents, between 25 and 50, have been recommended by Malhotra and Birks (2003) to pre-test questionnaires. A pilot study (pre-test) is a preliminary study related to the development of the questionnaire and measurement instrument that is to be used in the actual survey (Malhotra and Birks, 2000). According to prior researchers (Denscombe, 2007; Malhotra and Birks, 2000; Ticehurst and Veal, 2005), a pilot study aims to assess significant requirements during instrument purification, e.g. testing the questions' wording, sequence, form and layout and difficulty, and the instructions, familiarity with respondents, response rate, completion time and analysis process. In the pre-test stage of the present study, the respondents were asked to rate items on a measurement scale from 1 ("strongly disagree") to 7 ("strongly agree") based on their personal experiences. It was noted that a few respondents were not able to understand the term "physical environment

design”. The researcher therefore described it in detail and used terms such as interior design, ambience and atmosphere.

4.5.1 Pilot study

This is a small-scale preliminary study which aims to explore the important components of the main study. Its purpose is to clarify the questionnaire so that there are no ambiguously formulated items (Welman and Kruger, 2001), to ensure that respondents are able to easily answer the questions, and to establish that there are no problems in recording the data (Saunders et al., 2007). Respondents should have no difficulty answering (Saunders et al., 2007) in order to measure the timing and clarity of the survey, the reliability of the constructs and manipulation checks (Malhotra, 1999). The pilot study can uncover small problems that may affect the research process and refine the measurement instrument, and to generate reliable and valid measures. Moreover, the pilot study helps the researcher in assessing whether the research protocol is realistic and what problems might occur using the proposed research methods (Van Teijlingen and Hundley, 2002).

The researcher aimed to distribute 150 questionnaires to target respondents in person. The questionnaire was distributed to various respondents who were either academic members or doctoral students at Middlesex University. Following the advice of Haralambos and Holborn (2000), the respondents involved in the pilot study were not included in the final study as this may have affected their behaviour. Table 4.10 shows the reasons for conducting a pilot study.

Table 4.10: Reasons for conducting a pilot study	
Pilot study	
Reasons to conduct pilot study	<ul style="list-style-type: none"> - To develop and test the adequacy of research instruments - To assess the feasibility of a full-scale study or survey - To design a research protocol and develop a research plan - To assess whether the research protocol is realistic and workable - To establish the effectiveness for sampling frame and sampling technique - To assess the possible success of proposed recruitment approaches - To identify operational problems - To estimate variability in outcomes to help determining sample size - To acquire preliminary data - To assess the proposed data analysis techniques in order to uncover probable outcomes - To convince funding bodies that the research team is proficient and perceptive

Source: Van Teijlingen and Hundley (2002, p. 34)

4.5.2 Data profile

The researcher carried out the pilot study survey among the doctoral students, teaching staff, and office staff at Middlesex University and Brunel university, and among visitors and sales associates at various retail outlets in London. The researcher distribute 150 questionnaires, but owing to the low quality of responses and extent of missing data, 20 were excluded. To eliminate potential problems, the researcher should randomly keep asking the respondents if there is any ambiguity or difficulty in understanding the questions (Kohli et al., 1993). Based on the suggestions of Churchill (1979), the remaining 130 questionnaires were examined for the reliability and validity of the scales to ensure that the “measures are free from error and therefore yield consistent results” (Peter, 1979, p. 6). It is essential prior to the main survey that “the measures used are developed and investigated for reliability” (Melewar, 2001, p. 38). Table 4.11 illustrates the demographic profile of the pilot study respondents.

Table 4.11: Demographic profile of respondents in pre-test sample (N=130)			
Sample details		N	%
Age	19 years old or under		
	20 to 29 years	45	34.6
	30 to 39 years	35	26.9
	40 to 49 years	40	30.8
	50 to 59 years	10	7.7
	60 years old or over		
	Total	130	100
Gender	Male	76	58.5
	Female	54	41.5
	Total	130	100
Education	High school		
	Undergraduate		
	Postgraduate and above	130	100
	Total	130	100
Occupation	Student	35	26.9
	Sales associate	15	11.5
	Manager/executive	20	15.4
	Office staff	10	7.7
	Professional (not management)	50	38.5
	Total	130	100

Source: The researcher

After five weeks, the 130 completed questionnaires were received. The data was then subjected to a purification process involving reliability analysis and exploratory factor analysis (EFA), in line with the recommendations of Churchill (1979) that these should be conducted to purify the scales in the early stages of scale validation. Reliability is a necessary requirement of validity (Churchill, 1979). In order to reduce the number of items and identify any patterns in the data, a reliability test followed by EFA was therefore performed on the pilot study results (Foroudi et al., 2014).

Furthermore, Cronbach's alpha was investigated to test for reliability (Cronbach, 1951) and EFA was carried out to understand the items and examine the dimensionality of the constructs. The Cronbach's alpha coefficient method is widely recognised to measure reliability (De Vellis, 2012; Melewar, 2001; Nunnally, 1978; Tabachnick and Fidell, 2007). "A low coefficient alpha indicates the sample of items performs poorly in capturing the construct" (Melewar, 2001, p. 39). Table 4.12 shows the data from reliability test and factor analysis.

Table 4.12: Reliability measures and cronbach's alpha for each construct on the basis of the pilot study						
Constructs	Cronbach's alpha	Items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	Mean	Standard deviation
Visual identity	.736					
		VI1	.666	.961	6.63	.672
		VI2	.760	.959	6.37	.997
		VI3	.750	.960	6.53	.717
		VI4	.852	.957	6.38	.998
		VI5	.887	.956	6.12	1.220
		VI6	.834	.958	6.25	.975
		VI7	.779	.959	6.12	1.148
		VI8	.678	.961	6.42	1.010
		VI9	.783	.961	6.63	1.199
		VI10	.821	.958	6.29	1.060
		VI11	.802	.958	6.47	.917
		VI12	.824	.958	6.39	1.023
		VI13	.780	.959	6.43	.940
		VI14	.772	.959	6.50	.874
		VI15	.791	.960	6.18	1.488
Communication	.930					
		C1	.860	.970	6.39	1.117
		C2	.831	.971	6.48	1.013

	C3	.893	.969	6.33	1.164
	C4	.825	.971	6.40	1.083
	C5	.902	.969	6.22	1.348
	C6	.920	.968	6.24	1.305
	C7	.912	.968	6.38	1.102
	C8	.875	.970	6.22	1.371
	C9	.851	.970	6.42	.971
	C10	.873	.969	6.40	1.138
Cultural Heritage		.904			
	CH1	.843	.944	6.51	.998
	CH2	.767	.949	6.30	1.224
	CH3	.892	.935	6.31	1.287
	CH4	.865	.939	6.22	1.331
	CH5	.870	.938	6.18	1.402
	CH6	.870	.938	6.16	1.287
Ambience		.916			
	AM1	.850	.980	6.57	.880
	AM2	.851	.980	6.35	1.099
	AM3	.854	.980	6.41	1.002
	AM4	.813	.981	6.43	1.092
	AM5	.815	.981	6.12	1.575
	AM6	.875	.980	6.34	1.118
	AL1	.873	.980	6.30	1.097
	AL2	.877	.980	6.46	.855
	AL3	.861	.980	6.47	.873
	AL4	.823	.981	6.65	.703
	AL5	.822	.981	6.43	.813
	AL6	.793	.981	6.48	.790
	AL7	.755	.981	6.33	1.229
	AT1	.780	.981	6.35	1.106
	AT2	.799	.981	6.43	.923
	AT3	.734	.981	6.54	.799
	AT4	.803	.981	6.21	1.351
	AA1	.834	.980	6.40	.985
	AA2	.795	.981	6.46	.908
	AA3	.850	.980	6.47	.855
	AA4	.866	.980	6.32	1.019
	AA5	.736	.981	6.12	1.309
	AS1	.806	.981	6.50	.809
	AS2	.796	.981	6.59	.785
	AS3	.818	.981	6.51	.883
	AS4	.866	.980	6.48	.942
	AS5	.834	.981	6.55	.788
	AS6	.739	.981	6.52	.865
Artefacts		.919			
	AR1	.872	.956	6.53	.846
	AR2	.879	.955	6.48	.847
	AR3	.860	.956	6.48	.925
	AR4	.853	.956	6.52	.900

	AR5	.872	.955	6.38	1.022
	AR6	.812	.958	6.29	.968
	AR7	.880	.955	6.45	.907
	AR8	.712	.964	6.45	1.043
	AR9	.849	.956	6.45	.949
Spatiality	.824				
	SL1	.716	.976	6.67	.640
	SL2	.768	.975	6.59	.823
	SL3	.790	.975	6.45	1.064
	SL4	.842	.975	6.45	.818
	SL5	.765	.975	6.45	.873
	SL6	.819	.975	6.47	.985
	SL7	.878	.974	6.46	.933
	SF1	.838	.975	6.50	.865
	SF2	.819	.975	6.43	.857
	SF3	.807	.975	6.46	1.149
	SF4	.751	.976	6.45	1.114
	SF5	.803	.975	6.41	.973
	SF6	.851	.974	6.32	.958
	SC1	.825	.975	6.59	.736
	SC2	.865	.974	6.51	.819
	SC3	.881	.974	6.52	7.80
	SC4	.822	.975	6.56	.856
	SC5	.801	.975	6.55	.798
	SC6	.820	.975	6.48	.883
	SC7	.900	.974	6.53	.846
Sensorium	.869				
	S1	.916	.981	6.28	1.226
	S2	.915	.981	6.27	1.219
	S3	.945	.980	6.33	1.221
	S4	.927	.981	6.27	1.215
	S5	.915	.981	6.32	1.188
	S6	.935	.980	6.40	1.128
	S7	.893	.982	6.34	1.178
	S8	.922	.981	6.21	1.345
	S9	.931	.980	6.32	1.271
Behaviour	.887				
	B1	.863	.942	6.30	1.333
	B2	.835	.943	6.18	1.368
	B3	.783	.946	6.39	1.229
	B4	.821	.945	6.45	.989
	B5	.758	.947	6.28	1.220
	B6	.717	.949	6.43	1.049
	B7	.768	.949	5.95	1.584
	B8	.862	.942	6.23	1.326
	B9	.898	.940	6.33	1.171
Happiness	.835				
	H1	.897	.967	6.39	1.172
	H2	.913	.966	6.38	1.144

investigated for reliability”. The Cronbach’s alpha coefficient method was adopted to conduct reliability testing (Cronbach, 1951; De Vellis, 2012; Melewar, 2001; Tabachnick and Fidell, 2007). Finally the questionnaire was prepared on the basis of existing items (i.e. 134) to proceed with the main survey.

4.6 Main survey

The final survey was conducted in the UK to purify the measurement scales (Churchill, 1979). It involved a self-administered questionnaire which drew responses from customers of department stores between 1 November 2017 and 26 January 2018. This research adopted a non-random sampling technique, which is often used for convenience and does not require a sampling frame.

4.6.1 Target population and sampling

Sampling in social research generally refers to the collection of information from a portion of the population of interest by taking a sample of the larger group (Churchill and Iacobucci, 2004). Furthermore, Churchill and Iacobucci (2004) recommended a six-step approach: defining the target population, identifying the sampling frame, selecting a sampling procedure, determining the sample size, selecting the sample elements, and collecting the data. Drawing on this framework, the following sections present the various steps that were taken in this research.

The first step is to define the population of the study. Population has been defined as “a complete group of entities sharing some common set of characteristics” (Zikmund, 2003, p. 369) and as “the universe of units from which the sample is to be selected” (Bryman and Bell, 2007, p. 182). The term “group” in this context can refer to people, companies, nations, cities, or stores (Zikmund, 2003). As noted above, one finding from the qualitative research is that PED is expected to be employed for consumers’ emotional well-being. Drawing on this finding, this research focused on organisations from the retail industry. In addition, in order to include the finding relating to the aspect of service organisations, the retail industry was included as it stands for a typical service-orientated industry. The target population in this research is therefore defined as consisting of organisations from the UK that are assigned to the previously mentioned categories.

Specification of the target population is essential (Malhotra and Birks, 2003, p. 358), in terms of “who should and should not be included in the sample” to meet the research objectives. Researchers apply sampling strategies in order to generalise the findings to a larger population. According to Bryman and Bell (2007, p. 182), “the segment of population that is selected for investigation is defined as the sample”. To specify the target population, researchers define “elements” and “sampling units” – units containing the elements which are available for selection in the sampling technique (Malhotra and Birks, 2003, p. 358). As the research questions imply, the retail organisation is the main sampling unit of this study, while consumers are the elements. It is also suggested by Malhotra and Birks (2003) that researchers should determine the sampling frame (the total size of the population). Table 4.13 describes the strengths and weaknesses of sampling methods.

Table 4.13: Sampling methods: Strengths and weaknesses			
	Explanation	Strengths	Weaknesses
Probability Sampling	Probability sampling is a subset of the population, where probability of selection is known and non-zero		
Simple random	Any element of the population can be extended	Generalisability of the results	Tends to be expensive; time-consuming
Systematic	Arbitrary selection in an ordered manner	Ease of implementation	Items in the population must be in some type of order
Stratfield	Division into natural subgroups (e.g. age, income, gender). Sample includes items from each stratum	Takes into account subgroups; relative precision	Difficult to determine proper strata
Cluster	Random sample of subgroups. All members of the chosen subgroups are included	Inexpensive; ease of implementation	Relatively low precision
Non-probability sampling	Non-probability sampling refers to any subset of the population where the probability of selection cannot be calculated and the researcher’s personal judgement dominates the selection process		
Judgement	Sample selection based on researcher’s personal judgement	Inexpensive; little time to administer	Subjective; lack of generalisability
Convenience	Sample includes items based on researcher’s personal judgement	Inexpensive; little time to administer; convenience	Biased; lack of generalisability

Quota	Sample consists of particular individuals with specific characteristics (e.g. age, income, race, gender). Percentage of target population that possesses the characteristics of interest needed to be obtained, followed by their exact number	Can be used to examine groups with certain traits	Subjective
Snowball	Sample is determined by the initial respondents providing names of additional respondents referral method		

Source: Blumberg et al. (2008, pp. 363-371)

The sample allows the researcher to generalise the data drawn from the population. The sample analysis (survey) provides a significant result from a relatively few respondents to explain the general characteristics of the whole population (Dillman et al., 2009).

4.6.2 Appropriate number of participants

According to Hair et al. (2014), the sample size should be large enough to perform various statistical techniques. However, sample size and statistical technique are interdependent on each other. A minimum sample size is required for data analysis methods such as multiple regression analysis (MRA), confirmatory factor analysis (CFA) and structural equation modelling (SEM); while conversely Reynolds et al. (2003) stated that the particular size of an available sample strongly determined “the analytical techniques that can be used” (p. 87).

The literature provides various suggestions on sample size. For example, according to Hair et al. (2014), a minimum sample size of 200 is a maximum likelihood-based estimation. This is the common SEM estimation. Bollen (1989) advocated a ratio of five samples (i.e. observations) per variable. For CFA, the sample size must be greater than the number of covariances in the data matrix (Netemeyer et al., 2003). Furthermore, Joreskog and Sorbom (1996) proposed that the sample size should be at least 10 observations per parameter estimated to perform CFA.

According to researchers (Melewar and Saunders, 1998, 1999; Melewar et al., 2000), “small numbers do not make a sample non-representative, particularly when they represent much of the population” (pp. 299, 589; p. 197). However, the limitation of a small sample size required judgement regarding the most appropriate techniques, such as covariance-based structural equation modelling (CB-SEM) approach, usually linked to software packages, for instance Analysis of Moment Structure (AMOS). Other techniques such as PLS-SEM can also be performed with smaller sample sizes (Fornell and Bookstein, 1982; Hsu et al, 2006).

4.7 Sampling frame

A sample has been defined as “a subset, or some part, of a larger population” (Zikmund, 2003, p. 369) or as “the segment of the population that is selected for investigation” (Bryman and Bell, 2007, p. 182). The procedure of sampling was defined by Zikmund (2003, p. 369) as “using a small number of items or parts of a larger population to make conclusions about the whole population”. Before drawing a sample from the target population, a sampling frame has to be defined from which the sample is drawn. The sampling frame has to be defined as “a list of all units or elements in a population” (Baker, 1999, p. 142). In other words, the sampling frame is a “listing of all units in the population from which the sample will be selected” (Churchill and Iacobucci, 2004, p. 182). Moreover, according to Malhotra et al. (1996), “developing an appropriate sampling frame is a difficult task” (p. 26).

In this research, the selection criteria for generating a sampling frame were: (1) country; (2) industry; and (3) job profile. Firstly, as discussed in Section 1.2, the UK was selected as the country where this research would be conducted. Secondly, industry sectors were selected as defined in Section 4.3.2. Thirdly, with regard to the professional function of potential participants, the following job functions were selected: senior marketing manager, retail manager, marketing staff, brand manager, head of design, head of events, chair of design company, marketing professor and sales director.

According to prior researchers (Baker, 1999; Bryman and Bell, 2007; Churchill and Iacobucci, 2004) there are two key sampling methods: probability and non-probability. In probability sampling, “each population element has a known, non-zero chance of

being included in the sample”, whereas with non-probability sampling, “there is no way of estimating the probability that any population element will be included in the sample” (Churchill and Iacobucci, 2004, p. 324). In simple words, the probability of each of the units in the population being selected is known in the case of probability sampling, which results in a representative outcome as it minimises sampling error (Bryman and Bell, 2007); while with non-probability sampling the probability of each of the units in the population being selected is not known and there is a higher chance of some units of the population being in the sample than others (Kane and O’Reilly-de Brun, 2001). Non-probability sampling methods include convenience sampling, judgemental sampling and quota sampling (Baker, 1999). Probability methods include simple random sampling, systematic sampling, stratified random sampling or cluster sampling (Bryman and Bell, 2007).

For this research, the researcher planned to make a contact with managers and experts in the field listed in the sampling frame. The potential participants were contacted either by telephone or email (description of data collection is mentioned above). In line with the definitions in the literature, the probability sampling technique means every element has a non-zero chance of being included in the sample (Churchill and Iacobucci, 2004). By selecting all units of the sample frame to be included in the sample, the probability for each unit to be included was non-zero and known (Bryman and Bell, 2007). The participants were requested to support and provide relevant information about the research topic.

The researcher visited the respondents directly for an interview (before taking prior appointments) regarding the research. The questionnaire focused on six main constructs: visual identity, communication, cultural heritage, physical environment design, emotional well-being, and consumers’ perception of brand performance (Appendix 4.1). Each questionnaire had an introductory letter enclosed.

4.8 Data analysis procedures and statistical packages

This study examined higher-order constructs. The researcher aimed to study the effects of the main construct on its sub-constructs. In this study, PED became a third-order construct; while the constructs of ambience, spatiality and EWB became second-order constructs; and the components (music, lighting, temperature, aroma,

safety/privacy, spatial layout, functionality, comfort, sensorium, behaviour, happiness) became a first-order construct. Visual identity, communication, cultural heritage, artefacts and consumers' perception of brand performance were first-order constructs.

The following sections briefly summarise the key steps that were followed in order to analyse the data, which was conducted in three stages. In the first, the content and scales were refined on the basis of the information gathered from both the qualitative and quantitative data collection. In the next stage, the validity of scales based on the quantitative data from the main survey was explained. In the third stage, the final model was tested.

4.8.1 Hierarchical components model

A hierarchical components model (HCM), also called a multi-level model, is a composition of a higher-order model. For instance, in the current study, PED is a third-order construct which is the synthesis of both first- and second-order constructs. In a hybrid of common factors configuration, the first-order constructs apply a reflective measurement model, while the second-order construct is a synthesis formed by the first-order constructs. According to Ringle et al. (2012), this is the most common approach used in social sciences research to closely examine HCMs.

In most cases, second-order constructs are regarded as the output of components, each of which is attained without measurement error by means of reflective measurement. According to Polites et al. (2012), it is not only the relationship between the first-order constructs and their indicators that needs clear and precise conceptualisation, but the relationship between lower order and higher-order constructs is also significant.

Hierarchical construct: A second-order composite construct, with first-order reflective constructs as dimensions, should be considered and estimated using a variance-based SEM technique to obtain consistent path coefficients and indicator weight estimates. Conceptually in HCMs, hierarchical component factor analysis (HCFA) is employed (Marsh, 1985; Marsh and Hocevar, 1985; Ringle et al., 2012). This is similar to factor analysis using a correlation matrix of measured variables, calculating correlations among the first-order factors, and then conducting a

second-factor analysis on the correlations among the first-order factors (Ringle et al., 2012).

The values of second-factor analysis are used to deduce second-order factors that are derived from relationships among the first-order factors (Marsh and Hocevar, 1988). In the HCFA process, both first-order and second-order factors are estimated concurrently in the same analysis. Marsh and Hocevar (1988) stated four main objectives of using second-order factor analysis: (1) to correct appropriately for measurement error in scale scores; (2) to separate errors due to low internal consistency from uniqueness due to weak trait and method effects; (3) to test whether items accurately reflect the intended factor structure; and (4) to test for correlated uniqueness. To address each of these objectives, second-order factor analysis is the most suitable technique.

This research study proposes that PED is a multidimensional construct with a higher third-order composition that is investigated through the perspective of consumers' higher second-order emotional well-being. In other words, PED is a hierarchical third-order factor. These dimensions are significantly related to consumers' emotional well-being (sensorium, behaviour and happiness) directly or indirectly. The section below clarifies the importance of examining the measurement equivalence of second-order constructs from a theoretical perspective.

A) The steps in performing second-order CFA

A model with second-order constructs represents the links that justify the integration of constructs (Edwards, 2000). The steps in performing second-order CFA involve a statistical method to confirm the certainty of the underlying sub-constructs (Awang, 2015). In order to validate that the second-order construct loads onto the respective components, the researcher estimated the causal effects from the main construct to all its sub-constructs. The two steps are as follows:

Step 1: Representation of the model with the main construct followed by its sub-constructs (or components).

Step 2: Run the second-order CFA for the main construct on its sub-constructs (or components).

Conventionally, the CFA procedure estimates the factor loadings for every item.

B) Performing second-order construct CFA

In this study, the researcher aimed to validate the constructs PED and EWB. Ambience, artefacts and spatiality were sub-constructs of PED; while sensorium, behaviour and happiness were sub-constructs of EWB. According to prior researchers (Edwards, 2000; Hair et al., 2013; Law et al., 1998; Polite et al., 2012), these sub-constructs are measured using certain number of items. In second-order CFA, the main constructs – PED and EWB – become second-order constructs, and the sub-constructs – ambience, artefacts and spatiality, and sensorium, behaviour and happiness – become first-order constructs.

C) Performing the pooled second-order CFA and its reporting procedure

Previous studies (Edwards, 2000; Hair et al., 2013; Law et al., 1998; Polite et al., 2012) have suggested that “a second-order factor is directly measured by observed variables for all the first-order factors. While this approach repeats the number of manifest variables used, the model can be estimated by the standard PLS algorithm” (Reinartz et al., 2003, p. 19). For this research, the following steps were taken to find the output of the pooled second-order CFA:

1. Factor loading for every sub-construct
2. Factor loading for items of the sub-construct
3. Correlation between constructs

Churchill (1979) stressed that multi-item scale development should be used for each construct to increase reliability and decrease measurement error, and further advocated using multi-item scales rather than single-item scales. A triple approach to data analysis was selected as follows:

1. EFA identifies underlying relationships between measured variables. EFA was implemented in the pilot study and the main study to minimise the items and identify patterns in the data (Tabachnick and Fidell, 2007). Coefficient alpha checked the quantitative data gathered to evaluate the reliability of the scale and quality of the instrument (internal consistency) (Churchill, 1979; Hair et al., 2014; Parasuraman et al., 1998).

2. CFA allows the researcher to test the hypothesis that a relationship between observed variables and their underlying latent constructs exists. CFA was carried out on the main survey data to evaluate the measurement properties of the existing scales' validity (Hair et al., 2014); it is beneficial if scales needed to be constructed for additional examination in structural modelling and applied to confirm the theory of the latent variables (Hair et al., 2014). CFA is well equipped to address the variety of questions that the researcher needs to ask the respondents.
3. SEM takes a confirmatory approach to the analysis of a structural theory on the basis of a certain phenomenon. SEM is evaluated to test the hypotheses (Hair et al., 2014) and in order to prevent possible connections among structural models and measurements. SPSS is a software package used in any data analysis for various justifications (Field, 2009; Tabachnick and Fidell, 2007 and Norusis, 1993; 1999). For the current study, SPSS version 24.0 was used for the data analysis. All the basic and important criteria were followed. Initially, coding, editing and missing data were checked, followed by a series of tests for normality, linearity, multicollinearity and outliers (skewness and kurtosis tests for normal data distribution), Norusis (1999). Next, to reveal the fundamental distribution of the variables, the mean, the standard deviation and analysing frequencies were calculated. Later, descriptive analysis (EFA) was performed (Tabachnick and Fidell, 2007). Additionally, to refine the research instrument and assess validity, a reliability test was carried out (Churchill, 1979; Field, 2009; Peter, 1979).

This research aimed to develop the PED construct and assess its validity and reliability. Component factors and key variables for the construct were established through a comprehensive literature review. CFA was considered the most acknowledged statistical method for testing a hypothesised factor representation (Byrne, 2001). A segment of cases were processed using AMOS. The hypothesised model was developed on the basis of empirical findings and theories (Schumaker and Lomax, 1996). CFA was conducted using AMOS to validate the construct and

identify the model fitness. This was followed by a three-step method of data screening, second-order CFA, and composite models.

AMOS version 24.0 was used by the researcher to create the proposed model to test the hypotheses and confirm the relationships among the observed and latent variables. This unique software graphically represents the constructs to perform CFA and the structural model for evaluation (Byrne, 2001). The following sections further explain EFA, CFA and SEM.

4.8.2 Exploratory factor analysis

Exploratory factor analysis is a statistical method used to identify the underlying relationships between large set of variables. It was chosen to assess the dimensionality and reliability of the PED construct. This technique helped the researcher to investigate the factorial structure of the scales. EFA is usually used during the early stages of scale refinement and validity testing (Aaker, 1997; Churchill, 1979; Netemeyer et al., 2003). However, before carrying out EFA, the researcher investigated the latent assumptions, such as the sample size, the correlation coefficients in the correlation (R) matrix and the sample adequacy (Hair et al., 2010).

Orthogonal and oblique rotation were chosen for the data analysis (Field, 2009; Hair et al., 2010; Tabachnick and Fidell, 2007). Each of the factors derived from the EFA was investigated using Cronbach's alpha measure to examine consistency (Carmines and Zeller, 1979; Parasuraman et al., 1988; Schumaker and Lomax, 1996). Scales with values of 0.70 or greater are considered to have an acceptable level of reliability (de Vaus, 1996; Nunnally, 1978; Parasuraman et al., 1988). Consequently, these scales were used in the main survey questionnaire for confirmation. Table 4.14 describes the scale psychometric properties for the study.

Table 4.14: Scale psychometric properties for the research study			
Properties	Explanation	Assessment techniques	References
Unidimensionality	The existence of a single construct underlying a set of measures	Confirmatory factor analysis (CFA)	McIver and Carmines (1981); Peter and Churchill (1986)
Internal consistency reliability	Evaluates whether several items that propose to assess the same general construct produce similar scores	Cronbach's alpha Composite reliability Individual item reliability	Hair et al. (2010); Nunnally and Bernstein (1994)
Convergent validity	The extent to which independent measures of the same construct converge or are particularly related with measure of other constructs	Average variance extracted (AVE)	Fornell and Larcker (1981); Henseler et al., (2009)
Discriminant validity	The extent to which constructs diverge and are not particularly related with measure of other constructs	Fornell and Larcker criteria Cross-loadings	Chin (1998); Fornell and Larcker (1981)
Nomological validity	Investigates whether the correlations among the constructs in a measurement theory are compatible	Matrix of Constructs Correlations	Hair et al. (2010); Peter (1981); Peter and Churchill (1986)

Source: Adopted from Foroudi (2012)

4.8.3 Confirmatory factor analysis

Confirmatory factor analysis allows the researcher to verify the factor structure and test the relationship between the observed variables and their underlying constructs (Malhotra, 2007). The results derived from EFA were helpful in developing theories that led to a proposed measurement model (Malhotra, 2010). The main purpose of performing CFA was to verify and validate the measurement properties of the existing scale (Hair et al., 2014) and to investigate the unidimensionality of the scale (Steenkamp et al., 1991). CFA is also used to identify the variables which define each factor (or construct) in the measurement model, and is useful in testing the hypotheses that exist between the observed variables and their underlying constructs.

4.8.4 Structural model evaluation and research hypotheses examination

Following the reliability and validity of the scale, the relationships between the constructs was investigated using SEM. Based on the research hypotheses, the researcher tested the proposed model. First, the covariance matrix, path estimates and

t-values were investigated to see whether each approach was statistically significant. Furthermore, in order to confirm how fit the model was, the researcher used a combination of the following fit indices: chi-square statistics with df below 5 (Marsh and Hocevar; 1985); fit indices with values from 0.95 (Hu and Bentler, 1998, 1999; Hair et al., 2010); a standardised root mean residual (SRMR) with a value below 0.08 (Hu and Bentler, 1998, 1999) and the root mean square error of approximation (RMSEA) with a value below 0.10 (Browne and Cudeck, 1993).

Subsequently, the proposed model was compared with the most logical model in order to investigate the nearest likely one (Baumgartner and Homburg, 1996; Butts et al., 2009; Marsh and Hocevar; 1985). The researcher also assessed the existence of mediation by “comparing a full mediation model with a partially mediated model and a direct effects-only model” (Butts et al., 2009, p. 128). Following that, in order to assess the improvement in model fit, the chi-square (χ^2) values as well as the degree of freedom of each construct were considered the better model. However, in some instances where the difference between the chi-square (χ^2) values of the two models was not significant (the difference between χ^2 values < 3.841 ; χ^2 with one degree of freedom), the model with more degrees of freedom was regarded as the better model. Afterwards, the research hypotheses were assessed.

4.8.5 Model fit assessment

Describing how well a statistical model fits a set of observations is known as goodness-of-fit (GOF). This summarises the deviation between the observed values and the values expected under the model in question. According to Hair et al. (2014, p. 576), GOF “indicates how well the specified model reproduces the observed covariance matrix among the indicator items (i.e. the similarity of the observed and estimated covariance matrices)”. Anderson and Gerbing (1988) also emphasised that “after a measurement model has been estimated, a researcher would assess how well the specified model accounted for the data with one or more overall goodness-of-fit indices” (p. 416).

There are three types of fit indices: (1) absolute fit indices, which are “a direct measure of how well the model specified by the researcher reproduces the observed data”; (2) incremental fit indices, which “differ from absolute fit indices in that they

assess how well the estimated model fits relative to some alternative baseline model”; and (3) parsimony fit indices, which are “designed specifically to provide information about which model among a set of models is best, considering its fit relative to its complexity” (Hair et al., 2014, pp. 578-580). Absolute fit indices are identified with sample size, whereas incremental fit indices are somewhat independent of sample size (Widaman and Thompson, 2003). Initially, the researcher investigated the incremental fit indices, to estimate and classify the structural and measurement models (Hair et al., 2014). This was followed by evaluation of the incremental fit indices, which is carried out to enumerate how the specified models fit a specific null model (Hair et al., 2014).

Based on the suggestion of Hair et al. (2014, p. 630), “the rule of thumb advocates that we rely on at least one absolute fit index and one incremental fit index, in addition to the χ^2 results”. The researcher assessed eight measures of fit indices to investigate nomological validity: chi-square statistics (χ^2); (2) RMSEA; (3) normed fit index (NFI); (4) normed comparative fit index (CFI); (5) goodness-of-fit index (GFI); (6) adjusted goodness-of-fit index (AGFI); (7) incremental fit index (IFI); and (8) Tucker Lewis index (TLI). An outline of the GOF measures is presented in Table 4.15.

Table 4.15: Goodness-of-fit measures			
	Description	Type	Acceptance level in this research
Coefficient alpha (α)	Measures the internal reliability of the items in an index	Unidimensionality	Alpha > 0.70 adequate > 0.5 acceptable
Standardised regression weight (β)	The slope in the regression equation if X and Y are standardised	Unidimensionality	Beta > 0.15
Basis of goodness-of-fit			
Chi-square $\chi^2(df, p)$	Fundamental measure of differences among the observed and estimated covariance matrices Sensitive to sample size The more the implied and sample moments differ, the bigger the chi-square statistic, and the stronger the evidence against the null hypothesis	Model fit	P > 0.05 (at α equals to 0.05 level)
Absolute fit indices			
Normed chi-square (χ^2/df)	Equals the chi-square index divided by the degrees of freedom	Absolute fit and model parsimony	1.0 < χ^2/df < 3.0
Goodness-of-fit index	Expresses the overall degree of fit by comparing the squared residuals from	Absolute fit	0.9 adequate fit

(GFI)	predictions with the actual data Sensitive to sample size Values between 0 and 1		
Root mean square error of approximation residual (RMSEA)	Population discrepancy function, which implies how well the fitted model approximates per degree of freedom		< 0.05 good fit; values between 0.08 and 0.05 adequate fit
Incremental fit indices			
Normalised fit index (NFI)	Ratio of the difference in the χ^2 value for the fitted model and a null model divided by the χ^2 for the null model Sensitivity to model complexity Values between 0 and 1	Incremental fit Compare your model to baseline independence model	Above 0.8 and close to 0.9 acceptable fit
Tucker Lewis index (TLI)	Conceptually similar to NFI, but compares the normed chi-square values for the null and specified model To some degree considers model complexity Values can be lower than 0 and higher than 1 (not normed)		
Comparative fit index (CFI)	Improved version of NFI Relative insensitivity to model complexity Values between 0 and 1 (normed)		
The incremental fit index (IFI)	Similar to NFI, redefines the ideal model as a model with chi-square equal to the degrees of freedom for the given substantive model" (Widaman and Thompson, 2003, p. 19) Values can be below 0 and above 1 (not normed)		0.95 is a good model fit, .9 is an acceptable fit
Parsimonious fit indices			
Parsimony normed fit index (PNFI)	Adjusts the NFI by multiplying it by the PR. Used when comparing one model with another		Higher value compared to other model is better
Adjusted goodness-of-fit index (AGFI)	Adjusts the GFI by the ratio of the df used in the model to the total df		0.9 adequate fit

Source: Developed from Foroudi (2012); Hair et al. (2014, pp. 577-589); Widaman and Thompson (2003, p. 19)

4.8.6 Unidimensionality

The unidimensionality of a construct is the elementary step that needs to be achieved, leading to further theory testing (Steenkamp and Van Trijp, 1991). Unidimensionality highlights the traits of the constructs underlying a set of measurement items, in the form of common factors that account for correlation among observed variables (Gerbing and Anderson, 1988). Furthermore, the score for unidimensional items is affected by the loadings of items on other factors (Gerbing and Anderson, 1988). According to a number of prior researchers (Hair et al. 2014; Hattie, 1985; McDonald,

1981), unidimensionality develops when items are strongly associated with one another and represent a single construct: this denotes that multiple indicators of a construct are internally homogeneous and externally varying from other measures (Anderson and Gerbing, 1982).

Hunter et al. (1982) stated that unidimensionality was a necessary condition for the effective use of the coefficient alpha. The coefficient alpha is defined as indicating whether “a set of items is unidimensional, if their order of difficulty is the same for everyone in a population of interest” (Cronbach, 1982, p. 116). According to Hair et al. (2014), “factor analysis plays a pivotal role in making an empirical assessment of the dimensionality of a set of items by determining the number of factors and the loadings of each variable on the factor(s)” (p. 123).

4.8.7 Composite reliability assessment

Construct reliability measures the internal consistency of the indicators, illustrating the extent to which they indicate the common latent construct (Gupta et al., 2016). Some scholars (Foroudi et al., 2012; Gupta et al., 2016; Hair et al., 2014) have suggested that construct reliability, also called composite reliability, can be regulated by CFA. Composite reliability should be greater than 0.70 (Foroudi et al., 2012; Gupta et al., 2016; Hair et al., 2014). According to Gupta et al. (2016), composite reliability ensures that items assigned to the same constructs unfold a higher relationship with each other.

4.8.8 Average variance extracted assessment

Average variance extracted (AVE) is “calculated as a mean variance extracted from items loading on a construct and is a summary indicator of convergence” (Hair et al., 2014, p. 619). According to Fornell and Larcker (1981, p. 45), AVE measures “the amount of variance that is captured by the construct in relation to the amount of variance due to measurement error”. In order to establish the validity of the scale of interest, it should be either equal to or exceed 0.50, so as to reveal adequate convergence (Hair et al., 2014). Fornell and Larcker (1981) explained that, if it is “less than 0.50, the variance due to measurement error is larger than the variance captured by the construct, and the validity of the construct is questionable” (p. 46).

4.9 Scale validity

Scale validity identifies the extent to which a set of items reflect the notion being studied (De Vellis, 1991). The validity of a construct denotes the extent to which it is empirically, precisely measured by its items (Hair et al., 2014; Peter, 1981; Steenkamp and Van Trijp, 1991). Construct validity “is the extent to which a set of measured items actually reflects the theoretical latent construct these items are designed to measure” (Hair et al., 2014, p. 618). This research employed five main types of validity based on the recommendations of prior scholars (Foroudi et al., 2014; Hair et al., 2005; Homburg and Furst, 2005; Melewar and Karaosmanoglu, 2006; Netemeyer et al., 2005; Peter and Churchill, 1986; Peter, 1981). The types of validity are: (1) content validity, (2) face validity, (3) convergent validity, (4) discriminant validity, and (5) nomological validity. These are shown in Table 4.16.

Table 4.16: Types of validity assessment in this study	
Type	Definition
Content validity	The extent by which the measurement scales capture the entire meaning of the construct
Face validity	Judgement by the scientific community that the indicator really measures the construct
Convergent validity	The extent to which indicators of a specific construct converge or share a high proportion of variance in common (alike ones or similar)
Discriminant validity	The extent to which a construct is truly distinct from other constructs (different ones differ)
Nomological validity	The examination of whether the correlations between the constructs in a measurement theory make sense

Source: Foroudi (2012); Hair et al. (2014, pp. 618-620); Neuman (2014, p. 216)

In this research, content validity and face validity were established prior to the theoretical testing (Hair et al., 2014). They were examined during the qualitative phase in the second step of the scale development procedure (see Figure 4.2). Content validity addresses the question “is the full content of a definition represented in a measure?” (Neuman, 2014, p. 216), and is used to investigate the overall validity of the measures (Peter and Churchill, 1986). Face validity assesses if “the indicator really measures the construct” (Neuman, 2014, p. 216) and was adopted to explore the scales of the constructs. The items were reviewed by experts to assess their face validity and to address content validity before conducting the pilot study. To increase construct variance and decrease measurement error variance, in this study a

seven-point Likert scale was adopted for the pilot study and the main study (Churchill and Peter, 1984; O'Neil and Palmer, 2004). This research was examined in relation to unidimensionality, reliability and construct validity (Bollen, 1989; Campbell and Fiske, 1959; Gerbing and Anderson, 1992; Hair et al., 2014).

The third assessment, convergent validity, exists when the item measures representing the same construct have a high degree of variance in common or converge (Hair et al., 2014). It is represented by item reliability, composite reliability and average variance extracted (Fornell and Larcker, 1981; Foroudi, 2012). Nunnally (1978) suggested that levels of .7 or higher suggested convergent validity, and that measures with reliabilities above .85 incorporated more than a 50% error variance.

Fourthly, discriminant validity is defined as the extent “to which a construct is truly distinct from other constructs” (Hair et al., 2014, p. 619). Moreover, “discriminant validity can be assessed for two estimated constructs by constraining the estimated correlation parameter (ϕ_{ij}) between them to 1.00 and then performing a chi-square difference test on the values obtained for the constrained and unconstrained model” (Anderson and Gerbing, 1988, p. 416). According to Hair et al. (2014), “latent root should explain more of the variance in its item measures than it shares with another construct” (p. 620). Discriminant validity exists when the correlation between the two constructs is significantly lower than 1.00 (Anderson and Gerbing, 1988; Bagozzi et al., 1991; Foroudi, 2014).

Finally, nomological validity applies to the overall fit of a model and is a significant step to conclude construct validity (Bagozzi, 1980; Gerbing and Anderson, 1988; Nunnally, 1978; Steenkamp and Van Trijp, 1991). It is evaluated “by examining whether the correlations among the constructs in a measurement model make sense” (Hair et al., 2014, p. 620). The nomological validity is evaluated by the goodness-of-fit indices (Steenkamp and Van Trijp, 1991).

In summary, validity is a fundamental process of a research study, which establishes the unidimensionality of the research construct (Garver and Mentzer, 1999; Hair et al., 2014; Steenkamp and Van Trijp, 1991), reliability, convergent validity, discriminant validity and nomological validity (Hair et al., 2014; Peter, 1981; Steenkamp and Van Trijp, 1991), allowing evaluation of the structural model.

4.10 Research ethics

Ethics in research advocates the aims of the research and fosters truthful data, as well as prohibiting the fabrication of research data (Resnik, 2011). Research ethics is an essential aspect when getting involved in any research project, notably if human beings are involved, as is the case in this research. In order to meet all the standards of research ethics defined by Middlesex University, approval was sought by the researcher from the university's Research Ethics Committee (mdx.ac.uk, 2014), for both the phases of data collection (qualitative: interviews) and (quantitative: structured questionnaire). This includes the provision that the confidentiality of information supplied by research subjects and the anonymity of respondents must be respected.

Moreover, each interviewee of the first phase was informed before taking part that their participation was strictly voluntarily, and their identity and organisation would not be disclosed. They were assured that the data collected would be reported in an aggregated form and would be used for statistical purposes only, and that the interview guidelines had been approved by the Middlesex University Business School's Research Ethics Committee. In addition, each interviewee was asked to sign a participant consent letter before giving the interview, which clearly mentioned the ethical aspects.

Likewise, for the quantitative research phase, respondents were informed beforehand of the confidentiality and anonymity measures that the researcher was ethically bound to adhere to. In addition, details about the purpose and procedures of the research were explained to the respondents before the collection of the data. They were also informed that they could withdraw at any time should they decide not to be part of the study.

4.11 Summary

This chapter has addressed the philosophy and methodology chosen in this research to test the conceptual framework and hypotheses set out in Chapter 3. The research design encompassed data from three stages of data collection. The first one, the exploratory phase (in-depth interviews), provided the researcher with insights into the main area of interest and strengthened the structure of the research instrument. In the

second stage, a pilot study was performed, and the data collected was subjected to a reliability test and EFA to purify the measurement items. In the third stage of data collection, questionnaires containing the purified items were developed for the main survey and CFA was performed. After all the data had been collected, the structural model, the mediation effects and the research hypotheses were assessed. This broadened the researcher's perspective, showing how PED played an important role in improving consumers' perception of the brand performance of an organisation. The outcome of this study reveals that an organisation's PED, consumers' emotional well-being and consumers' perception of brand performance are interconnected. Next, Chapter 5 presents a detailed analysis of the qualitative and quantitative data and of results of the hypothesis testing.

CHAPTER 5: QUALITATIVE FINDINGS

5.1 Introduction

Qualitative research has been identified as a fundamental and contributing mechanism to this research, carried out prior to the quantitative research in order to acquire a critical reflection of the conceptual framework. It is the best method for little-known areas, as it helps the researcher to unfold the concept through different perspectives (Ghauri and Gronhaug, 2010). According to Brandthwaite and Patterson (2011), the holding of active conversations with experts is a valuable approach that enables the researcher to acquire practical insights (Aaker et al., 2001). This method is employed not just to obtain multiple viewpoints on the research topic, but also to discuss the empirical results with experts.

The aim of the qualitative research in this study was to explore, validate and justify the hypothesised research model with experts in the UK. The method was time consuming, but the experts' interpretations were important and rich in information (Malhotra, 2007). Qualitative research allows the researcher to get immersed in the subject, to gain knowledge in depth and to gain trustworthiness (Creswell, 2003). In this study, researcher tried to develop and explain the concept of PED within the area of research by reflecting on visual identity, communication and cultural heritage, and the impact on consumers' emotional well-being, which then influences the consumers' perception of brand performance.

In-depth interviews aid the identification process of the domain of the constructs being studied (Churchill, 1979). Furthermore, the qualitative method provides an explanation of the results and confirms the validity of the research findings (Creswell, 2003; Deshpande, 1983; Jick, 1979). According to Melewar (2001), exploratory field work with a qualitative approach allows the researcher to understand the purpose of research questions to practise, analyse missing links and generate items.

In this chapter, key results of the qualitative research are presented. Overall, the qualitative data contributed insights with regard to various aspects of PED and its

impact on consumers' emotional well-being and perception of brand performance. The qualitative study was used to gain a deep understanding of the research problem and the concepts used in the research (Malhotra and Birks, 2000), and to develop the questionnaire further for the main survey (Churchill, 1979; Creswell et al., 2003; Steckler et al., 1992). The qualitative study was conducted in the UK, and the details were presented in Chapter 4 (total of 10 expert interviews and five focus groups). The following sections will present qualitative findings and items for quantitative study which are generated from qualitative study.

5.2 Key results of qualitative research

The main objective of qualitative research is to give a more detailed comprehension of the research topic. In this study, the specific goal was therefore to evaluate how PED influences consumers' emotional well-being and increases their perception of brand performance. The participants of the qualitative study emphasised the significance of PED, in line with the existing literature. The items procured from the interviews were fairly similar to those gathered from the existing literature. However, four items were developed from the interview sessions.

In general, the participants agreed with the definitions of the concepts revealed in the literature. The features (visual identity, communication and cultural heritage) that were found to affect PED (ambience, artefacts and spatiality) were enhanced by the qualitative findings. These features improve consumers' perception of brand performance. Moreover, it was concluded that emotional well-being (sensorium, behaviour and happiness) helped to understand the influence between the two variables.

5.2.1 *Physical environment design*

Physical environment design refers to the atmosphere (Kotler, 1973), which is comprised of artistic elements that provide informational cues to customers about merchandise and service quality (Gardner and Siomkos, 1985; Hanks et al., 2017; Zeithaml, 1988), and acts as an approach to attract customers' attention (Aakhus, 2007). Due to differences in consumers' interpretations and perceptions of retail settings (Kumar, 2010), there are many facets of PED. However, the range of investigation is limited to those opinions mentioned in the literature and as shown by

the participants' responses (interviews and focus groups). The qualitative results support the definition of PED. For example, one marketing manager stated:

“Physical to me is something quite tangible, and environment is what’s all around us, and design is the process by which we can integrate things [...] so for me, physical environment design in a retail context is the sum total of ones’s experiences in an atmosphere. It’s clearly about the space in which you are, physically about the space and its numerous attractive features, like its decor, its materials, its finishes, its lighting. Also being in a store, we are not typically static [...] we shop a store, we move around, the journey we travel is an important part of that experience. How we travel around in the store is affected by what we see, what signals we pick up. For instance, perfume section in the store [...] other sorts of emotional and sensory experiences around them which are passing on talk about, but that would be the totality of the definition.” (Interviewee 4, marketing manager)

An entrepreneur described PED as an interesting atmosphere which is created to attract customers in order to evoke feelings and motivate them. A participant stated:

“I think design features create atmospheric stimuli such as optimum temperature, aromatic fragrances, soothing music [...] [This] grabs my attention not just through its representation or decor but also because of its utilitarian effects.” (Interviewee 9, entrepreneur)

The chairman of an organisation explained the notion of PED as an interior created in the atmosphere that includes several design cues and which greatly affects the perceptions of the customers. He commented:

“To me, physical environment design is a demonstration of an atmosphere in which interior design is created with various kinds of display objects which are colourful. In different areas in the retail outlet, like the example of John Lewis or Waitrose or that luxury store Liberty which is quite old but has maintained its brand name because of physical environment design, you see flexibility in the

environment of these stores. Such stores are serving a dual purpose [...] one is providing the products, well-defined branded products, and the other is that these have become like a resort for today's shoppers. Designers create very clever physical environment design to attract the crowds. Acoustics have been created to welcome the shoppers through appealing design features.” (Interviewee 10, chairman)

One retail manager described PED as the physical setting where the services provided to customers influence their behaviour, stating:

“Physical environment design is the design created in an atmosphere in which the consumers are made comfortable by providing them a meaningful experience in the environments where services are offered. [For example] using subtle, relaxing colours, adaptable furniture and smart looking equipment, maybe some flower vases with blooming flowers in them, which can make the people feel happy and positive about themselves and positive about their life.” (Interviewee 1, retail manager)

These findings are consistent with prior research (Ezeh and Harris, 2007; Kotler 1973; Turley and Milliman, 2000). Furthermore, in a previous example, the physical environment is considered as a service environment that is perceived through a combination of elements such as fragrance, lighting, music, temperature and display elements in the store's atmosphere (Baker, 1987; Bitner, 1992; Hoffman and Turley, 2002; Turley and Milliman, 2000).

5.2.1.1 Ambience

Ambience is the aura created through displays represented by number of physical installations developed to influence, intrigue and influence positive attitudes and a level of behavioural change (Bitner, 1992; Kotler 1973; Polanyi, 1958; Vada et al., 2019; Wall and Berry, 2007). The theme in retail stores can provide a lasting experience and can positively contribute to consumers' perception. A marketing expert stated that a store's ambience was part of the branding strategy to create the store's depiction in consumers' minds:

“Ambience is one of the most significant dimensions which needs to be truly expressive and evocative in the retail store. These days stores are creating ambience using design cues such as fancy lights, and visual cues such as digital signage that creates a unique experience within the environments.” (Interviewee 5, marketing manager)

Ambience is the atmosphere that is woven through abstract forms with a range of styles and interests, whose results demonstrate that the effect creates a strong impact on consumers’ experience (Babin et al., 1994; Cheng et al., 2016; Yalch and Spangenberg, 1988). Hence, the ambience of an organisation positively contributes to PED. A number of comments highlighted the significance of the ambience of an environment such as:

“Physical characteristics such as decor, lighting, paintings and plants do create an ambience which are quite real, one can feel it...but characteristics can be created through artificial elements which can be experienced without actually touching or seeing. I think ambience can be at two levels: it can be to create a look or effect, decor or effects and clean and modern facilities, reduced in colours neutral to the kind of atmosphere which affect the atmosphere of a place, which relates often to tactile things as well and what else is happening in your head at the time [...]; as well as the other level, if you like design elements in extraordinary detail while experiencing the space [...] experiencing in a kind of deeper way in your head and becoming reflective in relation to that experience.” (Interviewee 6, CEO)

“Also, ambience initiates psychological processes, how we relate to space, how we think about things displayed in the store [...] sometimes it is created in relation to our homes and our memories which are compressed in our minds.” (Interviewee 2, architect)

“In retail stores I feel exposed to too many atmospheric stimuli such as ideal lighting, ideal temperature, rhythmic music or even

pleasant fragrance that stimulates my brain and lifts my mood. All such features helps me to decide how much time I should spend in that store.” (Participant from FG 3)

Ambience gives a unique experience by creating an environment through intangible features (temperature, lighting, music and scent) which influence consumers through various emotions and feelings (Pullman and Gross, 2004; Rozin, 1982; Stevenson et al., 1999). A positive ambience is compelling for customers while a negative one leads to withdrawal (Caldwell and Hibbert, 2002). A store’s ambience is an important feature in influencing the moods and perceptions of customers. According to researchers (Gopal, 2006; Jacobs et al., 2010; Jain and Bagdare, 2009) ambience is one of the major determinants of the PED of retail stores. It makes the store more enjoyable, pleasant and attractive, which positively contributes to PED.

5.2.1.2 Artefacts

Artefacts are the tools for analysing traditional and cultural backgrounds (symbols or objects) which can be used as an inspiration for contemporary designs in creating structures (Xin et al., 2007). Artefacts in the form of signs in retail stores (Bitner, 1992; Esteky, 2017; Xiangyang and Jonathan, 2007) can create more effective infrastructure, and thus build emotional brand connections. Modernisation brings cultural transformation represented by artefacts, affecting consumers’ perceptions by providing shopping assistance (Noonan, 2003). Some of the participants supported this argument:

“I believe artefacts are the objects used to decorate the retail units, and in a way create a bond with customers. It is not necessary for an artefact to be historical or traditional. Well, it can be [...] but in the present scenario, these artefacts can be more illustrative through technology such as usage of digital signages, kiosks, TV screens, electronic displays these days, which are helpful for retailers and customers.” (Interviewee 7, communication and design manager)

“Artefacts can be components which are not only cultural but can be a lot other things, these days [...] in retail spaces to make you

transact. Necessarily at the first instance the functional requirement is in displays, shelving and counters, but there are other kinds of artefacts introduced now, to make you transact [...] In Apple stores there are the desks to play with the product [that] have created an intentional area for people to operate traditional banking space, so there the artefacts [...] are the things I suppose that enable you to do and behave in a different way.” (Interviewee 6, CEO)

The same interviewee continued:

“...another example is for the retail space of a bank, which operates not just as a traditional banking space. It has elements of artefacts that have got cash out and all that kind of stuff, but in order to engage digitally savvy young audience using things, they are putting out artefacts into a digital concept which may be screen-based that is interactive, that enables people not necessarily to make big decisions there, but to stimulate thinking and to create an awareness that the brand understands their demography. For example, what can I do with student loan/how to use this loan for my holiday package and stuff like that...” (Interviewee 6, CEO)

The same interviewee also stated:

“Doing so, the artefact is only creating a feeling around the brand in which it is located, I mean the premises. With artefacts, retail design is experimenting [with] design, [with] how far they can push customers towards different types of engagements, as these things are very closely interrelated.” (Interviewee 6, CEO)

These artefacts impart signals (explicit or implicit) as a means of communication with the customers. According to (Kaltcheva et al., 2011; Vieira, 2010; Xiangyang and Jonathan, 2007), artefacts are the artistic display cues which grab customers’ attention and makes the store more attractive. Therefore, the artefacts displayed in a store contribute positively to PED.

5.2.1.3 Spatiality

Spatiality is the configuration of physical design elements concerned with feasible locations and dimensions for a set of interrelated objects that meet all design requirements and maximise design quality in terms of design preferences (Bitner, 1992; Li, 2004; Moon et al., 2016; Khare, 2011). In retail settings, the space should be effectively utilised and explored by consumers in their journey within the stores (Han and Ryu, 2009). According to a few respondents, spatiality is the blueprint for any organisation, which one chairman explained as follows:

“I believe spatiality is very important in terms of practical issues in an environment. I mean planning of the available space and navigation through that space. Another factor I think is the positive and favourable functionality which should be prominent in the store as it very much enhances consumers’ perceptions.” (Interviewee 10, chairman)

According to Ali et al. (2016), spatiality refers to the arrangement of objects and equipment to create easy accessibility for customers in retail atmospheres. Easy and convenient spatiality is an influential factor in any retail setting, as it is a fundamental principle (Gilchrist, 1977; Lee and Kim, 2014; Moon et al., 2016). Participants made several comments on the concept of spatiality, for example:

“If you are designing a retail store and the distance between two aisles is not enough for two people to stand and look at the products, because you go to a supermarket...you look at the products, you read the information, such as nutritional value, composition of products [...], on the basis of that you make a decision whether you are going to buy that product or not [...] and then you need space, space to move around, to look around, to explore things and at the same time not blocking the passage for other customers.” (Interviewee 2, architect)

Another expert explained the significance of spatiality with regard to the environment of the retail store in a similar way:

“I think spatiality is the most important thing for any space planning. You have to understand what you are selling, what kind of things you want people to access, how you want them to access, and yeah sometimes you have various merchandise and you want the stuff to be noticed [...]. If you observe, all the expensive stuff is displayed at your eye level and all the other things probably which are less expensive are put on lower shelves. Some other necessary things you want to buy will be closer to the tills as well. In terms of spatial planning, what you need to look at is what you want to sell, what kind of movement you want to achieve, so that there is no conflict [...]. The customer traffic should be very free flowing, stuff is easy for people to find, easy movement, it should have enough space for people to stand and look at things. There should be enough space for people to circulate and enough space for other people.” (Interviewee 3, marketing manager)

Therefore, furnishings and equipment, the spatial relationships among them, and the functionality of these items adds to the advantage and positively contributes to PED.

5.2.2 Emotional well-being

As reviewed from the literature, emotional well-being is a psychological experience that can be defined as overall comfort and satisfaction (Zikmund, 2003) through which an individual revitalises, feels cheerful and delighted (Gobe, 2009; Hassenzahl et al., 2013; Pyke et al., 2016), gains sensation through perceiving the external world (Welch, 2013), and is able to develop a purchase-making pattern (Sorrento, 2012), available through multiple dimensions in the physical environment (Diener, 2009; Michaelson et al., 2009; Stiglitz et al., 2009). Considering the qualitative findings, most respondents agreed with the proposed definition. One participant in a focus group summarised it as:

“Emotional well-being is how satisfied I am, how relaxed I am. I mean it is an intrinsic thing, something that is a mental state in human beings and each one of us is actually wishing for it.”
(Participant from FG 2)

Emotional well-being enhances consumers' experiences in terms of entertainment, convenience, satisfaction, safety and social development (El Hedhli et al., 2013). An entrepreneur described emotional well-being as being somewhat like a holistic experience in the following terms:

"I believe emotional well-being is a feeling which one gets when one is completely satisfied with whatever is going around him. It can be defined at various levels such as emotional, physical, spiritual and more. It fills me with a beautiful energy. Emotional well-being is a perspective that can be attained when the environment around gives positive energy. A better place or an environment which makes me feel emotionally better" (Interviewee 9, entrepreneur)

According to one consumers who took part in the focus groups, emotional well-being is a psychological concept:

"As a consumer I keep looking for alternatives which give me relaxation and create holistic balance to my lifestyle. When my physical, mental, spiritual, all levels are satisfied completely that is probably emotional well-being. I think we can say that it is complete satisfaction to my head and heart." (Participant from FG 4)

The same interviewee extended his remarks for emotional well-being, stating:

"The starting point for improving the emotional well-being of consumers is to understand how the spaces are emotionally affecting them. Are the places able to give them some kind of a pleasure or not... is it making them happy or not?" (Participant from FG 4)

Such experiences provide ease and relief that have a pleasant effect on satisfaction and emotional well-being (Melamed et al., 1995). Therefore, experiences gained from various factors of PED provide emotional and cognitive hedonism, positively contributing to consumers' emotional well-being.

5.2.2.1 Sensorium

Sensorium refers to the sensory organs as a whole, which are responsible for receiving and integrating sensations from the outside world (Welch, 2013). Participants of the focus groups provided numerous comments on PED and its effects on consumers' senses. On the basis of their understanding they gave the following explanations:

"Indeed, the physical environment design very much affects consumers' sense organs, when they touch and feel the texture of the fabric before purchasing, the pleasant smell of fragrances can be felt in the cosmetic section of the stores [...]. Consumers enjoy it when they hear music, and many such effects are created to affect the sense organs of the consumers, which engages them in the activity of purchasing. So it is quite evident that such atmospheric stimuli are perceived and recognised by the consumers' sensorium." (Participant from FG 1)

"It is the sum total of how we sense things through hearing, seeing, smell, taste, feel [...] all of those things make up the sensorium. My understanding about the sensorium in the context of design is to what extent we want to address those senses in creating a space." (Participant from FG 3)

A few other opinions on the sensorium also focused on how events in the environment affected consumers' perceptions and were experienced through their senses, for example:

"[...] as human beings we have all our senses, but typically we are alive to all of the things happening around us. Primarily those things are individual [...]. I walked into quite a new Waitrose supermarket at the weekend, not a big one, a small one, and then I noticed a little coffee area, so your first impression as you walk in, two impressions, really [...]: one is the atmosphere is very cool, you know the ambience, the temperature is quite low because of keeping the products fresh; and the other is the olfactory thing [...], the smell of a coffee. As I was walking around I felt to some extent I

suddenly felt hungry. I was kind of being slightly pre-conditioned to the ambience. It did affect my sensorium [...] You know our senses get very different messages going on there...but something more welcoming and affecting your sensory perception of smell of coffee and coldness which I felt.” (Interviewee 6, CEO)

“For me, sensorium means the senses that connect you to that place. It could be smell, like the fragrance of fresh flowers, or the perfume section in a retail store [...] The next thing is the visual expression, décor and cleanliness which all can be seen; the sound, music or unnecessary noise which is audible; the taste which we get when we eat food in luxurious restaurant or in an ordinary restaurant. There is a difference because of the physical environment design, or decor which gives a complete feeling to one’s sensorium. Even touch, you know. When I was able to feel the texture of the surface of the table on which my favourite food was served, I was almost 100% connected through all my senses.” (Interviewee 4, marketing professor)

“All the human senses are developed in such a manner as to take in information [...], comprehend and engage in a thought process in a spur of moment [...], whether it be visual, audio, olfactory, taste or feel. All these sense organs are so well trained [...]. Each sense organ I guess is developed to associate with particular feeling, eyes with colours and shapes, ears with sound and nose with smell.” (Interviewee 6, CEO)

“A retail organisation is considered as a set of stimuli to make unique physical environment design. The sensorium very well recognises the different stimulus available in retail organisations which can lead to consumers’ intended reactions. Attributes which appeal to one or more human senses significantly affect consumers’ emotional well-being. It can make them feel joyful and give them relaxation [...], maybe through listening to music, smelling pleasant

scents, feeling distinct aromas and so on.” (Interviewee 10, chairman)

As a number of prior studies have indicated (Bahrack and Lickliter, 2000; Hulten et al., 2009; Krishna, 2010; Schifferstein and Spence, 2007, Spence, 2002; Stein and Meredith, 1993), PED can increase the attraction of a store by creating sensations, thereby providing consumers with a rich and supreme sensory experience. The human sensorium informs us how design concepts and practices of sensory experiences evoke positive response in consumers’ emotional well-being.

5.2.2.2 Behaviour

Behaviour is a critical component that creates harmony and balance through interior design, allowing consumers to be comfortable in an environment (Sorrento, 2012). Consumers respond “better” to fascinating PED, and it affects their behaviour. One interviewee summarised this as follows:

“Behaviour makes a person decide whether to stay in a place or leave it. Behaviour also causes an effect on the mind of a person, which indirectly means a contribution to emotional well-being as well. Intentional activities can be stimulated by physical environment design, thus helping consumers to react accordingly in the retail organisations. Physical environment design make several connections that way.” (Interviewee 2, architect)

“I must say that if all that affects your senses, then you might change your mind, you might change your mood, you might react differently to the different environments.” (Interviewee 10, chairman)

“Behaviour is the attitude or conduct of people towards the characteristics of a retail environment. It could be length of stay, approach or avoidance towards the brand. Behaviour [...] mostly is gender specific, women behave differently when they visit a retail showroom. Men tend to behave towards a purposeful shopping [...] but it is different with women.” (Interviewee 2, marketing professor)

The PED of an organisation positively contributes to the behaviour of the consumer. According to Lindberg et al. (2019), PED influences consumers' behaviour and reactions, and affects their responsiveness to different spaces. In addition, the behaviour of consumers reformulates their experiences (Schechner, 2002) and thus meaningfully contributes to their emotional well-being.

5.2.2.3 Happiness

Happiness is defined as the experience of joy, contentment, or positive emotional well-being, combined with a sense that one's life is good, meaningful and worthwhile (Hassenzahl et al., 2013). The PED of an organisation positively contributes to the happiness of the consumer. Some of the interviewees clearly emphasised this linkage as follows:

“How people experience physical environment design is really important. It is the fundamental right of the customer to seek pleasure while shopping. This is a kind of retail therapy for them [...]. Happiness and emotional well-being should be one of the most important concerns for consumers who are involved in shopping. Happiness is the most important constituent of consumers' response, such as music played in the store, lighting [that] can enhance joy. Happiness can provide the complete feeling of satisfaction, complete emotional well-being.” (Interviewee 1, retail manager)

“I think it is about positive emotions, enjoyment. All these things are related to physical environment design. Something that makes you smile, which brings satisfaction in you. When you are happy you show it through your body language”. (Interviewee 9, entrepreneur)

“Happiness is when I am free from any pain or grief [...] I am in a deep satisfaction, inner peace of mind. It is how you train your mind. In the context of physical environment design, happiness can be a feel-good factor. Like if I have gone to the store, say Liberty for example, a six-floor big store with special unique features [that] may be lighting, thermal setting in the venue [...]. All that stuff you

know to create comfort for the customers will provide happiness to a certain extent [...]. But yes, if I get a product of my choice at an unexpectedly reasonable price, I would be more than happy."

(Interviewee 6, CEO)

The sensorium incorporates the miscellaneous elements of PED that shape a holistic experience, providing happiness (Borgmann, 2000), and promote skills to foster emotional well-being (Ingold, 2000). In addition, this experience helps consumers to better appreciate the atmosphere and make them feel relaxed, which also means that PED performs beyond its functional role.

Emotional well-being

According to Barkworth (2014), consumers desire to have more interactive experiences in the retail industry, which are drastically evolving from traditional to digital settings. PED is about how consumers experience a space?; How they can indulge in such experiences is the most important concept (Heerwagen and Heerwagen, 2007). Emotional well-being is a multidisciplinary concept, considered not only from the marketing point of view, but also from the psychology and social development perspectives as well. Respondents offered multiple views about it.

Based on previous studies, emotional well-being is a multi-scale concept that comprises dimensions such as happiness, pleasure and satisfaction (Diener and Lucas, 1999; Easterlin, 2003; Helmefalk and Hulten, 2017), and which helps the consumers to establish more positive associations with the physical environment. Consumers perceive easily what is important to their happiness and emotional well-being (Diener and Suh, 1999), and what helps them to lift their mood and feelings (Cervinka et al., 2012).

The findings suggest that the participants support the definition of emotional well-being; thus it can be considered that the proposed definition is consistent with the qualitative findings. These interpretations of emotional well-being clearly suggest that it can be considered as a meaningful experience of happiness, contentment, combined with a sense that one's life is worthwhile (Hassenzahl et al., 2013), that influences behavioural responses. Some participants expressed in the following way:

“Ambience, portraying of information in the right manner, anything that relates to a consumer to help him make a decision that will satisfy him or help him to be content, making a final decision, should create a happy atmosphere which will lead to his emotional well-being.” (Interviewee 7, communication and design manager)

“If I am shopping in the store, I feel happy. If I feel fun, newness, excitement [...], something which adds to my shopping experience, then you try to shop happily in the store. [...] I think happiness is more something that comes from inside. It is nothing that you see the store and you get happy. Well, sometimes it does. But if your inside is not happy, then of course the outside stuff, they won't add on. I think emotional well-being, if it is something related to the store, it is satisfaction, happiness, fun, enjoyment.” (Interviewee 1, retail manager)

The focus group participants (who were representing consumers) supported this argument with the comments below:

“Emotional well-being on one level is, and perhaps at a more rational level is that [...] you have got a fair deal, you spend some money, hard earned money, and did you get any value for money? So, the response of that it is terribly important, I mean not just a soft and fluffy side of it, emotional, responsible. I think people generally want honesty and transparency on their shopping deals. People pay a fair price for a good product. This is fundamental. [...] Now if you don't come out having done that, you are going to come out unhappy. It's about money in exchange for products. It's very transactional. The truth is that it can be emotionally difficult [...] if it goes wrong.” (Participant from FG 2)

PED can become a support system that can enhance the emotional well-being of consumers. It creates a bond of trust and faith among them. Some of the experts mentioned in their comments that:

“Yeah, happiness affects emotional well-being because it’s my primary thing. Many shoppers have been visiting our store for ages, and when they say that if I can’t be satisfied here, I can’t be satisfied anywhere else [...], that now makes me realise how the environment makes them feel happy anywhere. I think happiness embodies values through being positive in their interaction, and sympathetic and kind to all. The environment directly is involved with people. The best idea is calming them down.” (Interviewee 6, CEO)

“Absolutely, happiness has a bigger impact on emotional well-being. Your surroundings can make you happy, you are satisfied, you are relaxed. [...] It will affect my emotional well-being as well as the emotional well-being of people around me. That will make the entire place happy and cheerful. Everyone would be delightful and feel content. Straight away it affects my mood. Design in little things brings joy which affects our mental values.” (Interviewee 4, marketing professor)

“The goodwill of a brand will always remain in the hands of a consumer. It is a consumer who can make a brand [...] a hit or flop. So, it is the sheer responsibility of brand owners and retailers to pay attention towards the consumers’ benefits, and I suppose human emotional well-being is one of them. I think this aspect of emotional well-being should be focused with the help of branding experts and design experts. In this world of bright and breezy fashion, consumers’ emotional well-being shouldn’t be neglected [...] and I think the physical environment design of the retail organisation can support the emotional well-being of the consumers.” (Interviewee 3, retail manager)

Henceforth, PED deserves greater concern from the retailing community to enhance consumers’ emotional well-being, so as to achieve greater brand performance.

5.2.3 Physical environment design and its antecedents

Physical environment design is a significant concept in the retail setting. Factors that determine it are visual identity, communication and cultural heritage. All these factors contribute positively to the PED of an organisation (Charters, 2006; Chebat and Morrin, 2007; Dennis et al., 2014; Khan, 2009; Mangini, 2002), which in turn affect brand performance (Keller, 2010; So et al., 2016). As mentioned in the literature review (see Chapter 2), many marketing scholars (Abratt, 1989; Balmer and Gray, 2000; Bartholme and Melewar, 2011; Melewar and Saunders, 1998, 1999, 2000; Foroudi et al., 2014, 2016; Van den Bosch et al., 2006) have emphasised visual identity through symbols, logos, colour and design as the components that contribute to the overall view of a retail environment and make it more appealing (Munajjed and Sulaiman, 2015). The next section discusses the factors that impact PED, according to the qualitative results.

5.2.3.1 Visual identity

Corporate visual identity is an assembly of visual cues by which people can recognise the company and distinguish it from others (Abratt, 1989; Foroudi et al., 2014, 2016; Melewar, 2003; Melewar and Saunders, 1998, 1999). Some interviewees mentioned in their remarks that:

“Visual means that which can be identified easily because it is distinguishable from the rest of the companies, like company name, company title, logo, symbol and many things which are related to the company.” (Interviewee 1, retail manager)

“Visual identity are the expressions, visual expressions, which are the primary expressions of identity with a design or colour combinations in a logo or a signage to enhance the value of the particular brand. These visual expressions are an integral part of successful retail brand strategies. Visual identity is the unique feature of any retail organisation. Brand name, taglines, signages, symbols and logos are the identification elements purposely created for the visual perceptions of shoppers. The visual identity is quite often noticed in the retail environments of several outlets such as Body Shop, John Lewis, Starbucks, Harrods, Ikea, and many more

[...] in the context of their stores' image.” (Interviewee 3, retail manager)

“Visual elements in the visual clues possess vibrant colours and some distinguished catchy expression for easy recognition, for the people to create a sort of connection with their minds.” (Participant from FG 3)

“Visual identity through its novel features contributes to the stimulation. Visual identity creates a diorama in an innovatively structured retail setting. It certainly enriches physical environment design.” (Interviewee 4, marketing professor)

Visual identity is the basic element to start the concept of environment designing. It significantly contributes to PED, which in turn enhances consumers' emotional well-being. One of the retail managers supported this argument as follows:

“The visual identity of an organisation positively contributes to the physical environment design, both physically and psychologically. Visual cues in retail settings stimulate consumers' senses and tangibly engage consumers with physical environment design. At times visual identity elements offer thoughtful solutions to the people, who maybe are colour conscious or brand conscious, and such an infrastructure associates the consumers with that particular brand/retail organisation, which actually satisfies their requirements. [...] Visual identity executes design in smart ways to enhance consumers' emotional well-being.” (Interviewee 1, retail manager)

5.2.3.2 Communication

Communication means conveying a message effectively through various design elements, which induces different moods, impacts on consumers' perceptions and behaviour, and helps organisations position or differentiate themselves from competitors (Aslam, 2006; Casidy et al., 2018; Tavassoli, 2001). Communication through elements of an organisation positively contributes to PED. Some of the

interviewees' remarks about communication in the context of the PED of retail stores are as follows:

“Any retail organisation is meaningless if it does not communicate with its shoppers. Communication means a process in which information is conveyed through sound, symbol or maybe reading material such as brochures, leaflets to its shoppers.” (Interviewee 3, retail manager)

“Communication is the key factor in retail settings where brands or products tell their story and engage customers in a compelling way. Customers gain visual experiences through communication, motivating as well as informing and involving them with a brand or product. A simple message is passed on through intense communication channels of visual expressions.” (Interviewee 4, marketing professor)

“Be it a traditional print-based communication through a brochure, or be it through a website or mobile apps or text messages on a phone [...], all communication tools deliver effective information to consumers. It brings clarity to the consumers. I must say that all business owners, no matter how big or small, need to be thankful to social media which has given them numerous ways to reach their target consumers. And from the consumers' point of view, consumers feel informed and feel personalised when they are approached.” (Interviewee 10, chairman)

Clear and consistent communication in retail stores does not just give the right direction for the brand to proceed, but also contributes to consumers' emotional well-being. This statement was supported by a marketing manager as follows:

“Store communication through such mediums can influence the emotional well-being of consumers by stimulating their senses. [For example] signage, specifically if it is digital, can enhance emotional well-being. In a practical sense, communication can be motivational for

people. It has a direct effect on consumers' emotional well-being."

(Interviewee 5, marketing manager)

5.2.3.3 Cultural heritage

Cultural heritage is a medium for cultural identity and cross cultural communication, an edifying destination for visitors, and a focus for traditional enrichment through structures and artefacts (Neill, 2005), which helps in the development of cultural infrastructure and the promotion of businesses (Evans, 2009; Jayne, 2005; Matthews et al., 2014). This was emphasised by some of the focus group participants:

"Cultural heritage means culture. I would say cultural heritage tells you everything, where the culture has come from. So, when you see Selfridges, it means they have 150 years of history, when there were not many stores, when women were not allowed to go and shop in the store, when only the posh, high-class people used to go and buy from the store. Also, when you see Harrods, the cultural heritage tells you the firm, the corporation has come somewhere from a Middle Eastern country, and has something to do with Egypt. Because when you see pharaohs [...] it means Egypt, and that pharaoh also means it goes back to 3,000 [or] 4,000 years ago, which means something is very old, and when something which is very old in the market, it means it is very credible. You know what it means is that they are existing in the market, you can trust them, you can rely on them." (Interviewee 9, visual head of merchandising)

"In my opinion, cultural heritage is tradition which can bring authenticity or genuine features of a particular place and stimulate the environment." (Participant from FG 4)

"I think cultural heritage brings warmth to the physical environment design like one feels connected to his family tree. Intangible cultural heritage can certainly enrich the design concept of stores in the face of growing globalisation, and tangible cultural heritage through traditional crafts and sculptures can give living

expression to the design concept of the stores.” (Participant from FG 5)

The cultural heritage chosen by an organisation positively contributes to the identity and integration of new concepts in the PED. An organisation’s PED that values culture or heritage positively contributes to the emotional well-being of the consumer. While discussing cultural heritage, the following remarks from interviewees provided deeper insight to the researcher:

“I believe cultural heritage adds a distinctive flavour to the design concept which can provide additional dimension to the physical environment design. Cultural features can collaborate with design concepts such as in furniture, accessories, decorative painting in the preservation of heritage. This can help in contributing to the knowledge and understanding of cultural heritage through physical environment design and provide an emotional experience to customers. I think this concept can keep the cultural heritage alive [through] restoration and conservation, the entire physical environment design. Consequently, the cultural level [...] visualises digital images of historical buildings. The cultural heritage concept can give a new vision to consumers, specially younger generations, as it can impart layers of information and can enable living experiences with relevance. Cultural heritage can be a source of recreation, and culture itself has emotional effects due to consumers’ perceptions. [...] Memories of the past can be brought alive.” (Interviewee 5, marketing manager)

“I think cultural heritage can help in accomplishing great physical environment designs. We are in a tremendously transformative period and young generations can be easily enabled through heritage, I mean cultural heritage. [...] Any retail organisation can be intentionally designed with ideal structures creating a historically interesting, a whole different platform for the shoppers and providing a vibrant, emotional message. Cultural heritage can

bring enthusiasm amongst buyers and people feel respected and valued.” (Interviewee 4, marketing professor)

5.2.4 Physical environment design, emotional well-being and consumers’ perception towards brand performance

As PED is the complete phenomenon of distinctive experiences that attract, engage and retain customers and enhance their emotional well-being, it cumulatively stimulates consumers’ perception of brand performance, which is the desired outcome of any retail organisation. A few respondents defined consumers’ perception of brand performance, using words like “success” (Interviewee 6, CEO), “repetition” (Participant from FG 1) and “long-term value.” (Interviewee 3, Retail manager). Some of the interviewees and focus group participants gave the following insights:

“This interpretation strongly emphasises physical environment design. I must say that it dictates the brand, and then comes the successful event of the brand, which is actually the consumers’ perception of brand performance.” (Interviewee 6, CEO)

“If a brand is well-known among the people and they are asking for its repetition [...], that means a brand is a big hit.” (Participant from FG 3)

“I think very much. If I am satisfied with the brand...with the store’s presentation [...] it does, I mean if I am happy, that means I am satisfied with the brand, I am loyal [...] I will come back again.” (Interviewee 1, retail manager)

“I think it provides long-term value for retail organisations. Customers react positively to the brand and their emotional well-being should be an asset for the marketers. It should go hand in hand. I think that rational and emotional appeals combine to create the consumers’ emotional well-being which affects consumers’ perception of brand performance.” (Interviewee 3, retail manager)

Consequently, consumer perception of the retail store in promoting emotional well-being through the PED of retail organisations.

5.2.4.1 Consumer's perception towards brand performance

Consumer's perception towards brand performance is the product-related influence on customer's experiences and decisions (Han and Sung, 2008), with the brand as a known identity (Cohen, 2011), communicating from company to customers (Nguyen, 2012), representing the positioning of the brand (Johnstone and Conroy, 2008; Khan, 2009; Molinillo et al., 2018) and having a positive effect on the profitability of the organisation (Keller, 2003; Melewar and Saunders, 2000; Olins, 1989), and creating a mutual and beneficial relationship between company and customers (Nguyen et al., 2016). The following statements made by one interviewee clearly justify the real consequence of PED, which is consumers' perception of brand performance.

“Brand is really very significant. To maintain a brand's consistency is the key foundation for its success. I named so many brands in our discussion because I am familiar with them... all of these brands have performed well in the market.” (Interviewee 6, CEO)

The degree of consumers' emotional well-being positively contributes to consumers' perception of the brand performance of an organisation. As one of the interviewee stated:

“If the environment has a better direction of airflow, full-spectrum lighting, accurate ventilation system, proper cleaning and maintenance, appropriate humidity level, supportive designs, improved artificial lighting, improved layout can help to reduce stress, improve sleep, reduce pain and drugs, and improve other health outcomes. In other words that atmosphere makes me feel happy or I perceive it on a happy note” (Interviewee 1, retail manager)

“Feedback from customers [...] I mean positive feedback, can make the brand successful.” (Participant from FG 2)

“I believe the foundation of any brand depends upon the brand planning, planning with regard to the target customers, and a promise which needs to be fulfilled for them. To establish a business in today’s world, it is very important to project an image that creates interest to potential customers and their emotional well-being. A brand has to create a positive impression for the customers so that they achieve positive emotional well-being, and vice versa.” (Interviewee 4, marketing professor)

“Physical environment design creates a sense of continuing narrative about how the world sees your brand. It’s an ongoing perception. Every day probably, millions of feedback comments are written on social media. So, all of that is affecting the brand performance. It will do [...] so if people care about what you do. These days you are very open to comments and feedback, and those will influence the reputation and performance of a brand, and ultimately things like share price, willingness of people to join the company’s employees, reputation amongst investors, reputation with suppliers, etc., and will be affected by consumers’ reactions and feedback, and increasingly the word goes on. We all have global conversations with each other. [...] The more this happens, the more influence that’s going to help the brand. A brand can achieve a success level through consumers’ emotional well-being. The basis of your topic is consumer satisfaction and brand, they go hand in hand.” (Interviewee 6, CEO)

Therefore, consumers’ perception towards brand performance is the most significant achievement of PED, according to the literature and the focus group participants. Consumers’ perception of brand performance is the outcome variable. Thus, PED can influence consumers’ perception towards the brand performance of the retail organisation, which can be achieved by focusing first on consumers’ emotional well-being.

5.3 Summary

This chapter has reflected on the remarks made by the participants who took part in the interviews and focus groups for this study. Their explanations have offered a deep understanding of the concepts of interest by addressing the research questions: (1) What is the role of visual identity, communication and cultural heritage in enhancing physical environment design?; (2) What is the contribution of ambience, artefacts and spatiality to emotional well-being?; and (3) How can physical environment design enrich consumers' emotional well-being and enhance their perception of brand performance?

The initial aim of the qualitative study was to verify the research concept in accordance with the extant literature. Due to the positive reactions of the experts, the interviews revealed that the qualitative findings showed homogeneity with the proposed hypotheses. Furthermore, the qualitative results, supported by the literature review, contributed to the revised conceptual framework that was examined during the quantitative phase. The next chapter will analyse the main survey and interpret the research findings.

CHAPTER 6: DATA ANALYSIS

6.1 Introduction

This chapter discusses and analyses the data obtained, and reflects on the research findings of the main survey. It explains the technique used for administration of the research instrument (questionnaire), and outlines the data examination overview. The purpose of the questionnaire was to seek answers to the questions raised by this study, and also to collect the demographic information of the consumers. In order to achieve the research objectives and evaluate the research results, the data was pre-processed for quantitatively testing the propositions derived from the conceptual framework.

The steps of preparing, editing, coding and screening the data are also explained in this chapter. In addition, explanations of normality, linearity, multicollinearity and outliers of the data collected are presented, along with the consideration of non-response bias. Based on the suggestion from Jarvis et al. (2003), a measurement model was established using both observed and unobserved variables. Reliability coefficient and test-retest methodology were then used to establish the reliability of the results (Tucker and Lewis, 1973). The validity of this research was corroborated by evaluating content validity, convergent validity, discriminant validity and nomological validity (Shephard, 1993). Criterion-related validity is relevant when scales are adopted from other research. The researcher developed the scales on the basis of the qualitative data collected after the academic review. Therefore, it was concluded that testing for criterion-related validity was not required for this research (Gray-Toft and Anderson, 1981). Predictive validity is applicable when data is assembled individually for independent variables. This research has used one research instrument simultaneously for all the variables under investigation. Thus, it was essential to test the predictive validity of this research (Gray-Toft and Anderson, 1981).

It is vital for any research to understand the latent variables enclosed in the data using factor analysis, both exploratory and confirmatory. EFA is directed by data obtained on the basis of the correlation matrix of observed variables which correlate with every

factor based on a rotation method to highlight patterns in the data (Brown, 2006). EFA scores are dependent on loadings of observed variables on the factors (Gray-Toft and Anderson, 1981). CFA, meanwhile, is based on the variables defined by the researcher and applied to the variance and covariance matrix of unstandardised variables (Gray-Toft and Anderson, 1981). Moreover, CFA emphasises the factors that account for variation and covariation between constructs and their items (Bentler, 1980). In the later stages, the results were reassessed using CFA, which helps discover errors in the model and tests goodness-of-fit of the data. The results of the EFA and CFA are specified in this chapter.

Following that there is an explanation of the SEM technique that was employed to test the hypotheses as illustrated in the conceptual framework, and to evaluate the overall goodness-of-fit between the proposed theoretical model and the collected data. Finally, the chapter's concluding remarks are presented in the summary.

6.2 Main survey

Research studies in marketing and social sciences are based on survey questionnaires (Sekaran, 2003). The main research survey was distributed face-to-face to obtain data for further scale purification and hypothesis testing. The data was collected from the consumers of well-known retail stores such as Harrods, Liberty, John Lewis, Selfridges, Debenhams in London, UK. The demographic characteristics of respondents, such as age, gender, job status, education level and personal experience of a store were asked in the questionnaire. These are illustrated in Table 6.1, and show that the majority of the respondents 57.3% were female, and 42.7% were male. The results also show that a high percentage 70.2% of the respondents had a master's degree or above, and 29.8% were undergraduates, while 12.3 % of the respondents were professionals. In order to analyse the respondents' familiarity with retail organisations, they were asked about their store visiting patterns. 88.6% of the respondents stated that they were familiar with retail stores such as Harrods, Liberty, John Lewis, Selfridges, Debenhams, and had visit such stores a few times within the past year or within six months.

Table 6.1: Demographic profile of the consumers (N=503)		
Demographic information	N	%
Age group (years)		
Below 30	107	21.3
30 to 39	152	30.2
40 to 49	116	23.1
50 to 59	117	23.2
60 or over	11	2.2
Total	503	100
Gender		
Male	215	42.7
Female	288	57.3
Total	503	100
Education		
High school	-	-
Undergraduate	150	29.8
Postgraduate and above	353	70.2
Total	503	100
Occupation		
Top executive or manager	5	0.9
Senior manager	1	0.2
Sales associate	8	1.6
Office/clerical staff	16	3.2
Store employee	14	2.8
Professional (not management)	62	12.3
Civil Servant	85	16.9
Student	208	41.4
Housewife	88	17.5
Retired	16	3.2
Total	503	100

Source: The researcher

6.2.1 Data evaluation

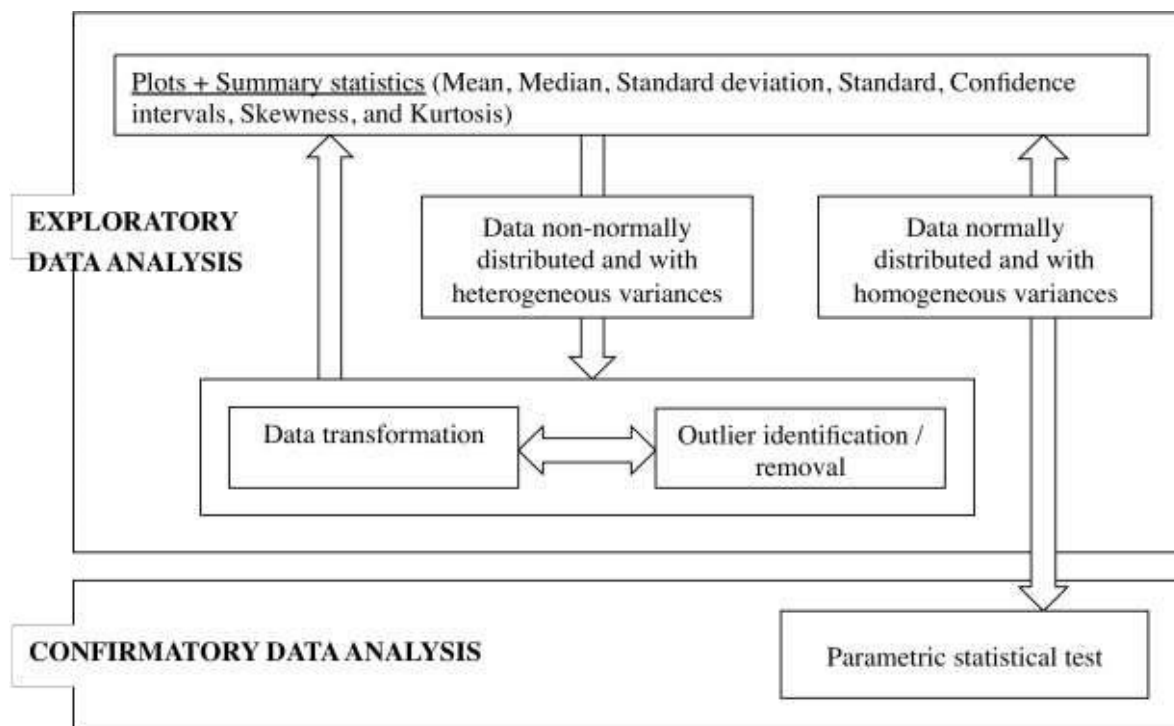
To initiate the data evaluation it is essential to conduct multivariate data analysis. Prior researchers (Foroudi et al., 2012; Hair et al., 2014; Tabachnick and Fidell, 2007) have explained that data evaluation ensures the data meets all the requirements to accomplish multivariate data analysis and to acquire profound information about the data. According to Hair et al. (2014), “data examination is a time consuming, but necessary, initial step in any analysis that researchers often overlook” (p. 3).

6.2.1.1 Data coding and editing

In order to ensure the consistency and entirety of the data, data editing was undertaken after collection. The researcher obtained some missing values which are considered to be missing data. In line with the recommendation of prior scholars (Hair et al., 2014; de Vaus, 1996; Tabachnick and Fidell, 2007), the acquired data was investigated and all items were coded and inserted in an SPSS data sheet. The researcher then conducted data editing to ensure the coding process was accurate. Furthermore, the value was verified again in case any out-of-range values existed.

Valid and precise data is essential for analysing the participants' responses. In order to obtain data entry accuracy, the data was examined using the SPSS package. According to Tabachnick and Fidell (2007), pre-analysis of the data ensures that the main analysis is ethical, which will help to achieve valid and reliable conclusions: this research follows their data examination procedures to explain the parametric data analysis using SPSS (shown in Figure 6.1).

Figure 6.1: Suggested method for parametric data analysis



Source: Outlined by Tabachnick and Fidell (2007)

To examine the fit of the sample data, a number of important statistical assumptions should be met prior to the multivariate analysis. Hair et al. (2014) noted that “because our analyses involve the use of a sample and not the population, we must be concerned with meeting the assumptions of the statistical inference process that is foundation for all multivariate statistical techniques” (p. 87). In order to ensure that the assumptions were measured before the multivariate analysis, this study conducted missing data analysis as the initial measurement (mentioned in Section 6.3). Later, examinations were conducted of the effects of extreme values (outlier analysis), normality analysis, homoscedasticity assessment, linearity and multicollinearity examination, non-response bias and common method variance bias, as presented in the subsequent sections.

6.3 Missing data analysis

It was observed that some of the respondents were not very keen to fill in the questionnaire completely, and hence 258 questionnaires had missing values. These questionnaires were discarded. After excluding the deficient questionnaires, 503 were available for analysis. The researcher proceeded with testing the research instrument using the data obtained. According to Hair et al. (2014), missing data can affect the results drastically. Furthermore, the missing data can be of two types: (1) “known” missing data, i.e. those that the researcher is aware of when the respondents are not fully completing the questionnaire; and (2) “unknown” missing data, which refers to situations when the respondents decline to fill in the questionnaire.

Previous studies (Hair et al., 2006; 2014; Field, 2009; Tabachnick and Fidell, 2007) have suggested that if a respondent misses out some data, this may not be essential, and the researcher must continue to the next level and determine the extent of the missing data. Hair et al. (2014) mentioned three types of cases: (1) missing at random (MAR), (non-random) which represents situations where “missing values of Y depend on X, but not on Y”; (2) missing completely at random (MCAR) (random), which covers cases where the “observed values of Y are truly a random sample of all Y values, with no underlying process that lends bias to the observed data”; and (3) “ignorable missing data, meaning that specific remedies for missing data are inherent in the technique used” (pp. 42-47).

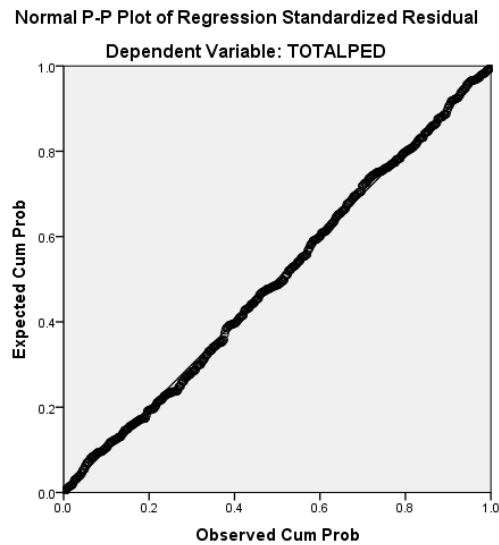
In order to establish the extent and patterns of the missing data, this research used the expectation-maximisation (EM) technique, as it yields the most precise estimations (Hair et al., 2014). The statistical analysis of data (using SPSS) is adopted to conduct the EM technique. The missing data analysis (shown in Appendix 6.1) illustrated that there was no missing data at any level. Therefore, it was not necessary to examine the patterns, and the research instrument was generally well understood by the respondents.

6.4 Assessment of normality, outliers, linearity and multicollinearity

6.4.1 Testing the normality assumption

Normality is one of the most significant statistical assumptions in the multivariate analysis (Hair et al., 2014). It can be defined as “the shape of the data distribution for an individual metric variable and its correspondence to the normal distribution, the benchmark for statistical methods” (Hair et al., 2014, p. 69). In addition, the use of both graphical plots and statistical tests to test for normality is beneficial (Hair et al., 2014). Therefore, both graphical (normal probability plot) and statistical (Kolmogorov-Smirnov and Shapiro-Walk) techniques were adopted to test for normality. The normal probability plot is a visual graphical technique to test normality. The normal probability plot (quantile-quantile plot) is easy to test for normality than various other techniques (Norusis, 1999). Furthermore, visual evaluation of normal probability plots is more appropriate for larger sample sizes (Hair et al., 2014). Analysis of the normal probability plots (P-P plot of the regression standardised residual) suggested that the data had no major deviations from the straight line (as shown in Figure 6.2 and Appendix 6.2). The normal probability plots illustrated that the data was a sample from a normal distribution, and the observed value and values were as anticipated.

Figure 6.2: Multivariate normal P-P plot of regression standardised residual



According to Field (2009), the Kolmogorov-Smirnov (K-S) and Shapiro-Wilk tests are non-parametric tests of equality of one-dimensional probability distributions that are used to evaluate and compare the scores of the samples (one-sample K-S test and two-sample K-S test). The tests were used as “each calculates the level of significance for the differences from a normal distribution” (Hair et al., 2014, p. 71). In the current study, the statistics were determined at each item level (shown in Appendix 6.3), as well as at each construct level (see Table 6.2). The score indicates that the assumption of these tests was not justifiable at any of the levels (item or construct). The vulnerability of the test is conventional in a large sample (Pallant, 2007).

Table 6.2: Test of normality						
	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
VITOTAL	.155	503	.000	.896	503	.000
CTOTAL	.159	503	.000	.843	503	.000
CHTOTAL	.202	503	.000	.860	503	.000
PEDTOTAL	.260	503	.000	.729	503	.000
AMTOTAL	.265	503	.000	.759	503	.000
ALTOTAL	.188	503	.000	.811	503	.000
ATTOTAL	.234	503	.000	.856	503	.000
AATOTAL	.204	503	.000	.821	503	.000

ASTOTAL	.210	503	.000	.767	503	.000
ARTOTAL	.184	503	.000	.882	503	.000
SLTOTAL	.180	503	.000	.889	503	.000
SFTOTAL	.232	503	.000	.780	503	.000
SCTOTAL	.297	503	.000	.823	503	.000
EWBTOTAL	.267	503	.000	.691	503	.000
STOTAL	.269	503	.000	.646	503	.000
BTOTAL	.238	503	.000	.723	503	.000
HTOTAL	.248	503	.000	.723	503	.000
BPTOTAL	.202	503	.000	.708	503	.000

A Lilliefors significance correction

An alternative method used is the Jarque-Bera (skewness and kurtosis) test, which is a main component of normality. Data that reflects a normal distribution to perfection has a skewness and kurtosis value of 0 (Hair et al., 2014). However, variations of the skewness and kurtosis from zero are agreeable if they are within the normal range (i.e. $< \pm 3$) (Hair et al., 2014). Skewness is a pattern of the asymmetry of the probability distribution of a real-valued random variable. According to Tabachnick and Fidell (2007), a skewed variable is a variable whose mean is not in the centre of the distribution. In addition, skewness helps to unfold the process of the uneven distribution of data (Tabachnick and Fidell, 2007). Kurtosis elaborates how “peaked” or “flat” a distribution is (either too peaked with short, thick tails, or too flat with long, thin tails) (Tabachnick and Fidell, 2007). The score of the skewness and kurtosis (shown in Appendix 6.4) signifies that a number of variables are within the normal range (i.e. $< \pm 3$) (Hair et al., 2014).

6.4.2 Outliers: univariate and multivariate examination

The word “outlier” denotes the meaning “observations with a unique combination of characteristics identifiable as distinctly different from the other observations” (Hair et al., 2014, p. 62). Furthermore, Tabachnick and Fidell (2006) articulated that an outlier case was “a case with such an extreme value on one variable (a univariate outlier) or such a strange combination of scores on two or more variables (multivariate outlier)” (p. 72). Outlier analysis is vital to conduct as “outliers, or extreme responses, may unduly influence the outcome of any multivariate analysis” (Hair et al., 2014, p. 32).

Thus, the examination of outliers can contribute to recognising the observations that are inappropriate representations of the sample population.

The current study is in agreement with Field (2013), who carried out univariate outlier analysis, which can be explained as the situation of a single variable of an extreme value (Kline, 2005), and multivariate outlier analysis, which can be classified as an odd combination of extreme values in two or more variables (Kline, 2005). According to Hair et al. (2014), the task in respect of univariate outliers is to “examine all metric variables to identify unique or extreme observations”. They state that: (1) “for small samples (80 or fewer observations), outliers typically are defined as cases with standard scores of 2.5 or greater”; (2) “for larger sample sizes, increase the threshold value of standard scores up to 4”; (3) “if standard scores are not used, identify cases falling outside the ranges 2.5 versus 4 standard deviations, depending on the sample size”. Furthermore, when the sample size is large, a few cases with outliers can be expected (Tabachnick and Fidell, 2007). Hair et al. (2014) suggested that items were gathered for screening to represent a single variable, where the value of each observation was transformed to a z-score (standardised score) with SPSS descriptive statistics. Table 6.3 shows that the dataset contains fewer univariate outliers.

Table 6.3: Univariate outliers			
S.No.	Variable	Cases of outlier	Standardised value i.e. z-scores
1	VI (Visual identity)	2	-5.11170
		5	-4.93034
		3	-4.56764
		4	-4.56764
		7	-4.20493
		6	-4.02358
2	C (Communication)	30	-5.39040
		29	-5.04808
		7	-4.87693
		27	-4.87693
		3	-4.70577
		5	-4.70577
		31	-4.70577
		32	-4.70577
		6	-4.53461
		28	-4.19230
		4	-4.02114
3	CH (Cultural heritage)	47	-4.89216
		45	-4.31624
		49	-4.31624
		44	-4.02828
		48	-4.02828
		71	-4.02828
		72	-4.02828
		75	-4.02828
		76	-4.02828
4	A (Ambience)		
	AM (<i>Music</i>)	188	-4.13791
	AL (<i>Lighting</i>)	229	-5.11720
		202	-5.11720
		295	-5.11720
		294	-5.11720
		296	-5.11720
		268	-5.11720
	AT (<i>Temperature</i>)	57	-4.09836
	AA (<i>Aroma</i>)	28	-4.15682
		29	-4.15682
		27	-4.15682
		32	-4.15682

	AS (<i>Security/Privacy</i>)	294	-4.27809
5	AR (<i>Artefacts</i>)	27	-4.53304
		11	-4.53304
		28	-4.05782
		29	-4.05782
		32	-4.05782
		30	-4.05782
6	SP (<i>Spatiality</i>)		
	SL (<i>Spatial layout</i>)	271	-4.91720
		27	-4.31972
		28	-4.31972
		29	-4.31972
		32	-4.31972
		30	-4.31972
		31	-4.31972
		68	-4.31972
	SF (<i>Spatial functionality</i>)	271	-5.10795
		273	-5.10795
		68	-4.28975
		80	-4.28975
		77	-4.28975
		81	-4.28975
		78	-4.28975
		82	-4.28975
		66	-4.28975
		67	-4.28975
		79	-4.28975
		69	-4.28975
		70	-4.28975
	SC (<i>Spatial comfort</i>)	63	-4.28975
7	EWB (<i>Emotional well-being</i>)	1	-5.21832
		3	-4.48465
		4	-4.48465
		2	-4.48465
		6	-4.48465
		5	-4.48465
		7	-4.48465
	S (<i>Sensorium</i>)	1	-4.46675
		10	-4.34596
		15	-4.34596
		16	-4.34596
		17	-4.34596
		14	-4.34596

		8	-4.34596
	B (Behaviour)	1	-4.22804
	H (Happiness)	1	-6.19593
		3	-4.90722
		4	-4.90722
		2	-4.90722
		5	-4.90722
		6	-4.90722
		7	-4.76403
8	BP (Consumers' perception towards brand performance)	18	-6.01244
		20	-5.58754
		19	-5.58754
		26	-5.58754
		33	-5.58754
		29	-4.95020
		30	-4.95020
		28	-4.95020
		27	-4.95020
		25	-4.52530
		21	-4.52530
		22	-4.52530
		23	-4.52530
		24	-4.52530
		31	-4.52530
		9	-4.31285
		32	-4.31285

Source: The researcher

The multivariate outlier examination was conducted using the Mahalanobis D^2 measure. Mahalanobis D^2 is a linear regression method that can be characterised as a “multivariate assessment of each observation across a set of variables”, and “measures each observation’s space from the mean centre of all observations, providing a single value for each observation no matter how many variables are considered” (Hair et al., 2014, p. 64). The SPSS “1-CDF.CHISQ (quant, df)”, where quant = D^2 and df = 13 was employed to conduct the Mahalanobis D^2 measure. Table 6.4 shows the multivariate outlier findings.

Table 6.4: Multivariate outlier detection				
Count	Cases of outlier	Mahalanobis D²	D²/dfa	P-value
1	2	30.68124	3.068124	.00
2	3	30.47574	3.047574	.00
3	4	27.61941	2.761941	.00
4	5	30.22334	3.022334	.00
5	6	26.15034	2.615034	.00
6	7	28.19732	2.819732	.00
7	27	27.28421	2.728421	.00
8	28	18.34565	1.834565	.00
9	29	27.88986	2.788986	.00
10	30	32.11477	3.211477	.00
11	31	23.70799	2.370799	.00
12	32	24.66990	2.466990	.00
13	44	21.38668	2.138668	.00
14	45	22.33410	2.233410	.00
15	46	16.29350	1.629350	.00
16	47	32.17642	3.217642	.00
17	48	19.08789	1.908789	.00
18	49	22.07361	2.207361	.00
19	72	18.01954	1.801954	.00
20	75	16.35239	1.635239	.00
21	76	16.70528	1.670528	.00

Source: The researcher

According to Hair et al. (2014), “threshold levels for the D²/df measure should be conservative (.005 or .001), resulting in values of 2.5 (small samples) versus 3 or 4 in large samples (p. 65). Table 6.4 shows that extreme outliers were detected in zero cases (n = 000) (i.e. p < 0.005). In addition to that, a box plot was applied for detecting multivariate outliers. Figure 6.3 shows that all the observations were found in the multivariate outliers (Hair et al., 2006). Therefore the researcher planned to keep the observations with the outliers for the next stage. A graphical representation of groups of numerical data through the quartiles is depicted in the form of a box plot indicating variations outside the upper and lower quartiles. Outliers are plotted as individual points in the box plots.

Box plot showing the distribution of the number of species per genus (S/G) for 15 genera (TOTALA to TOTALB). The y-axis represents the number of species per genus, ranging from 0 to 80. Each box plot displays the median, quartiles, and range of species per genus. Data points are labeled with numbers representing the number of species per genus.

Genus	Species per Genus (S/G)
TOTALA	53, 58, 61, 104
TOTALB	53, 56, 61, 104
TOTALC	29, 32, 35, 36, 37, 41, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100
TOTALD	29, 32, 35, 36, 37, 41, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100
TOTALA	29, 32, 35, 36, 37, 41, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100
TOTALB	29, 32, 35, 36, 37, 41, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100
TOTALC	29, 32, 35, 36, 37, 41, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100
TOTALD	29, 32, 35, 36, 37, 41, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100
TOTALA	29, 32, 35, 36, 37, 41, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100
TOTALB	29, 32, 35, 36, 37, 41, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100
TOTALC	29, 32, 35, 36, 37, 41, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100
TOTALD	29, 32, 35, 36, 37, 41, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

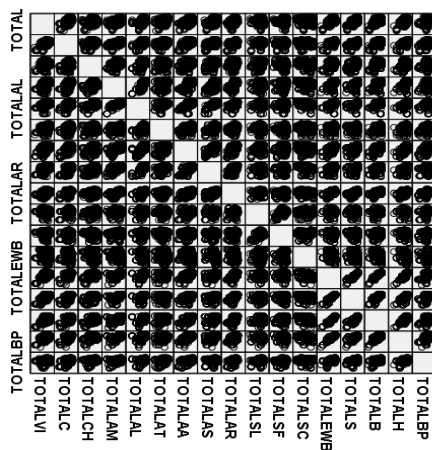
[illegible]

Table 6.5: Descriptive statistics and correlation matrix for the constructs							
		TOTALVI	TOTALC	TOTALCH	TOTALPED	TOTALEWB	TOTALBP
TOTALVI	Pearson Correlation	1					
TOTALC	Pearson Correlation	.454**	1				
TOTALCH	Pearson Correlation	.397**	.384**	1			
TOTALPED	Pearson Correlation	.358**	.412**	.527**	1		
TOTALEWB	Pearson Correlation	.276**	.301**	.156**	.526**	1	
TOTALBP	Pearson Correlation	.382**	.368**	.382**	.536**	.394**	1

**Correlation is significant at the 0.01 level (Pearson correlation sig. (2-tailed))

The relationship between a pair of variables is depicted through an arrangement of a matrix (or grid) which is basically a collection of scatterplots (Tabachnick and Fidell, 2007). Figure 6.4 illustrates the PED constructs scatterplot matrix. According to researchers (Foroudi, 2012, p. 204; Malhotra, 2010; Tabachnick and Fidell, 2007) linearity among latent variables is hard to assess; however linearity among pairs of measured variables can be easily assessed through scatterplots.

Figure 6.4: Physical environment design constructs scatter plot matrix



Source: Analysis of survey data

Furthermore, multicollinearity was computed using VIF and tolerance, which are “widely used measures of the degree of multi-collinearity” (O’Brien, 2007, p. 673).

Multicollinearity is correlated with a tolerance of 0.1 or less and a VIF of 10 or more (Menard, 1995), where VIF is “the inverse of tolerance” (O’Brien, 2007, p. 668). Table 6.6 illustrates that the VIF values were less than 5 and the tolerance values were higher than 0.1 (Menard, 1995). For this reason, none of the variables was deleted (Tabachnick and Fidell, 2007).

Table 6.6: Regression for observing VIF and tolerance effect							
Model	Unstandardised coefficients		Standardised coefficients	t	Sig.	Collinearity statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	28.833	5.655		5.099	.000		
TOTALVI	-.050	.200	-.009	-.252	.801	.699	1.430
TOTALC	.383	.159	.088	2.408	.016	.704	1.421
TOTALCH	1.431	.145	.352	9.891	.000	.746	1.341
TOTALEWB	.720	.069	.356	10.388	.000	.806	1.240
TOTALBP	1.200	.189	.233	6.334	.000	.697	1.434

Dependent variable: TOTALPED

6.4.4 Homoscedasticity/homogeneity

Homoscedasticity refers to the assumption that “the variability in scores for one continuous variable is roughly the same at all values for another continuous variable” (Tabachnick and Fidell, 2007, p. 85). It develops another assumption of multivariate analysis. In other words, homoscedasticity refers to the assumption that “dependant variable(s) exhibit equal levels of variance across the range of predictor variable(s)” (Hair et al., 2007, p. 83). Tabachnick and Fidell (2007, p. 85) suggested that the violation of homoscedasticity might invalidate the analysis, but is “not fatal to an analysis of ungrouped data”. Homoscedasticity is known as homogeneity of variance where the data is grouped (Tabachnick and Fidell, 2007, p. 86).

To assess homoscedasticity, the most commonly used method for equality of variances is Levene’s test (Hair et al., 2006; Field, 2009; Pallant, 2007). Levene’s test is remarkable at $p \leq .05$, which means that the heterogeneity of variance is very stable and moderate (Hair et al., 2006). For this study, Levene’s test confirmed the results of

the variability of the dependent variables with the independent variables, as shown in Table 6.7.

Table 6.7: Test of homogeneity of variances				
Constructs	Levene statistic	df1	df2	Sig.
Visual identity	1.626	5	497	.151
Communication	1.099	5	497	.360
Cultural heritage	1.648	5	497	.146
Physical environment design	1.230	5	497	.294
Emotional well-being	3.114	5	497	.009
Consumers' perception towards brand performance	3.151	5	497	.008

Source: Analysis of survey data

6.5 Non-response bias and common method bias

Errors such as non-response bias intrinsically represent “a failure to obtain information from the sample” (Churchill and Iacobucci, 2004, p. 381), for instance when respondents decline to participate in a survey. According to Armstrong and Overton (1977), the factual problem derives from the question as to whether the “persons who respond differ substantially from those who do not” (p. 381). Furthermore, if non-response bias prevails, the “results do not directly allow one to say how the entire sample would have responded” (Armstrong and Overton, 1977, p. 396). Therefore, non-response bias can affect the generalisability of the sample to the population. It may be possible to reduce the non-response rate if respondents can be convinced that the data collected will be strictly confidential and all the information kept anonymous (Sekaran, 2003).

In order to investigate for non-response bias in the present study, the Mann-Whitney U-test was performed to identify differences in the sample groups (Ruxton, 2006). It was found that the first 167 questionnaires (observations from the early respondents) and the later 336 questionnaires (observations from the late respondents) were in relation to the proportion of survey questionnaires (Armstrong and Overton, 1977; Foroudi et al., 2012; Lambert and Harrington, 1990). Table 6.8 illustrates the absence of non-response bias in nearly all the constructs. The resultant value in any variable is

not $\leq .05$ probability, which denotes that non-response bias is not significant in this research.

Table 6.8: Mann-Whitney U-test observing non-response bias						
	TOTALVI	TOTALC	TOTALCH	TOTALPED	TOTALEWB	TOTALBP
Mann-Whitney U	29326.000	30761.500	30365.000	30903.500	30604.500	29413.000
Wilcoxon W	70942.000	53981.500	53585.000	54123.500	72220.500	71029.000
Z	-1.014	-.123	-.369	-.035	-.220	-.961
Asymp. Sig. (2-tailed)	.310	.902	.712	.972	.825	.337

a. Grouping Variable: Gender of the participant

6.6 Factor loading and data analysis for hierarchical components model

A hierarchical model, also called a multi-level model, is the composition of a higher-order model. For instance, in the current study, PED is a third-order construct that is a synthesis of both the first- and second-order constructs (as set out in Chapter 4). Furthermore, each construct has to be accompanied by a set of variables in order to be estimated. The purpose of a hierarchical model is to establish the factors measured at different levels to achieve the desired results.

Initially, the hierarchical components approach was proposed by Wold (1982), and it was supported by later scholars (Chin et al., 2003; Lohmoller, 1989; Marsh and Hocevar, 1985). It is the most commonly used approach to estimate higher-order constructs (Venaik, 1999; Wilson, 2007; Zhang et al., 2006). In addition, according to Reinartz et al. (2003), “a second-order factor is directly measured by observed variables for all the first-order factors and the manifest indicators are repeated to also present the higher order constructs” (p. 19).

In this approach, exogeneous variables turn, in effect, into endogenous variables, and this may well have the perceived effect of biasing the estimates by relating variables of the same type, simultaneously (Lohmoller, 1999; Marsh and Hocevar, 1985; Wold, 1982). During the analysis, the second-order construct is set up as a proxy and is used to derive the latent variable score and path coefficients.

According to Awang et al. (2015), the validity of higher-order constructs is as important as the validity of a first-order construct. Applying higher-order factor analysis answered two main questions in the present study: which factors are important, and what is the relative importance of each factor to the overall, higher-order factors of PED, ambience, spatiality and EWB. In order to justify that the hypothesized construct in this research loads onto the precise number of constructs of underlying sub-constructs or components, second-order CFA was employed. For instance, the theory postulates that the ambience, spatiality and EWB constructs consist of 11 underlying sub-constructs (music, lighting, temperature, aroma, safety/privacy; spatial layout, functionality, comfort; sensorium, behaviour, and happiness), and each sub-construct is measured using a certain number of items via the questionnaire.

This research empirically validated a multidimensional model of PED in retail stores in the UK. The analysis was carried out using AMOS and SEM. A hypothesised higher-order model, which consisted of third-order constructs and second-order constructs, was tested. The factors were extracted through EFA, further validated through second-order CFA.

The second-order validation is performed in two steps. In the first step, the model represents the main construct followed by its sub-constructs (or components). The model is run using second-order constructs for the main construct on its sub-constructs (or components). In order to validate that the second-order construct loads onto the respective components, the researcher estimated the causal effects from the main construct to all its sub-constructs. Conventionally, the CFA procedure estimated the factor loadings for every item. Second-order CFA facilitates testing the constructs, as well as for validation in SEM. A second-order is specified, hypothesising that the correlation between the first-order factors can be explained fully by their regression onto other constructs. The second-order model is a slightly altered version of the first-order model, thus the model fit to the data is not very different.

In order to identify the unrevealed variables, or factors, the statistical technique of factor analysis (FA) is used to describe the pattern of associations between a set of observed variables. FA “is an interdependence technique whose primary purpose is to define the underlying structure among the variables in the analysis” (Hair et al., 2014, p. 92). Its main purpose is to reduce the data with a minimum loss of information. According to Hair et al. (2014), FA can be applied for the following fundamental purposes: (1) “specifying the unit of analysis”; (2) “achieving data summarisation and/or data reduction”; (3) “variable selection”; and (4) “using factor results with other multivariate techniques” (p. 94). For this reason, FA presents two independent but interdependent outcomes: data reduction and data summarisation/identifying structures (Hair et al., 2014).

FA comprises EFA and CFA (Bryman and Cramer, 2011). Both types can be used for data identification and data refinement. According to Hair et al. (2014), the purpose of EFA is to reveal the underlying structure of the constructs, where “the relationships between various variables are examined without determining the extent to which the results fit a particular model” (Bryman and Cramer, 2011, p. 319). CFA “compares the solution found against a hypothetical one” (Bryman and Cramer, 2011, p. 319). Thus, EFA is described as an exploratory procedure where the “researcher has little control over the specification of the structure (e.g. number of factors, loadings of each variable etc.)” (Hair et al., 2014, p. 146), whereas CFA is a confirmatory method because “the researcher must specify in advance several key aspects of the factor model such as the number of factors and patterns of indicator-factor loadings” (Brown, 2006, p. 20).

For this research, EFA was used initially to “identify groupings among variables based on relationships represented in a correlation matrix” (Hair et al., 2014, p. 146), followed by CFA to “test the extent to which a researcher’s a priori, theoretical pattern of factor loadings on prespecified constructs (variables loading on specific constructs) represents the actual data, in other words it is confirmatory test of the measurement theory” (Hair et al., 2014, p. 603).

Regarding the hierarchical components model, Byrne (2001) stated that large sample sizes falsely improved the ratio of chi-square to degree of freedom. Noticeably, the

second-order model in the present study had a higher degree of freedom. The second-order level satisfactorily fitted the data, $\chi^2 = 2364.815$, $\chi^2/df = 1.456$ (Byrne, 2001). Furthermore, the third-order level was found to provide the best fit with a significant t-value.

6.6.1 Exploratory factor analysis

Exploratory factor analysis is one of the most acceptable statistical methods to “arrive at [a] more parsimonious conceptual understanding of a set of measured variables factors needed to account for the pattern of correlations among the measured variables” (Fabrigar et al., 1999, p. 275). Thus, “the primary purpose of exploratory purpose is to define the underlying structure among the variables in the analysis” (Hair et al., 2014, p. 146). For the present research, EFA was conducted to “identify groupings among variables based on relationships represented in a correlation matrix” (Hair et al., 2014, p. 146).

In addition, principal component analysis (PCA) was employed. According to Hair et al. (2014), PCA is “used to summarise the most of the original information (variance) in a minimum number of factors for prediction purposes”, and “considers the total variance and derives factors that contain small portions of unique variance, and in some instances, error variance” (p. 105).

PCA includes a series of actions, where: (1) all variance is analysed (total variance = common variance + unique variance + error variance) (Bryman and Cramer, 2011); (2) the foremost question is data reduction (Hair et al., 2014); and (3) it is useful to extract the minimum variance (Hair et al., 2014). The researcher used rotation for extraction in order to increase the solution’s interpretability and scientific value.

This research selected three criteria during the factors extraction: latent root criteria, percentage of variance criteria, and scree test criteria. According to Field (2009), it is important prior to extraction to calculate the variability in the variance for any given variable. On the basis of the EFA results, some items were dropped and the EFA was repeated. In the final stage of EFA, scale measurements of the final version of the suggested factor structure were analysed in terms of reliability by examining Cronbach’s coefficient alpha and the item-total correlations. Hair et al. (2014, p. 107)

explained the following: (1) the latent root criteria means “any individual factor should account for the variance of at least a single variable if it is to be retained for interpretation, with component analysis each variable contributes a value of 1 to the total eigenvalue (eigenvalue > 1.00)”; (2) “the percentage of variance criterion is an approach based on achieving a specified cumulative percentage of total variance extracted by successive factors”; and (3) the scree test criterion “is used to identify the optimum number of factors that can be extracted before the amount of unique variance begins to dominate the common variance structure” (p. 108).

Moreover, EFA was performed to test for common method bias, because the data for the current study was acquired through a self-administered questionnaire, measuring the dependent and independent variables in the same time period. There can be various common method biases that may affect the attainment of the responses (Podsakoff et al., 2003). In order to detect common method bias, Harman’s (1967) single-factor test was used during EFA techniques with varimax rotation (Kumar et al., 2014). Harman’s single-factor test is mainly adopted by researchers to address the concern of common method variance. Mattila and Enz (2002) suggested that “according to this technique if a single factor emerges from the factor analysis or one ‘general’ factor accounts for more than 50% of the covariation in the variables, common method variance is present” (p. 272). In this study, the results of the PCA showed that each factor accounted for less than 50% of the covariation and no single factor emerged (Quaddus and Woodside, 2015); hence common method bias does not exist in this research. Hair et al. (2014) stated that “only the factors having latent roots or eigenvalues greater than 1 are considered significant; all factors with latent roots less than 1 are considered insignificant and are disregarded” (p. 107). In the current study, the eigenvalues were considered “as part of an initial run with principal component extraction” (Tabachnick and Fidell, 2007, p. 644).

In order to achieve significant FA results (Norusis, 1999), the Kaiser-Meyer-Olkin (KMO) test and Bartlett’s test of sphericity are suggested. KMO establishes the “suitability of the factor analysis” in which the “measure varies between 0 and 1, and values closer to 1 are better” (Kothari and Garg, 2014, p. 366). In the case of this study, the KMO result was above .6, meaning that the relationship between the items was statistically remarkable and was appropriate for EFA (Tabachnick and Fidell,

2007). According to Kothari and Garg (2014), Bartlett’s test of sphericity is “the statistical test for overall significance of the correlations within a correlation matrix” and “uses chi square distribution” (p. 366).

EFA was computed with 134 items acquired from the academic review and qualitative findings. In the initial stage, 134 items were assessed in EFA. The KMO results, shown in Table 6.9, depict 69 components that were above the .6 level (Tabachnick and Fidell, 2007). Kothari and Garg (2014) highlighted that KMO “values closer to 1 are better”, in line with the results illustrated in Table 6.9, as $BTS \leq 0.001$. Hence, this study meets the desired standards (Kothari and Garg, 2014).

Table 6.9: KMO and Bartlett’s test	
Kaiser-Meyer-Olkin measure of sampling adequacy	.930
Approx. chi-square	21574.727
df	2346
Sig.	.000

Furthermore, Hair et al. (2014) recommended that in the case of significant loadings, the researcher must examine each variable’s communality. The term communality is defined as the sum of the squared factor loadings for a given variable. Hair et al. (2014) defined it “as the estimate of its shared, or common, variance among variables as represented by the derived factors” (p. 103). In addition, Hair et al. (2014) advocated a pragmatic approach whereby results of “.30 to .40 are considered to meet the minimum level for structure interpretation”, those of “.5 or greater are considered practically significant” and those “exceeding 1.70 are considered indication of well-defined structure and are the goal of any factor analysis” (p. 115). Table 6.10 presents the retained variables with indicated communalities greater than .5, which meets the desired standards (Hair et al., 2014), varying from .498 to .916.

Table 6.10: Communalities shared by individual items					
Variables	Initial	Extraction	Variables	Initial	Extraction
VI2	1.000	.792	AR5	1.000	.724
VI5	1.000	.716	AR6	1.000	.762
VI9	1.000	.609	AR7	1.000	.745
VI14	1.000	.686	SL1	1.000	.666
VI15	1.000	.670	SL2	1.000	.661
C1	1.000	.655	SL3	1.000	.743
C3	1.000	.703	SF3	1.000	.631
C4	1.000	.550	SF5	1.000	.627
C7	1.000	.865	SF6	1.000	.765
C10	1.000	.683	SC1	1.000	.753
CH1	1.000	.738	SC5	1.000	.799
CH2	1.000	.726	SC7	1.000	.773
CH3	1.000	.757	S1	1.000	.894
CH4	1.000	.642	S4	1.000	.877
CH5	1.000	.699	S5	1.000	.908
CH6	1.000	.823	S6	1.000	.860
AM2	1.000	.719	S9	1.000	.762
AM3	1.000	.746	B2	1.000	.841
AM4	1.000	.623	B3	1.000	.805
AM5	1.000	.824	B5	1.000	.855
AM6	1.000	.885	B9	1.000	.775
AL1	1.000	.757	H1	1.000	.715
AL3	1.000	.737	H2	1.000	.754
AL6	1.000	.638	H3	1.000	.696
AT1	1.000	.689	H7	1.000	.739
AT3	1.000	.620	H9	1.000	.694
AT4	1.000	.697	H10	1.000	.755
AA1	1.000	.557	BP2	1.000	.636
AA2	1.000	.716	BP7	1.000	.652
AA5	1.000	.845	BP9	1.000	.628
AS1	1.000	.806	BP11	1.000	.732
AS2	1.000	.681			
AS4	1.000	.706			
AS6	1.000	.671			
AR1	1.000	.672			
AR2	1.000	.678			
AR3	1.000	.717			

Extraction method: principal component analysis

Note: VI = visual identity, C = communication, CH = cultural heritage, AM = music, AL = lighting, AT = temperature, AA = aroma, AS = safety, AR = artefacts, SL = spatial layout, SF = functionality, SC = comfort, S = sensorium, B = behaviour, H = happiness, BP = consumer's perception of brand performance

According to Pallant (2007), the factor loadings significance acceptance level depends on the sample size. The communality must be above .5, and if this is not the case, then the researcher needs to focus on a larger sample size. For instance, a factor loading of .3 requires a minimum sample size of 350 and a loading of .75 requires a minimum sample size of 50 (Hair et al., 2014). In the PCA results, shown in Table 6.11, the biggest variance extracted by items into a construct was found to be 16.517 for PED. Based on this analysis, 61 components with eigenvalues justified a total variance of 27.076%.

Table 6.11: Total variance explained						
Component	Initial eigenvalues			Extraction sums of squared loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	16.517	27.076	27.076	16.517	27.076	27.076
2	5.374	8.810	35.886			
3	3.699	6.063	41.949			
4	2.581	4.231	46.180			
5	2.166	3.552	49.732			
6	1.867	3.060	52.792			
7	1.759	2.884	55.675			
8	1.719	2.819	58.494			
9	1.597	2.618	61.112			
10	1.408	2.308	63.420			
11	1.293	2.120	65.540			
12	1.042	1.708	67.248			
13	1.003	1.644	68.892			
14	.903	1.480	70.372			
15	.845	1.385	71.757			
16	.806	1.321	73.078			
17	.729	1.195	74.273			
18	.710	1.164	75.437			
19	.667	1.093	76.530			
20	.622	1.019	77.549			
21	.592	.971	78.520			
22	.580	.950	79.470			
23	.542	.888	80.358			
24	.527	.863	81.221			
25	.515	.844	82.065			
26	.503	.825	82.890			

27	.460	.754	83.644			
28	.455	.747	84.391			
29	.446	.730	85.121			
30	.437	.717	85.839			
31	.433	.709	86.548			
32	.416	.681	87.229			
33	.403	.661	87.890			
34	.371	.609	88.499			
35	.368	.603	89.102			
36	.359	.589	89.691			
37	.355	.583	90.273			
38	.349	.573	90.846			
39	.334	.548	91.394			
40	.326	.534	91.928			
41	.308	.505	92.434			
42	.300	.492	92.925			
43	.297	.487	93.412			
44	.294	.481	93.894			
45	.288	.472	94.365			
46	.278	.455	94.820			
47	.264	.433	95.253			
48	.261	.429	95.682			
49	.251	.411	96.093			
50	.236	.387	96.480			
51	.228	.374	96.854			
52	.224	.368	97.221			
53	.221	.363	97.584			
54	.215	.352	97.936			
55	.212	.348	98.285			
56	.193	.316	98.600			
57	.189	.310	98.911			
58	.186	.304	99.215			
59	.167	.273	99.488			
60	.159	.261	99.749			
61	.153	.251	100.000			

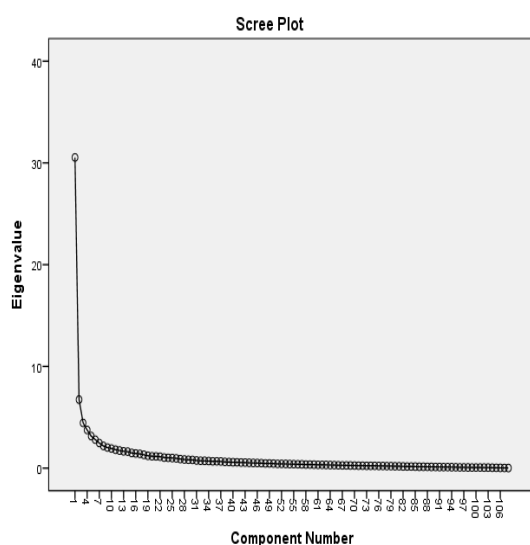
Extraction method: Principal component analysis

Moreover, it is vital to indicate to what degree the variables load onto the factors. According to Churchill (1979), a factor loading of less than .4 needs to be deleted. In addition, with EFA “all measured variables are related to every factor by factor

loading estimate simple structure” and “a simple structure results when each measured variable loads highly on only one factor and has smaller loadings on other factors (i.e. loadings $< .4$) (Hair et al., 2014, pp. 603-604). The factor loadings in the present study, which are shown in Table 6.12, generated a satisfactory result varying from .569 to .951 and items loaded onto 16 factors. Later, Cronbach’s alpha was evaluated for each factor and all factors were greater than .5 (de Vaus, 2002; Hair et al., 2014, Nunnally, 1978; Palmer, 2011). Consequently, the results strongly indicated that the items in each factor were fundamentally consistent (Nunnally, 1978).

Another criterion adopted for this study was the scree test, which is used to determine the number of factors. Broadly explained, the scree test “is derived by plotting the latent roots against the number of factors in their order of extraction, and the shape of the resulting curve is used to evaluate the cut-off point”, where “the point at which the curve first begins to straighten out is considered to indicate the maximum number of factors to extract” (Hair et al., 2014, p. 108). The scree graph in Figure 6.5 illustrates the cut-off points.

Figure 6.5: Scree plot of all the dimensions



A rotated component matrix was used in the current study to confirm the number of variables that were loaded onto each factor. According to Malhotra (2010, pp. 644-645) “the rotated loading matrix contains a factor matrix which contains the coefficients used to express the standardised variables in terms of the factors”.

Furthermore, these coefficients depict the correlations among the factors and the variables. Based on the recommendations of previous scholars, variables with low values were not considered and were deleted (Hair et al., 2014; Malhotra, 2010; Malhotra et al., 2003). In this study, PED was considered as a higher-order construct whereas ambience, spatiality and EWB were considered as second-order constructs. Hence, CFA was performed on the basis of higher-order construct requirements (Awang, 2012).

In addition, some researchers (Hair et al., 2014; Malhotra, 2010; Tabachnick and Fidell, 2007) have suggested that variables which are highly correlated with more than factor should be deleted. Rotation is crucial to increase the interpretability and scientific utility of the solution, which is to simplify and purify the data structure. The main aim of this analysis is to magnify high correlations between factors and variables. Furthermore, the process of rotation is very useful in comparison to others to develop factors from variables (Field, 2009).

Rotation means “the reference axes of the factors are turned about the origin until some other position has been reached” (Hair et al, 2014, p. 111). According to researchers (Brown, 2009; Field, 2013; Hair et al., 2014), there are two main types of rotation: oblique and orthogonal, which mainly aims to gain theoretically meaningful factors (simplest factor structure). The two methods assume contradictory notions, in that “orthogonal rotation methods assume that the factors in the analysis are uncorrelated”, while “oblique rotation methods assume that the factors are correlated” (Brown, 2009, p. 21). Generally, the orthogonal rotation method is used, since it is more appropriately developed and exists in most analytical packages.

For this study, the researcher employed orthogonal rotation as it is widely used and moreover is the “preferred method when the research goal is data reduction to either a smaller number of variables or a set of uncorrelated measures for subsequent use in other multivariate techniques (Hair et al., 2014, p. 114). There are three significant orthogonal rotation approaches: quarimax, varimax and equimax (Brown, 2009). The varimax rotation was used by the researcher as it “has proved successful as an analytical approach to obtaining an orthogonal rotation of factors” (Hair et al., 2014, p. 113). Table 6.12 shows the variables with their corresponding values.

Table 6.12: Rotated Component Matrix																
	Component															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
S6	.793															
S1	.748															
S5	.744															
S9	.697															
S4	.666															
SF6		.637														
SF5		.864														
SF3		.852														
SC5			.679													
SC1			.685													
SC7			.869													
AR2				.852												
AR3				.808												
AR7				.806												
AR6				.798												
AR5				.791												
AR1				.719												
AT1					.501											
AT4					.853											
AT3					.695											
CH1						.790										
CH6						.783										
CH5						.773										
CH4						.730										
CH2						.727										

CH3						.721										
AA2							.895									
AA5							.871									
AA1							.795									
AS1								.886								
AS2								.763								
AS6								.779								
AS4								.699								
AL6									.818							
AL3									.569							
AL1									.868							
C1										.842						
C3										.831						
C10										.828						
C4										.816						
C7										.810						
H2											.825					
H7											.822					
H9											.813					
H10											.781					
H1											.758					
H3											.736					
B9												.843				
B2												.827				
B5												.810				
B3												.786				
BP9													.766			
BP2													.765			

BP1														.745			
BP11														.665			
AM3															.769		
AM5															.757		
AM2															.708		
SL1																.805	
SL2																.794	
SL3																.788	
VI5																	.817
VI9																	.797
VI15																	.774
VI2																	.951
VI14																	.948

Source: Analysis of survey data

6.7 Structural evaluation of the model

Structural equation modelling performs statistical techniques to justify the conceptual framework and examine the hypothesised linkages among the latent variables (Anderson and Gerbing, 1988), as set out in detail in Chapter 4. It enables a researcher to reflect on the validity of the constructs. Moreover, it ensures that the theoretical meaning of the individual constructs has been reproduced in the indicators used in the research equipment (Anderson and Gerbing, 1988). SEM is a “multivariate technique combining aspects of factor analysis and multi-regression that enables the researcher to simultaneously examine a series of interrelated dependence relationships among the measured variables and latent constructs (variates) as well as between several latent constructs” (Hair et al., 2014, p. 546).

SEM uses a favourable estimation technique enabling multiple equations to be tested simultaneously (Hair et al., 2014). In addition, it validates the consistency between the theoretical model and estimated model based on the observed values (Diamantopoulos and Siguaw, 2000). SEM assesses the overall fit of the model in terms of its gradual and absolute goodness-of-fit.

It is vital to consider the sample size before using the SEM technique (Tabachnick and Fidell, 2007), as sample size and statistical method are strongly affected by each other. A minimum sample size is essential to adopt any of the statistical techniques such as MRA, CFA and SEM. Inversely, Reynolds et al. (2003, p. 87) specified that appropriate size of a procurable sample robustly determined “the analytical techniques that can be used”.

Hair et al. (2014) recognised that a complex model with a large number of constructs, some with low communality ($< .45$), needed a sample size beyond 500. The literature provides several suggestions on the issue of sample size. For instance, Bollen (1989) suggested a ratio of five samples per variable. Furthermore, CFA requires a sample size that is higher than the number of covariances in the data matrix (Netemeyer et al., 2003). Joreskog and Sorbom (1996) recommended that the sample size should not be less than 10 observations per parameter estimated to perform CFA, while Floyd and Widaman (1995) suggested that 5 to 10 samples per variable was adequate.

For the purpose of this research, the SEM technique used was adopted from the studies of Anderson and Gerbing (1988) and Hair et al. (2014), using AMOS. This application involves a two-stage procedure which contains two integrated models: a measurement model and a structural model. The measurement model “specifies the indicators for each construct and enables an assessment of construct validity”, while the structural model is a “set of one or more dependence relationships linking the hypothesised model’s constructs” (Hair et al., 2014, pp. 545-546). Furthermore, Diamantopoulos and Siguaw (2000) stated that the measurement model was also known as CFA.

In the first stage, CFA was used to allow a precise valuation of construct unidimensionality, which creates internally consistent and validates the constructs based on the measurement models (Gerbing and Anderson, 1988). Additionally, in order to eliminate any ambiguously loaded items, and to ensure validity and reliability of the constructs, the relationship between the underlying theoretical constructs and the observed variables was investigated.

In the next stage, the structural model fit was assessed through goodness-of-fit indices, and the paths proposed between the constructs were analysed to study hypotheses. The next section elaborates the analysis from the measurement model and structural model.

6.7.1 Step I: Measurement model results

The primary segment of model evaluation concerns the measurement model, which applies CFA to assess the reliability (Cronbach’s alpha and composite reliability) and validity (convergent and discriminant) of the model. According to Hair et al. (2014), the SEM measurement model is employed for “specifying the rules of correspondence among latent and measured variables” to “represent theoretical concepts and then quantify the amount of measurement error” (p. 548). This is performed by using CFA to strengthen the validity and reliability of the scales that have been developed and adapted (Bowen and Guo, 2011), as it is essential to facilitate theory testing and development.

In this research, the measurement model assessment using CFA confirmed the overall validity of the model (for example, nomological validity). CFA “is applied to test the extent which a researcher’s a priori, theoretical pattern of factor loadings on prespecified constructs (variables loading onto specific constructs) represents the actual data, in other words it is confirmatory test of the measurement theory” (Hair et al., 2014, p. 603). The following table (Table 6.13) presents the criteria used to evaluate the measurement model.

Table 6.13: Criterion of assessment of the measurement model		
Criterion	Description	Acceptable value
Construct reliability Composite reliability	Internal consistency measure	Value > .6 (Hair et al., 2014; Bagozzi and Yi, 1991)
Construct reliability Cronbach’s alpha	Indicates unidimensionality (intercorrelation) with latent construct measures	Value > .6 (Hair et al., 2014) Value > .8 or .9 is better (Nunnally and Bernstein, 1994)
Indicator reliability	Standardised outer loading, which illustrates the variance explained by the observed variable towards underlying latent construct (Churchill 1979)	Value > .4 is acceptable (Hulland, 1999, Churchill, 1979) Value > .7 ($-\sqrt{5}$) is better (Henseler et al., 2009)
Convergent validity	The degree to which two measures of the same concepts are correlated, which presented by unidimensionality using average variance extracted	AVE > .5 (Fornell and Larcker, 1981)
Discriminant validity Construct-level	The degree to which two conceptually similar concepts are distinct (Hair et al., 2014), which ensures that each latent variable shares more variance with its own block of indicators than with another latent variable	AVE > Latent variable correlation
Discriminant validity Item-level	The degree to which two conceptually similar concepts are distinct from each other (Hair et al., 2014)	Loading of each indicator > cross-loadings (Chin, 1998; Gotz et al., 2010) Cross loadings < .4 (Hair et al., 2006)

Source: Developed from scholars (Chin, 1998; Churchill, 1979; Fornell and Larcker, 1981; Foroudi, 2012; Hair et al., 2014; Henseler et al., 2009; Hulland, 1999; Nunnally and Bernstein, 1994)

The measurement model was investigated using unidimensionality and goodness-of-fit standards. In order to examine unidimensionality, reliability tests (Cronbach’s alpha reliabilities and composite) and factor loadings for each construct were conducted.

Anderson and Gerbing (1988) stated that “after a measurement model has been estimated, a researcher would assess how well the specified model accounted for the data with one or more overall goodness-of-fit indices” (p. 416). Table 6.14 describes three types of indices: absolute fit measures, incremental fit indices and parsimony fit indices.

For the purpose of this study, the researcher assessed eight measures of fit indices to investigate nomological validity, all of which are shown in Table 6.14. The measures used, as described in Section 4.9.5, were: (1) chi-square statistics (χ^2); (2) RMSEA; (3) GFI; (4) NFI; (5) CFI; (6) AGFI; (7) IFI; and (8) Tucker Lewis index (TLI). According to Hair et al. (2014), “rule of thumb suggests that we rely on at least absolute fit index and one incremental fit index, in addition to the χ^2 results” (p. 630).

Table 6.14: Goodnes-of-fit measures		
	Description	Acceptable fit
Absolute fit measures		
Chi-square (χ^2)	A “badness-of-fit measure” Minimum value of discrepancy used to test null hypothesis that estimated variance-covariance matrix deviates from sample Sample-sensitive The more the implied and sample moments differ, the bigger the chi-square statistic, and the stronger the evidence against the null hypothesis	$p > 0.05$ (at α equal to 0.05 level)
Goodness-of-fit index (GFI)	Expresses overall degree of fit by comparing squared residuals from predictions with actual data Represents comparison of square residual for degree of freedom, obtained through ML (maximum likelihood) and ULS (unweighted least squares)	Value > 0.95 good fit Value 0.90-0.95 adequate fit
Normed fit chi-square CMIN/DF (χ^2/df)	Minimum discrepancy divided by its degree of freedom. Values close to 1 indicate a good fit but less than 1 implies over fit	Close to 1 is good, but should not exceed to 3
Adjusted goodness-of-fit (AGFI)	Expansion of GFI index adjusted by ratio of df for proposed model and null model	Value > 0.95 good fit Value 0.90-0.95 adequate fit
Root mean square error of approximation residual (RMSEA)	Population discrepancy function, which implies how well fitted model approximates per degree of freedom	Value < 0.05 good fit Value 0.08-0.05

		adequate fit
Incremental fit measures		
Normed-fit-index (NFI)	Compares proposed model with null model, without considering degrees of freedom (not adjusted for df) Effect of sample size is strong	Value > 0.95 good fit Values above 0.08 and close to 0.90 indicate acceptable fit
Normed comparative fit index (CFI)	A variation of NFI and NNFI and identical to relative non-centrality index (RNI). Represents comparative index between proposed and baseline model adjusted for df. A highly recommended index for fitness of model	Value > 0.95 good fit Values above 0.08 and close to 0.90 indicate acceptable fit
Tucker-Lewis Index (TLI) or non-normed fit index	Opposite of NFI, called non-NFI (NNFI) Represents comparative index between proposed and baseline model adjusted for df	Value > 0.95 good fit Values above 0.08 and close to 0.90 indicate acceptable fit
Parsimonious fit measures		
Parsimony goodness-fit index (PGFI)	Degree of freedom is used to adjust GFI value using parsimony ratio	Higher value compared to other models is better
Parsimony normed fit index (PNFI)	Degree of freedom is used to adjust NFI value using parsimony ratio.	Higher value compared to other models is better

Source: Developed from Foroudi (2012); Hair et al. (2006, 2014)

Construct-level reliability (composite reliability) verifies that measurement items assigned to the same constructs reveal a surpassing correlation with each other. In line with the recommendations of Hair et al. (2014), construct-level reliability, Cronbach's alpha and composite reliability were established. In addition, Hair et al. (2014) suggested that composite reliability should be greater than .7, while Cronbach's alpha determines the unidimensionality of a multi-item scale's internal consistency (Cronbach, 1951). In addition, some researchers (de Vaus, 2002; Foroudi et al., 2014; Hair et al., 2014; Nunnally, 1978; Palmer, 2011) have emphasised that if the value obtained is higher than .70, it indicates favourable reliability.

Furthermore, CFA provides quantitative measures of the validity of the constructs by applying the maximum likelihood estimation method in the measurement model (Hair

et al. 2014). Tables 6.15 to 6.24 present the factor loading values, which satisfy the reliability requirements (Churchill, 1979).

Table 6.15: The visual identity construct									
Reliability Cronbach's alpha = .834				Composite reliability = 0.94				Squared multiple correlations	Average variance extracted
Visual identity (VI) Standard factor loading				Estimate	SE	CR	P	Value	
VI5	<---	VI	0.757	0.829	0.072	15.219	***	0.689	0.756
VI15	<---	VI	0.823	0.792	0.069	13.423	***	0.709	
VI9	<---	VI	0.711	0.786	0.064	10.641	***	0.623	
VI4	<---	VI	0.835	0.863	0.079	17.200	***	0.716	
VI2	<---	VI	0.687	0.764	0.061	18.746	***	0.792	
Table 6.16: The communication construct									
Reliability Cronbach's alpha = .908				Composite reliability = 0.89				Squared multiple correlations	Average variance extracted
Communication(C) Standard factor loading				Estimate	SE	CR	P	Value	
C1	<---	C	0.892	1.019	0.997	14.917	***	0.689	0.716
C3	<---	C	0.831	0.962	0.893	12.667	***	0.709	
C4	<---	C	0.717	0.861	0.811	11.984	***	0.623	
C7	<---	C	0.853	0.548	0.513	10.301	***	0.716	
C10	<---	C	0.709	0.845	0.061	12.161	***	0.792	
Table 6.17: The cultural heritage construct									
Reliability Cronbach's Alpha = .904				Composite reliability = 0.95				Squared multiple correlations	Average variance extracted
Cultural heritage (CH) Standard factor loading				Estimate	SE	CR	P	Value	
CH1	<---	CH	0.820	0.848	0.059	17.658	***	0.576	0.697
CH5	<---	CH	0.776	0.791	0.052	19.327	***	0.687	
CH3	<---	CH	0.859	0.768	0.043	14.098	***	0.698	
CH6	<---	CH	0.863	0.823	0.051	13.117	***	0.743	
CH2	<---	CH	0.777	0.802	0.047	12.785	***	0.671	
CH4	<---	CH	0.874	0.819	0.068	11.808	***	0.509	
Table 6.18: The ambience construct									
Reliability Cronbach's Alpha = .916				Composite reliability = 0.95				Squared multiple correlations	Average variance extracted
A (A) Standard factor loading				Estimate	SE	CR	P	Value	
AM2	<---	AM	1.307	0.768	0.973	14.216	***	19.590043	0.817
AM3	<---	AM	1.112	0.841	0.09	11.986	***	12.777437	
AM5	<---	AM	1.319	0.825	0.916	14.336	***	19.803415	

AL1	<---	AL	1.246	0.758	0.083	12.004	***	14.683306	
AL3	<---	AL	1.312	0.793	0.988	14.108	***	19.004360	
AL6	<---	AL	1.215	0.767	0.831	13.862	***	18.582933	
AT1	<---	AT	0.963	0.833	0.937	11.092	***	13.739028	
AT3	<---	AT	0.659	0.783	0.089	10.13	***	11.810097	
AT4	<---	AT	1.317	0.775	0.817	14.119	***	19.318992	
AA1	<---	AA	0.633	0.749	0.791	10.593	***	12.012730	
AA2	<---	AA	0.972	0.783	0.105	11.823	***	13.961507	
AA5	<---	AA	1.550	0.8	0.587	17.372	***	20.298038	
AS1	<---	AS	1.201	0.842	0.951	14.015	***	19.118303	
AS4	<---	AS	1.273	0.869	0.999	14.631	***	19.627075	
AS6	<---	AS	0.709	0.766	0.148	11.796	***	13.820861	

Table 6.19: The artefacts construct

Reliability Cronbach's Alpha = .878				Composite reliability = 0.93				Squared multiple correlations	Average variance extracted
Artefacts (AR) Standard factor loading				Estimate	SE	CR	P	Value	
AR2	<---	AR	1.227	0.87	0.077	12.664	***	0.6823	0.867
AR3	<---	AR	0.982	0.829	0.071	10.371	***	0.7279	
AR5	<---	AR	0.707	0.835	0.075	10.382	***	0.5453	
AR6	<---	AR	0.643	0.806	0.07	10.399	***	0.0761	
AR7	<---	AR	0.832	0.839	0.073	10.380	***	0.8816	

Table 6.20: The spatiality construct

Reliability Cronbach's Alpha = .916				Composite reliability = 0.89				Squared multiple correlations	Average variance extracted
Spatiality (SP) Standard factor loading				Estimate	SE	CR	P	Value	
SL1	<---	SL	0.853	0.796	0.108	11.13	***	0.6476	0.769
SL2	<---	SL	0.819	0.847	0.067	10.796	***	0.7318	
SL3	<---	SL	0.802	0.807	0.831	16.942	***	0.2369	
SF3	<---	SF	0.726	0.578	0.566	13.445	***	0.5376	
SF5	<---	SF	0.711	0.605	0.638	14.131	***	0.3882	
SF6	<---	SF	0.803	0.617	0.701	15.672	***	0.6122	
SC1	<---	SC	0.881	0.651	0.611	14.517	***	0.5673	
SC5	<---	SC	0.783	0.527	0.674	14.981	***	0.7112	
SC7	<---	SC	0.896	0.664	0.619	14.523	***	0.5981	

Table 6.21: The sensorium construct

Reliability Cronbach's Alpha = .827				Composite reliability = 0.95				Squared multiple correlations	Average variance extracted
Sensorium (S) Standard factor loading				Estimate	SE	CR	P	Value	
S4	<---	S	0.771	0.756	.053	17.321	***	0.7319	0.82
S5	<---	S	0.918	0.749	.05	20.963	***	0.7277	
S6	<---	S	0.888	0.725	.096	16.994	***	0.6812	
S9	<---	S	0.893	0.753	.089	15.319	***	0.8105	

Table 6.22: The behaviour construct									
Reliability Cronbach's Alpha = .913				Composite reliability = 0.97				Squared multiple correlations	Average variance extracted
Behaviour (B) Standard factor loading				Estimate	SE	CR	P	Value	
B2	<---	B	0.820	0.82	.067	17.340	***	0.568	0.663
B3	<---	B	0.793	0.788	.059	16.117	***	0.763	
B5	<---	B	0.863	0.818	.066	21.321	***	0.744	
B9	<---	B	0.814	0.833	.073	17.809	***	0.683	
Table 6.23: The happiness construct									
Reliability Cronbach's Alpha = .928				Composite reliability = 0.93				Squared multiple correlations	Average variance extracted
Happiness (H) Standard factor loading				Estimate	SE	CR	P	Value	
H1	<---	H	0.805	0.791	0.43	32.213	***	.897	0.618
H2	<---	H	0.867	0.799	0.47	27.098	***	.934	
H7	<---	H	0.862	0.818	0.41	12.916	***	.877	
H9	<---	H	0.887	0.801	0.53	14.341	***	.981	
H10	<---	H	0.819	0.777	0.49	10.812	***	.813	
Table 6.24: The consumers' perception towards brand performance construct									
Reliability Cronbach's Alpha = .889				Composite reliability = 0.98				Squared multiple correlations	Average variance extracted
Consumers' perception towards brand performance (BP) Standard factor loading				Estimate	SE	CR	P	Value	
BP1	<---	BP	0.943	0.745	0.34	21.518	***	.925	0.762
BP2	<---	BP	0.896	0.786	0.57	17.934	***	.813	
BP9	<---	BP	0.820	0.776	0.51	14.227	***	.891	
BP11	<---	BP	0.797	0.711	0.47	12.500	***	.844	

6.7.1.1 Convergent validity

Convergent validity is the degree to which independent measures of similar constructs are integrated or converge, and it demonstrates the homogeneity of the construct (Malhotra and Birks, 2000; Peter and Churchill, 1986). In order to examine construct validity, AVE was considered (Fornell and Larcker, 1981). Factor loading values higher than .5 and not exceeding .7 indicate adequate convergent validity (Hair et al., 2011a, 2014; Henseler et al., 2009). In this study, the AVE for each construct ranged from .050 to .073. The results shown in Tables 6.15-6.24 have an AVE of .5 or higher,

demonstrating justifiable convergent validity. Table 6.25 shows the inter-construct correlation and AVE for the basic model.

Table 6.25: Inter-construct correlation and AVE for basic model								
	AVE	AVE	BP	VI	C	CH	EWB	PED
BP	0.57	0.75	1.00					
VI	0.64	0.80	0.37	1.00				
C	0.73	0.85	0.41	0.56	1.00			
CH	0.65	0.81	0.45	0.42	0.44	1.00		
EWB	0.50	0.71	0.48	0.29	0.37	0.22	1.00	
PED	0.63	0.79	0.60	0.37	0.48	0.69	0.65	1.00
Source: Researcher's illustration								
BP- Consumer's perception towards brand performance; VI- Visual identity; C- Communication; CH- Cultural heritage; EWB- Emotional well-being; PED - Physical environment design								

6.7.1.2 Discriminant validity

The extent to which the items of an individual construct vary from the items of identical constructs indicates discriminant validity (Churchill, 1979). According to Anderson and Gerbing (1988), a low correlation between two constructs indicates the presence of discriminant validity. Furthermore, the discriminant validity of a model can be evaluated by validating the results by reconsidering the model (Anderson and Gerbing, 1988). The investigation of the correlation between the constructs using the FA technique helps assess discriminant validity. The percentage of variance expresses the discriminant validity, which indicates the estimation of power of the indicators.

Discriminant validity can be examined by using the AVE of each construct and comparing them using square correlation (Fornell and Larcker, 1981). The AVE should be greater than the squared correlation estimates (Hair et al., 2014). As suggested by Fornell and Larcker (1981), the AVE was greater than any squared correlation of the latent variables with reference to the factors that support discriminant validity. According to Hair et al. (2014), “.5 or higher is a good rule of thumb suggesting an adequate converge” (p. 619). Hence, it can be concluded that the adapted measurement model confirms the presence of discriminant validity between the constructs. Table 6.26 presents correlation matrix of the constructs

Table 6.26: Correlation matrix of the constructs										
	CR	AVE	MSV	Max R(H)	BP	VI	C	CH	EWB	PED
BP	0.841	0.570	0.371	0.844	0.755					
VI	0.844	0.644	0.316	0.846	0.374	0.803				
C	0.931	0.728	0.316	0.932	0.413	0.562	0.853			
CH	0.903	0.651	0.407	0.905	0.455	0.422	0.436	0.807		
EWB	0.744	0.506	0.425	0.863	0.487	0.286	0.371	0.223	0.711	
PED	0.835	0.632	0.425	0.886	0.609	0.375	0.476	0.638	0.652	0.795
Source: Researcher's illustration										
BP- Consumer's perception towards brand performance; VI- Visual identity; C- Communication; CH- Cultural heritage; EWB- Emotional well-being; PED- Physical environment design										

6.7.1.3 Nomological validity

Nomological validity refers to the assessment of postulations between constructs and the relationships which were empirically found between the dimensions of the constructs and their indicators (Peter and Churchill, 1986). It is the degree of fit of constructs into the model and is also known as goodness-of-fit (Anderson and Gerbing, 1984). According to scholars (Bagozzi, 1980; Gerbing and Anderson, 1988; Nunnally, 1978; Steenkamp and Van Trijp, 1991), nomological validity is essential to achieve construct validity and is applicable to the overall fit of a model.

This study applied maximum likelihood in all the model examination using CFA to check the factor loadings. Nomological validity is most relevant as an assessment method where the sample size is incompatible with respect to the pattern of having at least five observations for each variable (Anderson and Gerbing, 1988; Bentler and Chou, 1987; Hair et al. 2014). Moreover, the model fit indicators were used in model validation to determine the possible problem of an unreliable chi-square (χ^2) statistic and standard errors considering maximum likelihood application.

In order to understand the fit of the model, the conceptual model was assessed using SEM. Various incremental fit indices (such as NFI, NNFI and CFI) and absolute fit indices (such as GFI, AGFI and RMSEA) were used for this study, as described in

Table 6.14. CFI and RMSEA portray adequate information for model evaluation (Hair et al., 2014). The outcomes revealed a CFI score of .958 (> 0.90 indicates good fit) and RMSEA of .030 ($< .08$ indicates acceptable fit). The NFI result indicated a score of .877 ($> .08$ indicates acceptable fit). This describes the amount by which a model is enhanced in terms of fit compared to the base model (Hair et al., 2014). The GFI value was .866, within the acceptable cut-off level (Hair et al., 2014), while the AGFI results showed a score of .854 ($> .90$).

Hair et al. (2014) stated that no particular value on any index could separate models into unacceptable and acceptable fits. Based on the studies of researchers (Byrne, 2001; Hair et al., 2014; Tabachnick and Fidell, 2007), at least one absolute index and one incremental index, along with the values and associated degrees of freedom, should be reported. The IFI displayed a level of .958 (over the threshold of .90). Finally TLI (or NNFI) was observed to be .955 (over the threshold of .9). This compares the χ^2 value of the model to the independence model and takes the degrees of freedom of the model into consideration.

Hence, each the fitness indices met the major thresholds and supported the proposed model. Consequently, the structural model was found to be nomologically valid and logical (Steenkamp and Van Trijp, 1991). For reflective measures, standardisation allows interpretation of the beta results (Aiken and West, 1991; Hair et al., 2014; Jaccard et al., 1990). The goodness of fit indices of measurement model are presented in Table 6.27.

Table 6.27: Goodness-of-fit indices of measurement model								
Model fit indicators								
Chi-square/ χ^2	Df	RMSEA	GFI	NFI	CFI	AGFI	IFI	TLI
2364.815	1623	.030	.866	.877	.958	.854	.958	.955
X ² = Chi-square; Df = degrees of freedom; RMSEA = Root mean square error of approximation; GFI = Goodness-of-fit; NFI = Normed fit index; CFI = Comparative fit index; AGFI = Adjusted goodness-of-fit index; and TLI - Tucker-Lewis Index								

Based on these findings from the validity and reliability investigations, the measurement model provided significant loadings, satisfactory validity and reliability,

and a good model fit. The scales on the basis of the statistical requirements are therefore theoretically logical and thus acceptable. A total of 58 items were eliminated from the CFA models (see chapter 4). As a result, the underlying latent variables for the next model investigation stage were strongly recognised.

To conclude the measurement model, the leading regression path in each measurement component was fixed at a value of 1. The basic criteria used to analyse the items were each item's error variance estimate; the confirmation of items on the basis of modification indices; parsimony determination; the regression coefficient of each item; the reliability of each item and the reliability of each construct.

6.7.2 Step II: Hypothesis testing (structural model evaluation)

Step II investigates the postulated covariance linear and causal analogy between the exogenous (independent) and endogenous (dependent) latent variables, subsequent to structural model evaluation of the inner model. The structural model allows analysis of the path model or inner model. Hair et al. (2014) stated that “the structure model applies the structural theory by specifying which constructs are related to each other and the nature of each relationship” (p. 641). Figure 6.7 illustrates the construction of the PED operational model.

Furthermore, on the basis of the structural model, the research hypotheses were examined using the t-value (critical ratio) and the standardised estimate. This research was performed using AMOS to test the hypotheses. According to Hair et al. (2014), the value of the chi-square (χ^2) results directly from the fit function. The findings showed the following values: chi-square 2442.319 (df = p < .001); RMSEA .032 (< .08) (Hair et al., 2014); CFI .953; IFI .951; TLI .955 (> .9) (Byrne, 2001; Hair et al., 2014); GFI .862; and AGFI .849. Hair et al. (2014) suggested that no specific value on any index could separate models into acceptable and unacceptable fits, and there should be at least one absolute index and one incremental index and the associated degrees of freedom. The NFI result of .873 was within the range and marginal fit exists (Byrne, 2001; Hair et al., 2014; Tabachnick and Fidell, 2007).

The outcome of the nomological, convergent and discriminant validity assessment of the measurement models provided statistically and theoretically valid constructs.

Essential amendments were made on the basis of the statistical requirements for the dimensions of ambience, music, lighting, temperature, aroma, safety/privacy and spatiality, layout, comfort and functionality. The scales were adjusted on the basis of statistical justifications, with 58 items discarded from the measurement model (due to less than 0.7 CFA). Thereafter, the unrevealed latent variables were established for the subsequent stage of testing.

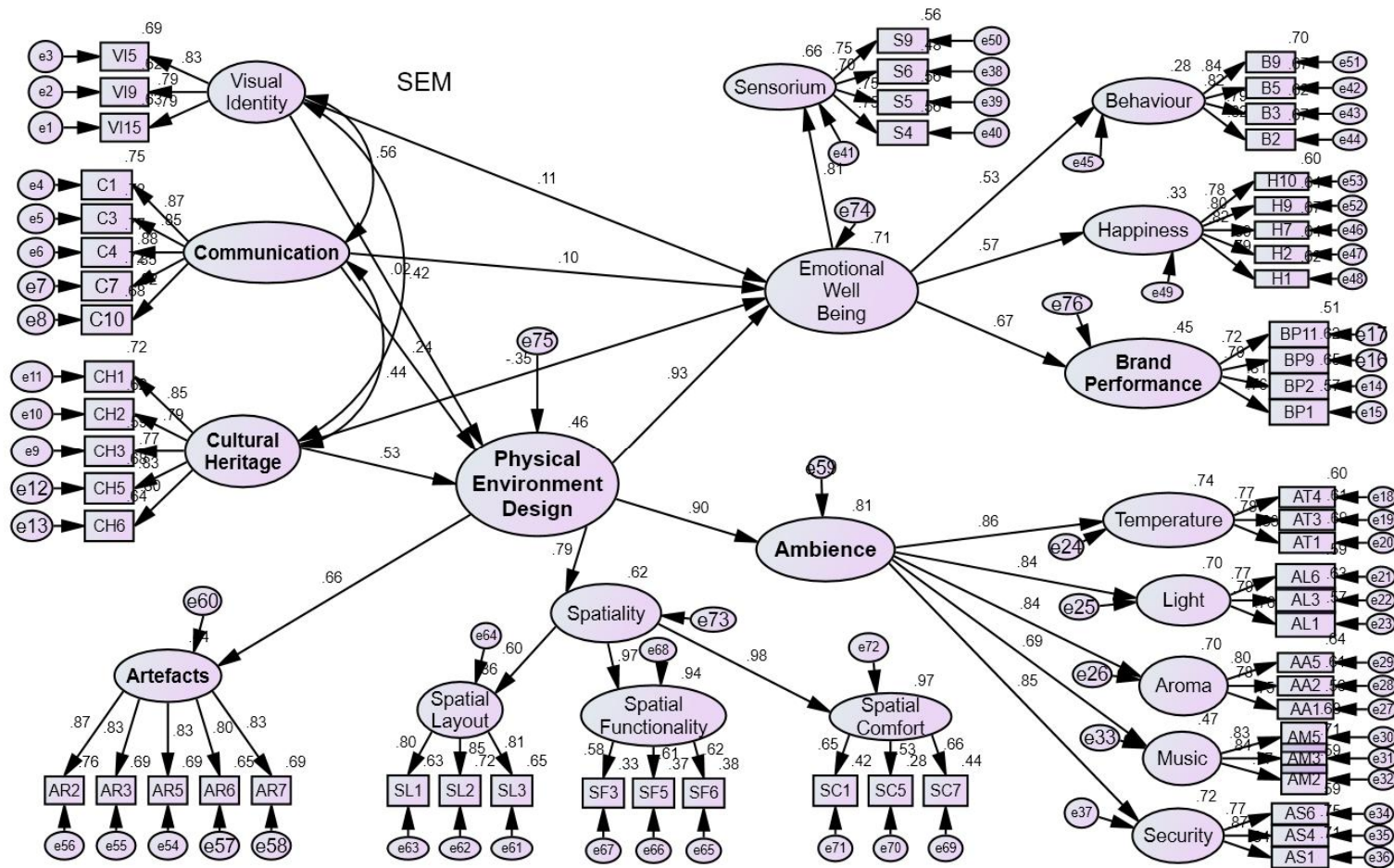
The scores of the goodness-of-fit indices demonstrated that the hypothesised model was a satisfactory fit for the empirical data (see Table 6.28). According to Gerbing and Anderson (1993), there is a difference of opinion among researchers regarding the optimum goodness of fit index, and the ideal strategy is therefore to use several indices, as some are easily affected by sample size.

Table 6.28: Goodness-of-fit indices of structural model								
Model fit indicators								
Chi-square/χ^2	Df	RMSEA	GFI	NFI	CFI	AGFI	IFI	TLI
2442.319	1627	.032	.862	.873	.953	.849	.951	.955
X ² = Chi-square; Df = degree of freedom; RMSEA = Root mean square error of approximation; GFI = Goodness-of-fit; NFI = Normed fit index; CFI = Comparative fit index; AGFI = Adjusted goodness-of-fit index; and TLI = Tucker-Lewis Index								

The findings demonstrated the fit of the proposed structural model was acceptable. In totality, the fit indices in this study were satisfactory and within the acceptable limits (Byrne, 2001; Hair et al., 2014; Tabachnick and Fidell, 2007).

In aggregate, 13 hypotheses were tested, and the implications of these outcomes are further discussed in Chapter 7. The path coefficient portrayed standardised regression coefficients (figure 6.6). The SEM revealed the linear, causal relationships between the constructs were investigated with the data acquired from the validated measures. The results of the standardised path coefficients, p-value, hypotheses results (causal paths), standard error and the parameter tests correlated to the hypothesised SEM paths and the findings of the regression weights. Figure 6.6 illustrates the SEM model.

Figure 6.6: SEM model



Source: Researcher's illustration

The square multiple correlation for the structural equations index showed that the highest variance shared by independent variables into dependent variable was in EWB, followed by PED. Table 6.28 shows the findings for causal paths (standardised path coefficients (β), standard error, p -value and hypotheses result) and the parameter estimates corresponding to the hypothesised SEM paths and the resulting regression weights. Table 6.29 then shows the standardised regression paths of the six main constructs, statistically. In other words H2, H3, H4, H7 and H8 were fully supported, whereas hypotheses H1, H5 and H6 are not supported.

Table 6.29: Results of direct hypotheses testing								
Standardised regression paths				Estimate (γ)	SE	CR (t-value)	P	Hypothesis outcome
H1	Visual identity	-->	PED	0.015	0.042	0.353	0.724	Not Supported
H2	Communication	-->	PED	0.165	0.04	4.137	***	Supported
H3	Cultural heritage	-->	PED	0.395	0.049	8.101	***	Supported
H4	PED	-->	EWB	1.001	0.191	5.239	***	Supported
H5	Visual identity	-->	EWB	0.092	0.053	1.74	0.082	Not Supported
H6	Communication	-->	EWB	0.094	0.056	1.67	0.095	Not Supported
H7	Cultural heritage	-->	EWB	-0.294	0.074	-3.946	***	Supported
H8	Consumers' perception towards brand performance	-->	EWB	0.681	0.082	8.333	***	Supported

*** $p < 0.001$

Notes: Path = relationship between independent variable on dependent variable; β = Standardised regression coefficient; SE = Standard error, p = level of significance.

6.7.3 Configural and metric invariance

This study included configural invariance and metric invariance tests for conducting multi-group data analysis (for specified demographic characteristics). In order to examine the model fit, the researcher performed configural invariance for each of the age, gender, education, occupation and store's experience (shown in Table 6.30). The results of the model fit suggested that configural invariance existed for each group. In configural invariance testing, the latent mean difference is not estimated.

Table 6.30: Configural invariance for demographic characteristics									
Configural invariance for age									
χ^2	Df	RMSEA	GFI	NFI	CFI	AGFI	IFI	TLI	RMR
6835.767	1796	.086	.883	.758	.940	.872	.941	.937	.152
Configural invariance for gender									
6036.126	1796	.086	.881	.746	.942	.873	.942	.939	.150
Configural invariance for education									
6174.309	1796	.086	.885	.748	.946	.878	.944	.941	.154
Configural invariance for occupation									
6229.624	1796	.086	.886	.755	.947	.877	.945	.942	.155
Configural invariance for store's experience									
6577.372	1796	.086	.885	.753	.943	.874	.941	.940	.152

In addition, the researcher also performed metric invariance tests (also called measurement invariance tests) to examine the goodness-of-fit in research across two groups. This involved a chi-square difference test between the fully constrained model and unconstrained model for each demographic factor: age, gender, education, occupation and store's experience (as set out in Table 6.31). It was noted that the models were significantly different, which made it necessary to further investigate where the biggest difference existed. Vandenberg and Lance (2000) stated that it was not important to delete items if there was not much difference between them. Hence, the researcher did not remove the items.

Table 6.31: Metric invariance for demographic characteristics			
Metric invariance for age			
Unconstrained	6835.767	1796	
Fully constrained	6926.106	1853	
Number of groups		2	
Difference	90.339	57	.004
Metric invariance for gender			
Unconstrained	6036.126	1796	
Fully constrained	6128.578	1853	
Number of groups		2	
Difference	92.452	57	.007

Metric invariance for education			
Unconstrained	6097.799	1796	
Fully constrained	6190.102	1853	
Number of groups		2	
Difference	92.303	57	.005
Metric invariance for occupation			
Unconstrained	6229.624	1796	
Fully constrained	6322.733	1853	
Number of groups		2	
Difference	93.109	57	.004
Metric invariance for store's experience			
Unconstrained	6577.372	1796	
Fully constrained	6671.298	1853	
Number of groups		2	
Difference	93.926	57	.009

The researcher examined the multi-group hypotheses and performed a chi-square difference test, the results of which are shown in Table 6.32. In the first group (H9), which included respondents below 30 years of age and over 60 years of age, the researcher examined whether the effect of PED on EWB was stronger among younger consumers than among older consumers. The results of the chi-square difference comparison showed that age had no significant difference on the influence of PED on EWB ($\Delta\chi^2/\Delta df = 3.544$, $df = 1$, not supported) which meant that further sub-group analysis was not required (Byrne, 2004). Likewise, the results of the chi-square difference comparison showed that gender (H10) made no significant difference to the influence of PED on EWB ($\Delta\chi^2/\Delta df = .498$, $df = 1$, not supported). Similarly, the results of the chi-square difference comparison demonstrated that education level (H12) made no significant difference to the influence of PED on EWB ($\Delta\chi^2/\Delta df = .407$, $df = 1$, not supported).

However, the researcher found that the results of the chi-square difference comparison illustrated that occupation (H11) made a significant difference to the influence of PED on EWB ($\Delta\chi^2/\Delta df = 12.911$, $df = 1$, supported). Similarly, the results of the chi-square difference comparison showed that different store experiences (H13) made a significant difference to the influence of PED on EWB ($\Delta\chi^2/\Delta df = 15.815$, $df = 1$, supported).

Table 6.32: Results of moderating effect hypotheses testing				
Hypotheses	df	CMIN	P	Result
H9	1	3.544	.178	Not Supported
H10	1	.498	.517	Not Supported
H11	1	12.911	.003	Supported
H12	1	.407	.320	Not Supported
H13	1	15.815	.001	Supported

This research shows the first study findings effects of socio-demographic characteristics (age, gender, education, occupation and store's experience). The results suggested that consumers' socio-demographic characteristics in terms of age, gender and occupation had no significant impact on the relationship between PED and EWB. Thus, no further sub-group analysis was performed (Byrne, 2004). Analysis showed that only limited moderating effects of these characteristics were present, but overall the associations between PED and EWB were independent of age, gender and occupation. However, individuals who were currently employed had a different shopping experience from housewives and retired people. Moreover, all the consumers had their own personalised store experiences on the basis of their understanding and educational background.

The results suggested that store atmosphere created by PED had a positive relationship with consumers and significant influence on EWB. Additionally, they showed that only two demographic variables i.e. education level and store's experience have a substantial influence on EWB, while other variables such as age, gender and occupation had an insignificant relationship with EWB. Hence, the education and store experience of the consumer was found to moderate the relationship between store atmosphere and EWB. In contrast to most prior studies that researched only the impact of store atmosphere on EWB, this research explored the role of the demographic variables as moderators.

6.8 Summary

The objective of this chapter was to describe the data analysis. With the active participation of respondents, the survey successfully received a useful response. The profile of the respondents was consumers in the UK. To achieve the research

objectives for the current study, the data was evaluated in three phases. The first phase examined the data and elaborated a descriptive analysis of the demographic characteristics. Beforehand, the data was screened and the missing data was revealed. The accuracy of the data was evaluated through linearity, normality, homoscedasticity and non-response bias tests to derive accurate results. Some skewness and kurtosis were present in the responses and indicated that data was normal at a univariate level. Mahalanobis D^2 (d-squared) demonstrated that only 17 multivariate outliers were present. Levene's test of homogeneity was uncritical (i.e. > 0.05) and the variances were not statistically valid and considerable. Multicollinearity, investigated using bivariate Pearson correlation, illustrated that r and the value of VIF were not beyond the range, which indicated it was void. The Mann-Whitney U-test was analysed for non-response error from respondents, and the results were insignificant and similar between the early and late respondents.

EFA was conducted to explain the data. The conceptual model was evaluated, based on the suggestion of Anderson and Gerbing (1988), by developing a measurement model prior to structural analysis of the model. The measurement model was analysed for stability, discriminant validity, construct validity and convergent validity. The factors were extracted on the basis of eigenvalues and a scree plot. Consequently, 106 items from six main constructs (visual identity, communication, cultural heritage, physical environment design, emotional well-being and consumers' perception of brand performance) were eliminated from the total of 165 items. These deletions were based on the fact that these items had low communalities or low reliability, or they were highly cross-loaded onto other factors that could not be theoretically justified.

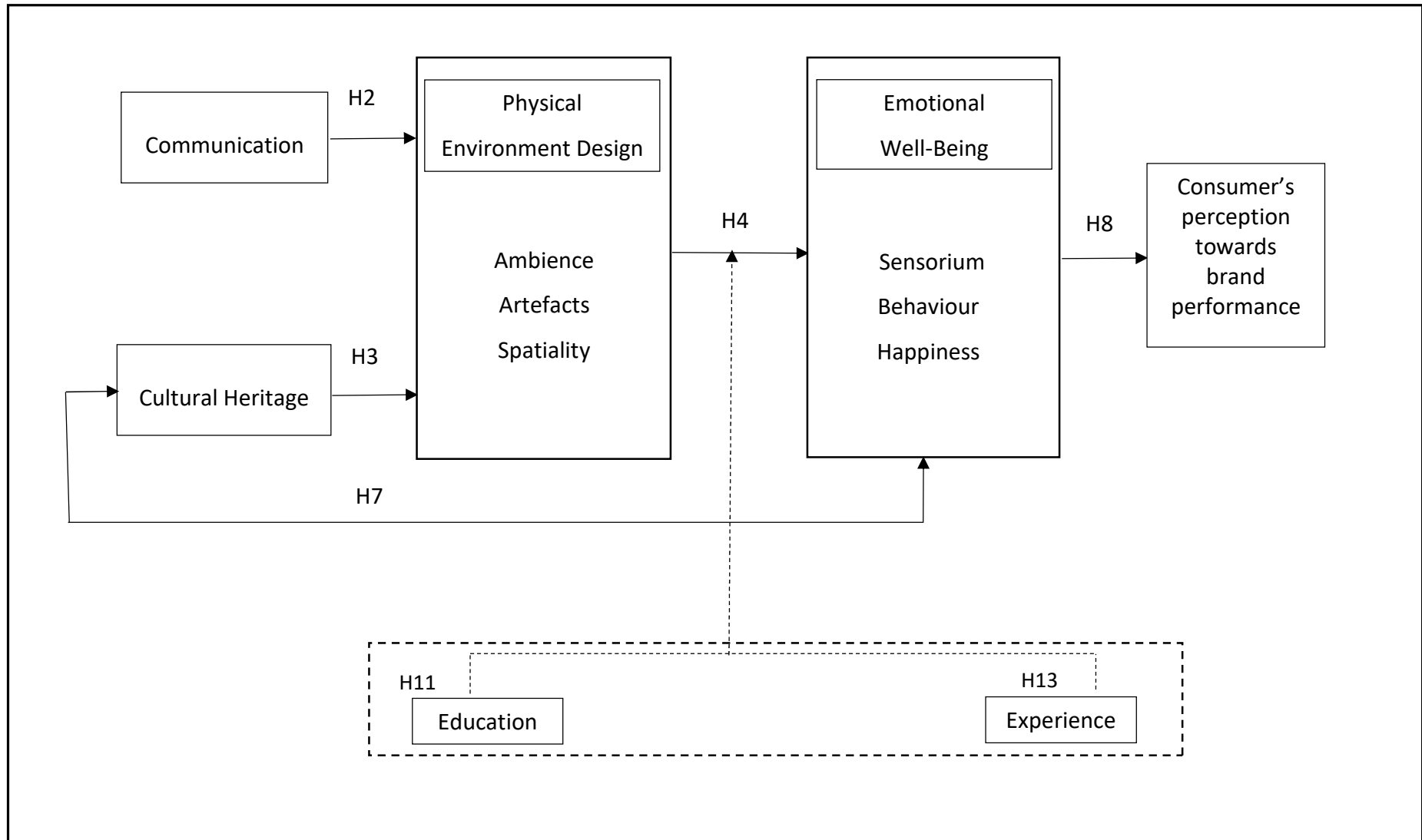
In addition, the factors extracted (after EFA) were correspondingly examined using scree plotting. Altogether, each variable illustrated AVE values beyond 0.5, suggesting adequate convergence and discriminant validity for the measurements. Analysis of nomological validity was based on the correlation matrix of the constructs. Therefore, in order to investigate the possibility of multicollinearity, a correlation analysis was tested for interrelationships between the research variables.

The second phase of this analysis involved CFA of several measurement models to analyse goodness-of-fit. This thesis assessed CFA of several measurement models and

a structural model of the proposed PED model using AMOS for 503 sample elements. Initially, the fit of the measurement model was analysed using CFA to evaluate goodness-of-fit. Each indicator was highly loaded on its specified factors and the overall goodness-of-fit indices, indicating acceptance of the model. Following, all the constructs were assessed for reliability and validity, Cronbach's alpha, composite reliability and validity of the research equipment. Furthermore, convergent validity, discriminant validity and nomological validity for each construct were verified. In this study, CFA provided the empirical evidence of construct validity based on assessment of the psychometric properties and measurement model fit.

The third stage elaborated the development and evaluation of the SEM. The proposed model was tested using SEM with a two-step approach. In the first-step, the measurement model was tested to distinguish item and construct reliability, discriminant validity and convergent validity. The measurement indices revealed that the model was a perfect representative of the data and strongly supported the hypotheses. Five of the eight hypotheses were supported. Figure 6.7 illustrates the final model for this thesis. The next chapter of this thesis elaborates the discussion, conclusions and implications of the results for this study.

Figure 6.7: Validated Model



CHAPTER 7: DISCUSSION

7.1 Introduction

In order to achieve the research objective, the constructs identified as antecedents to PED were explored and the influence on consumers' perception of brand performance was measured. Furthermore, these constructs were investigated to understand the effect of PED on consumers' perception of brand performance from the perspective of consumers. The outcomes of this study discovered that: (a) the visual identity construct was not considered to be an important determinant of PED, while the communication and cultural heritage constructs were found to be notable antecedents that positively influence PED; b) the PED of a retail store positively influences consumers' EWB, which directly affects their perception of the brand performance of stores; and (c) there is no direct relationship between visual identity and communication and the EWB of consumers, while cultural heritage does positively influence EWB.

This thesis illustrates that the PED of a retail organisation influences consumers' EWB and thus increases consumers' perception of brand performance. Five out of eight direct hypotheses were confirmed (H2, H3, H4, H7 and H8) and the remaining three (H1, H5 and H6) were not confirmed. The researcher also used demographic characteristics (age, gender, education, occupation and store's experience) to find their moderating effects on the influence of PED on emotional well-being. The findings showed that some of these demographic aspects had an influence. Two of the hypotheses were statistically significant and supported, those relating to consumers' education and consumers' store experience (H11 and H13 respectively). However, the three hypotheses (H9, H10 and H12) relating to age, gender and occupation were not statistically supported and hence were not supported.

The results did not confirm the use of visual identity in a retail store would enhance PED, as it was not found to positively affect the emotional well-being of consumers. However, communication was found to play an important role in PED, but not to positively affect EWB, indicating that these constructs should not be embodied in the

model. In view of these findings, revealing no linkage between either visual identity or communication and EWB, these constructs were eliminated.

Based on the recommendations of previous research, this thesis illustrates the results that have established the necessary psychometric properties for the reflective first-order components and higher-order constructs, and form the hierarchical model (Diamantopoulos and Winklhofer, 2001; Jarvis et al., 2003; Marsh and Hocevar, 1988). The results from the SEM demonstrated that when a retail store had an influential PED, this had a positive and significant effect on consumers' emotional well-being. The retained constructs conclude that the contribution of communication and cultural heritage to PED positively affect consumers' EWB, which in turns influences consumers' perception towards brand performance.

This chapter of the study discusses the findings of the qualitative and quantitative research and how they related to the existing literature. Section 7.2 presents the overview of the thesis. Section 7.3 discusses outcomes on the overall hypotheses including the definitions and lastly, section 7.4 is based on the summary.

7.2 Overview of the study

This thesis aimed to explore and understand the integral role of the developmental process of an environmental design which affects consumers' state of mind, influences their emotional well-being and increases their perception towards brand performance. In order to do so, the study investigated the notion of PED, its components (ambience, artefacts and spatiality), its effects on consumers' emotional well-being and its components (sensorium, behaviour and happiness), and its effects on consumers' perception towards brand performance. Finally, the study examined the effects of visual identity, communication and cultural heritage on PED, EWB and consumers' perception towards brand performance. The topic of this research is significant because of the rapid growth of online selling (Akbar and James, 2014; Cheng and Thorstenson, 2018; Rose et al., 2012). The marketing literature has extensive studies about PED (Baker, 1987; Lucas, 2003; Rosenbaum et al., 2016) and how it affects the business of retail stores (Bitner, 1992, Dennis et al., 2010; Kotler, 1973), while the current research focuses on the emotional well-being of consumers (Chebat and Michon, 2003; El Hedhli et al., 2016; Sweeney and Soutar, 2001).

This research explores questions such what a building space would look and feel like if it were designed to promote emotional well-being, and how this affect the senses, emotions and mind. In exploring these issues and answering the main research questions, this study closes numerous research gaps in the literature.

Firstly, there was a lack of empirical research on how PED itself might be defined (Baker et al., 2002; Harris and Ezech, 2008; Hassenzahl et al., 2013; Zeynep and Nilgun, 2011). Secondly, there was no systematic research study concerning consumers' perceptions of PED (Baker et al., 2002; Loureiro et al., 2014; Moon et al., 2016; Muhammad and Ng, 2002; Singh, 2006). Thirdly, this study was one of the first to attempt to collect empirical evidence that PED influenced consumers' EWB (El Hedhli et al., 2013; Jeon and Kim, 2012; Jones and Reynolds, 2006; Moon et al., 2016), and ultimately led to the enhancement of consumers' perception towards brand performance. Furthermore, Chebat and Michon (2003), who have examined PED, stressed the importance of studying place identity theory, affective theory and emotional theory.

These gaps raised the following questions: What is PED? What is its contribution to EWB? What is the role of visual identity, communication and cultural heritage in influencing PED? What is the impact of ambience, artefacts and spatiality on PED? Does emotional well-being positively affect consumers' perception towards brand performance?

This thesis attempts to address various gaps related to PED in the existing marketing literature. For this research, measurement scales were initially developed on the basis of the academic literature. It was essential to refine these items before operationalising the conceptual model. In all, 165 items were subjected to a purification process (see Chapter 6) undergoing both qualitative and quantitative methods. The research instrument (questionnaire) was pre-tested by academic researchers which ensured content validity, and this was followed by the pilot study. The data was then collected and the final measurement scales were developed.

In agreement with a number of prior studies, this research has concluded that PED influences individuals in different ways (Kotler, 1973; Milliman, 1986; Zeynep and Nilgun, 2011). A few respondents introduced items during the exploratory phase. These possible new items added aspects and uncovered the deeper meaning of the research (Creswell, 2011; Maxwell, 2013; Zinkhan and Hirschheim, 1992). In order to examine the role of PED on influencing EWB and improving consumers' perception towards brand performance, qualitative methods were used in addition to quantitative methods (Deshpande, 1983), which have received little attention to date.

The second phase was the deductive phase, which included the quantitative survey and numerical representations. The results of the literature were used to determine the robustness of the theoretical model, which can unmask the relationship between PED, EWB and consumers' perception towards brand performance. Based on the findings from the qualitative study (literature review, interviews and focus group), a questionnaire was developed to collect quantifiable measures of given variables (Churchill, 1979). The "process of measurement or operationalisation involves rules for assigning numbers to objects to represent quantities of attributes" (Melewar and Saunders, 1998, p. 300). After this phase, the conceptual model was operationalised.

The quantitative data analysis was performed using EFA, CFA and SEM. The results revealed that each construct had appropriate values for Cronbach's alpha, composite reliability, AVE, discriminant validity and model fit. The structural model was assessed to check the goodness-of-fit of the model. The researcher found adequate values. Each hypothesis was then investigated. Of the 13 hypotheses, seven were supported, while six hypotheses were not supported.

7.3 Empirical findings

The section below discusses the inferences made by the participants in interviews and focus groups. This thesis answers three research questions (see Chapter 1). All the research questions were answered using mixed-method techniques (qualitative and quantitative). The qualitative findings from the expert interviews and focus groups illustrated that PED (ambience, artefacts and spatiality) had a positive effect on consumers' emotional well-being and consumers' perception towards brand performance. Explanations given by professional participants and other respondents

offered a deep understanding of the concepts of interest by addressing the research questions. It has also been found that, while the PED of a retail store is unable to improve brand performance, it reinforces the EWB of consumers' through innovative design concepts and encourages them to revisit. The findings suggest that the influence of PED of a retail store will have an effect on consumers' EWB which in turn helps to improve brand performance. Predominantly, these findings are consistent with the outcomes reported in past studies.

AMOS 24.0, a component-based SEM program, was employed for the quantitative analysis. AMOS facilitates the examination of the model's latent variables (LV) under non-normalised and number of samples, examines the measurement path and enables regression estimation of structural paths. The following section addresses the core theme of this study.

7.3.1 Physical environment design (focal construct) and its effect

The main objective of this thesis is to impart an understanding of PED and its interactive dimensions such as ambience, artefacts and spatial layout, and the effect of these components on consumers' emotional well-being. From a marketing perspective, retail stores are rich in sensory and cognitive characteristics that develop stimulation in consumers (Bagozzi et al., 1999; El Hedhli et al., 2016; Kaltcheva and Weitz, 2006). Customers aspire to more than just the delivery of tangible products showcased in virtual spaces (Jin et al. 2012), which can create unique, enjoyable and memorable experiences (Martineau 1958). By investigating how such experiences resonate with individuals and help build up their emotional well-being, this study extends the existing literature.

PED, as defined by Baker (1987) and Lucas (2003), is the man-made built environment which is a combination of ambience, aesthetic designs and social factors; also referred to as the servicescape which has an impact on perceived service quality and purchase intention (Elder et al., 2010; Harris and Ezech, 2008; Wakefield and Blodgett, 1996). The three elements of PED are ambience, artefacts and spatiality, which influence consumers' behaviour (Baker et al., 2002) and can be described as follows:

1. Ambience is created by number of physical installations developed to intrigue and influence positive attitudes, which helps to arouse consumers' senses and to take decisions in the servicescape (Morrison et al., 2011; Sabrina 2014; Vada et al., 2019; Wakefield and Baker, 1998).
2. Artefacts are the tools which can be used as an inspiration for contemporary designs in creating the structures ranging in the form of symbols or icons (Samuel and Douglas, 2006; Noonan et al., 2003; Xin et al., 2007). The artistic details make the store very attractive and offer profound cues for people to linger and move slowly from one point to another (Joy and Sherry, 2003).
3. Spatiality is the arrangement and functionality of objects that meet the design requirements and have a perceptual impact on customers' satisfaction and buying behaviour (Krukar and Dalton, 2013; Li, 2004; Lovelock and Wirtz, 2006).

The outcomes of this research confirm the relevance of all three elements. Researchers have found that ambience created by music, lighting and colour in support of an underlying theme (Baker, 1987), presented by PED, is a crucial part of a store's image (Cheng et al., 2016; Oh et al., 2008; Sharma and Stafford, 2000). The ambience of a store contributes to an atmosphere where visitors can relax and feel comfortable (Pullman and Gross, 2004). Ambience through PED gains recognition and appreciation from customers (Hui et al., 1997; Mattila and Wirtz, 2001; North and Hargreaves, 1998; Yalch and Spangenberg, 1993).

The final outcomes of this study suggested that the ambience (music, lighting, temperature, aroma, safety/privacy etc.) was based on 15 aspects (items). Of these, AA2, "the store's aroma is adequate" (Bogicevic et al. 2016; Kaltcheva and Weitz, 2006) received the highest factor loading (0.895). The other items in ambience included "the store's music is appropriate" (Dennis et al., 2012; Dube and Morin, 2001; Duncan Herrington, 1996; Han and Ryu, 2009; Hui et al., 1997; Mattila and Wirtz, 2001; North et al., 1999; Singh 2017; Wakefield and Baker, 1998; Yalch and Spangenberg, 1990); "the store's music makes the environment a more enjoyable place" (Banat and Wandebori, 2012; Kim et al., 2016; Milliman, 1982; Oakes, 2000; Siddhibhongsas and Kim 2017); "the store's music is suitable for my shopping

experience” (Ballouli and Bennett, 2014; Beverland et al., 2006); “the store’s lighting is appropriate” (Babin et al., 2004; Bonn et al., 2007; Martinez and Casielles, 2017; Wakefield and Baker, 1998); “the store’s lighting highlights the displayed products” (Babin et al., 2004; Bonn et al., 2007; Dennis et al., 2012; Han and Ryu, 2009; Singh, 2017; Summers and Hebert, 2001); “the store’s lighting influences my decision,” (Eroglu et al., 2003; Martinez and Casielles, 2017); “the store’s temperature is comfortable” (Han and Ryu, 2009; Jani and Han, 2014; Kim et al., 2016; Wakefield and Baker, 1998); “the store’s temperature influences my decision” (Eroglu et al., 2003; Martinez and Casielles, 2017); “the store’s temperature is well maintained” (Ng, 2003; Kim et al., 2016); “the store’s aroma is appealing” (Mongkol, 2016; Ryu and Jang, 2007); “the store’s aroma evokes positive influence” (Martinez and Casielles, 2017; Ryu and Jang, 2007); “the store offers a safe and secure environment”, (Haj-Salem et al., 2016; Qu et al., 2011); “the facilities and equipment are safe in the store” (Kim et al., 2016); and finally “the store’s ambience positively contributes to the PED” (Baker, 1987; Bitner, 1992; Chebat and Michon, 2003; Cheng et al., 2016; Han and Ryu, 2009; Hui et al., 1997; Kotler, 1973; Lee and Jeong, 2012; Mattila and Wirtz, 2001; Nguyen and Leblanc, 2002; North and Hargreaves, 1998; Tuzunkan and Albayrak, 2017; Wakefield and Bakers, 1998; Yalch and Spangenberg, 1993).

As noted above, the aspect of ambience which gained the highest factor loading (0.895) is “the store’s aroma is adequate”. This item was also consistently mentioned by participants in the qualitative interviews. For example, the following comments were made:

“I think design features create atmospheric stimuli such as optimum temperature, aromatic fragrances, soothing music. [It] grabs my attention not just through its representation or decor but also because of its utilitarian effects.” (Interviewee 9, entrepreneur)

“A retail organisation is considered as a set of stimuli to make a unique physical environment design. Sensorium very well recognises the different stimulus available in the retail organisations which can lead to consumers’ intended reactions. Attributes which appeal to one or more human senses significantly affect consumers’ emotional

well-being. It can make them feel joyful and give them relaxation [...] maybe through listening to music, smelling pleasant scents, feeling distinct aromas and so on.” (Interviewee 10, chairman)

In close proximity, artefacts were also found to be a key determinant of PED. These involve decor or symbols that can influence a customer’s interpretation of PED (Bitner, 1992; Nguyen and Leblanc, 2002; Oh et al., 2008), and hence provide the consumer with an aesthetic appeal to evaluate the PED of a retail store. The outcomes of this study suggested that artefacts were based on five aspects (items). Of these, AR2 “the store’s artefacts are helpful (in-store signage) (Singh, 2006), gained the highest factor loading (0.852). The other items were that “the store’s artefacts have attractive colours” (Bogicevic et al., 2016; Dhurup et al., 2013); “the store’s artefacts are memorable” (Siu et al., 2016); “the store’s artefacts provide aesthetic sense” (Du Randt, 2016); and finally “the store’s artefacts positively contribute to the PED” (Baker, 1987; Bitner, 1992; Chebat and Michon, 2003; Cheng et al., 2016; Han and Ryu, 2009; Hui et al., 1997; Kotler, 1973; Lee and Jeong, 2012; Mattila and Wirtz, 2001; Nguyen and Leblanc, 2002; North and Hargreaves, 1998; Tuzunkan and Albayrak, 2017; Wakefield and Bakers, 1998; Yalch and Spangenberg, 1993). The factor loadings for these items ranged between 0.501 to 0.808, which fulfilled the reliability requirements (Churchill, 1979).

As noted in the previous paragraph, the aspect of artefacts that gained the highest factor loading (0.852) was “the store’s artefacts are helpful (in-store signage)”. This item was emphasised by participants in the qualitative interviews. For example, some made the following comments:

“...another example is for the retail space of a bank, which operates not just as a traditional banking space. It has elements of artefacts that have got cash out and all that kind of stuff, but in order to engage digitally savvy young audience using things, they are putting out artefacts into a digital concept which may be screen-based that is interactive, that enables people not necessarily to make big decisions there, but to stimulate thinking and to create an awareness that the brand understands their demography. For example, what can I do

with student loan/how to use this loan for my holiday package and stuff like that...” (Interviewee 6, CEO)

“I believe artefacts are the objects used to decorate the retail units, and in a way create a bond with customers. It is not necessary for an artefact to be historical or traditional. Well, it can be [...] but in the present scenario, these artefacts can be more illustrative through technology such as usage of digital signages, kiosks, TV screens, electronic displays these days, which are helpful for retailers and customers.” (Interviewee 7, communication and design manager)

On a similar note, spatiality was also found to be another key determinant of PED. The spatiality of an organisation may either ease or hinder movement, thereby evoking a sense of space in visitors with regard to PED (Kaya and Erkip, 1999). Retailers can display merchandise in almost any suitable fashion and provide sufficient area for customers’ movement and thus the overall PED becomes appealing to the patrons (Kotler, 1973). The outcomes of this study suggested that spatiality was based on nine aspects (items). Of these, SC7, “the store’s spatial layout positively contributes to the PED” (Baker, 1987; Bitner, 1992; Chebat and Michon, 2003; Cheng et al., 2016; Han and Ryu, 2009; Hui et al., 1997; Kotler, 1973; Lee and Jeong, 2012; Mattila and Wirtz, 2001; Nguyen and Leblanc, 2002; North and Hargreaves, 1998; Tuzunkan and Albayrak, 2017; Wakefield and Bakers, 1998; Yalch and Spangenberg, 1993), gained the highest factor loading (0.869). The remaining items were “the store has easy accessibility (entrance)” (Mathur and Goswami 2014; Paige and Littrell, 2002); Wakefield and Blodgett, 1994); “the store has multiple windows and gates” (Wakefield and Blodget, 1994); “the overall layout of the store is easy to get around” (El Hedhli et al., 2013; Mathur and Goswami, 2014; Wakefield and Baker, 1998); “the signs and symbols made it easy to get where I wanted to go” (Bogicevic et al., 2016); “the store has adequate price displays” (Du Randt, 2016); “the store is well equipped with surrounding facilities (lounge)” (Kim et al., 2016); “the store provides easy accessibility” (Bonn et al., 2007; Jang and Namkung, 2009; Wakefield et al., 1996; Qu et al. 2011; Wakefield and Blodgett, 1994; Wakefield and Baker, 1998); and finally “the store has sufficient aisle space and width” (Du Randt, 2016; Kim et al., 2016; Steen, 2016; developed and based on Baker et al., 1994).

As noted above, the aspect of artefacts which gained the highest factor loading (0.869) was “the store’s spatial layout positively contributes to the PED”. This item was repeatedly referenced by participants in the qualitative interviews. The respondents mentioned that:

“I think spatiality is the most important thing for any space planning. You have to understand what you are selling, what kind of things you want people to access, how you want them to access, and yeah sometimes you have various merchandise and you want the stuff to be noticed [...]. If you observe, all the expensive stuff is displayed at your eye level and all the other things probably which are less expensive are put on lower shelves. Some other necessary things you want to buy will be closer to the tills as well. In terms of spatial planning, what you need to look at is what you want to sell, what kind of movement you want to achieve, so that there is no conflict [...]. The customer traffic should be very free flowing, stuff is easy for people to find, easy movement, it should have enough space for people to stand and look at things. There should be enough space for people to circulate and enough space for other people.” (Interviewee 3, marketing manager)

“I believe spatiality is very important in terms of practical issues in an environment. I mean planning of the available space and navigation through that space. Another factor I think is the positive and favourable functionality which should be prominent in the store as it very much enhances consumers’ perceptions.” (Interviewee 10, chairman)

Lindstrom (2005) and Pine and Gilmore (1998) stated that there had been a drastic shift towards an increase in retailers using the elements of PED (ambience, artefacts and spatiality) such as in store music, specific enticing aromas and modifying layouts and decor. To justify the rational impact of ambience, artefacts and spatiality several literature (Baker 1987; Bitner, 1992; Chebat and Michon, 2003; Hui et al., 1997; Kotler, 1973; Mattila and Wirtz, 2001; North and Hargreaves, 1998; Tuzunkan and Albayrak 2017; Wakefield and Bakers, 1998; Yalch and Spangenberg, 1993) have

been conducted in marketing research. Han and Ryu (2009) and Lee and Jeong (2012) recognised ambience, overall decor and artefacts, and spatiality as the ruling dimensions of PED the context of the retail industry.

One item that was found from the qualitative study, established by the previous literature (Dennis et al., 2014; Newman et al., 2006; Schmitt, 1999; Zeng and Richardson, 2017) and confirmed by the quantitative study was “the store communicates through digitalisation”, which received factor loading of 0.816. Some participants commented that:

“Well, it can be [...] but in the present scenario, these artefacts can be more illustrative through technology such as usage of digital signages, kiosks, TV screens, electronic displays these days, which are helpful for retailers and customers.” (Interviewee 7, communication and design manager)

“Be it a traditional print-based communication through a brochure, or be it through a website or mobile apps or text messages on a phone [...], all communication tools deliver effective information to consumers. It brings clarity to the consumers. I must say that all business owners, no matter how big or small, need to be thankful to social media which has given them numerous ways to reach their target consumers. And from the consumers’ point of view, consumers feel informed and feel personalised when they are approached.” (Interviewee 10, chairman)

Building on the existing literature (Baker, 1986; Bitner, 1992; Kotler, 1974, 2000), this theme provides evidence that is similar to participants’ comments. Fast preferential reactions to emotionally significant stimuli are considered essentially adaptive as they usually stand for objects that, if experienced in reality, would most likely enhance or diminish one’s emotional well-being. This is supportive of the conclusion drawn from prior researchers (Bottger and Lee, 2017; El Hedhli et al., 2016; Helme Falk and Hulten, 2017; Park and Stoel, 2018; Thang and Tan, 2003). The section below discusses the hypothesis testing and sets out how the research objectives have been achieved.

7.3.2 Discussion of the hypotheses tests

Based on the qualitative research findings from the interviews and focus groups, the two main factors with a confirmed influence on PED were communication and cultural heritage. This section further explains the hypotheses tests with support from the existing literature.

7.3.2.1 Antecedents of physical environment design

Visual identity

Numerous marketing scholars (Abratt, 1989; Balmer and Gray, 2000; Bartholme and Melewar, 2011; Foroudi et al., 2014, 2016, 2018, 2019; Melewar and Saunders, 1998, 1999, 2000; Munajjed and Sulaiman, 2015; Van den Bosch et al., 2006) have emphasised that visual identity, through components such as symbols, logos, colour and design, make an effective presentation that impacts consumers. The qualitative findings of this study suggested that visual identity positively affected PED. Some participants expressed this in the following ways:

“Visual identity through its novel features contributes to stimulation.

Visual identity creates a diorama in an innovatively structured retail setting. It certainly enriches physical environment design.”

(Interviewee 4, marketing professor)

“Visual elements in the visual clues possess vibrant colours and some distinguished catchy expression for easy recognition for the people to create a sort of connection with their minds.” (Participant from FG 3)

However, some of the hypotheses, based on the results of the quantitative study, were not proved. The relationship between visual identity and PED was found to be non-significant, which was an unexpected outcome ($\gamma^2 = 0.015$, t-value = 0.353, $p = 0.724$). Therefore, H1 was rejected. In other words, visual identity has an insignificant impact on the PED of a retail store. This result is in contradiction with those of prior marketing studies (Bartholme and Melewar, 2011; Dowling, 1994; Gibson, 1966; Hynes, 2009; Melewar et al., 2006; Melewar and Saunders, 2000; Munajjed and Sulaiman, 2015; Olins, 1985; Shimp, 1990; Van den Bosch et al., 2005).

Communication

Communication and PED are intensely connected in terms of creating understanding for consumers in retail stores (Mehta and Chugan, 2013). According to Kotler (1973), PED is an effort to create a store environment that can influence the emotions of consumers. It is a silent language that communicates to consumers and holds their attention (Khalili, 2017). For instance, colour schemes communicate cultural attributes and influence “the statement, effect, and acceptance of objects and space” (Meerwein, 2007, p. 12).

“Any retail organisation is meaningless if it does not communicate with its shoppers. Communication means a process in which the information is conveyed through sound, symbols or maybe reading material such as brochures and leaflets to its shoppers.” (Interviewee 3, retail manager)

“Communication is the key factor in retail settings where brands or products tell their story and engage customers in a compelling way. Customers gain visual experiences through communication, motivating as well as informing and involving them with a brand or product. A simple message is passed on through intense communication channels of visual expressions.” (Interviewee 4, marketing professor)

The qualitative findings were confirmed by previous scholars (Aslam, 2006; Chebat and Morrin, 2007; Dennis et al., 2014; Khan, 2009; Tavassoli, 2001). Communicating strategies in the retail store are an effective way of ensuring the illustrative recognition of merchandise, which has long-term benefits (Kapferer, 2014). Further, the qualitative findings suggested that, through communication, consumers felt connected with the retail stores, as they were updated with useful information even when they were not physically present there (e.g., on their mobile phone). One interviewee expressed the following:

“Be it a traditional print-based communication through a brochure, or be it through a website or mobile apps or text messages on a phone [...], all communication tools deliver effective information to

consumers. It brings clarity to the consumers. I must say that all business owners, no matter how big or small, need to be thankful to social media which has given them numerous ways to reach their target consumers. And from the consumers' point of view, consumers feel informed and feel personalised when they are approached."

(Interviewee 10, chairman)

Corporate communication such as advertising, public relations and branding have a significant and positive effect on the PED of retail stores. These qualitative findings were confirmed by previous studies (Bhattacharya and Sen, 2003; Chebat and Morrin, 2007; Dennis et al., 2014; Khan, 2009). Furthermore, the results for hypothesis H2 were statistically significant ($\gamma^2 = 0.165$, $t\text{-value} = 4.137$) and the path from communication to PED was shown to be supported. Hence, this confirms that communication through elements of organisation positively contributes to PED.

Cultural heritage

Incorporating artistic elements into the store creates demarcation between different retail stores (Aaker et al., 2001; Bonn et al., 2007; Duran et al., 2015; Jiang et al., 2015; Napoli et al., 2014; Neill, 2005; Puczko and Bachvarov, 2006; Qu et al., 2011; Vukadin et al., 2016; Wheatley and Bickerton, 2017), which helps in the development of cultural infrastructure and the promotion of businesses (Evans, 2009; Jayne, 2005). Retailers associate the store with a cultural icon and try to revive their retail stores with traditional assets (Roquet, 2012). This was emphasised by the following comments from participants in the research:

"Cultural heritage means culture. I would say cultural heritage tells you everything, where the culture has come from. So, when you see Selfridges, it means they have 150 years of history, when there were not many stores, when women were not allowed to go and shop in the store, when only the posh, high-class people used to go and buy from the store. Also, when you see Harrods, the cultural heritage tells you the firm, the corporation has come somewhere from a Middle Eastern country, and has something to do with Egypt. Because when you see pharaohs [...] it means Egypt, and that pharaoh also means it goes

back to 3,000 [or] 4,000 years ago, which means something is very old, and when something which is very old in the market, it means it is very credible. You know what it means is that they are existing in the market, you can trust them, you can rely on them.” (Interviewee 9, visual head of merchandising)

“In my opinion, cultural heritage is tradition which can bring authenticity or genuine features of a particular place and stimulate the environment.” (Participant from FG 4)

Cultural heritage has a significant and positive effect on the PED of the retail stores. The qualitative findings are consistent with previous studies (Aaker et al., 2001; Dauce and Rieunier, 2002; Jiang et al., 2015; Norberg-Schultz, 1971; Vukadin et al., 2016). In addition, the results from the quantitative study also confirm the positive relationship between cultural heritage and PED. Hypothesis H3 was statistically supported ($\gamma^2 = 0.395$, $t\text{-value} = 8.101$), and the path from cultural heritage to PED was significant. This confirms that the cultural heritage chosen by an organisation positively contributes to the identity and integration of new concepts in the PED. The next section discusses the findings for the impact of cultural heritage on consumers' emotional well-being.

7.3.2.2 Effect of physical environment design on emotional well-being

According to Knez (2014) place-related events are emotionally processed due to place-related attachment. Place identity provides not only a cognitive component but an emotional component to consumers. The stronger the attachment or sense of belonging the consumers feel, the more emotionally and easily they connect with and perceive the retail store when they visit it again. The related cognition creates an importance for place bonding and provides beneficial experiences in physical surroundings (Casey, 2000).

The prior literature suggests that emotional well-being is a psychological experience that can be defined as overall comfort and satisfaction (Zikmund, 2003) through which an individual feels revitalised, cheerful and delighted (Hassenzahl et al., 2013; Pyke et al., 2016), gains sensation through perceiving the external world (Welch,

2013), and is able to develop purchase-making patterns (Sorrento, 2012), available through multiple dimensions in the physical environment (Diener, 2009; Michaelson et al., 2009; Stiglitz et al., 2009) (as explained in Chapter 2). This was affirmed by the qualitative findings, as the respondents agreed with the proposed definition. Building on this, a participant in a focus group summarised it as follows:

“The starting point for improving the emotional well-being of consumers is to understand how the spaces are emotionally effecting them. Are the places able to give them some kind of a pleasure or not...is it making them happy or not?” (Participant from FG 4)

“I believe emotional well-being is a feeling which one gets when one is completely satisfied with whatever is going around him. It can be defined at various levels such as emotional, physical, spiritual and more. It fills me with a beautiful energy. Emotional well-being is a perspective that can be attained when the environment around gives positive energy. A better place or an environment which makes me feel emotionally better.” (Interviewee 9, entrepreneur)

This finding is consistent with previous studies (Aakhus and Laureij, 2012; El Hedhli et al., 2013; Ulrich et al., 2008) which have emphasised the emotions and feelings of consumers. The relationship between PED and EWB was found to be significant ($\gamma^2 = 1.001$, $t\text{-value} = 5.239$). Thus, hypothesis H4 was accepted. The findings strongly indicated that the PED of a store positively influenced the EWB of consumers. The attractive aesthetics of a retail store creates an enjoyable experience among consumers and directly affects their buying behaviour. According to Milliman (1986), “Atmosphere is a term that is used to explain our feelings towards the shopping experience which cannot be seen.” Furthermore, researchers (Elsbach and Pratt, 2007; Kotler, 1973; 1974; Power, 2014; Rubio et al., 2017; Sailer et al., 2015; Seock, 2009) described PED as “the design of the retail chain outlet that produces specific emotional effects on the buyer that enhances his purchasing probability”.

In the next section, this research examines the role of visual identity, communication and cultural heritage in enhancing PED. Cumulatively, these factors contribute positively to the PED of an organisation (Charters, 2006; Chebat and Morrin, 2007;

Dennis et al., 2014; Khan, 2009; Mangini, 2002). The qualitative study suggested that these antecedents had a positive effect on PED. On the other hand, the findings of the quantitative study did not prove this to be the case.

As found in the literature review, visual identity comprises the visual expressions that stimulate consumers and create recognition through PED. Visual identity significantly contributes to PED, which, in turn, enhances consumers' EWB. One of the retail managers who contributed to the study supported this argument as follows:

“The visual identity of an organisation positively contributes to the physical environment design, both physically and psychologically. Visual cues in retail settings stimulate consumers' senses and tangibly engage consumers with physical environment design. At times visual identity elements offer thoughtful solutions to the people, who maybe are colour conscious or brand conscious, and such an infrastructure associates the consumers with that particular brand/retail organisation, which actually satisfies their requirements. [...] Visual identity executes design in smart ways to enhance consumers' emotional well-being” (Interviewee 1, retail manager)

However, the findings of the quantitative study did not prove this point. The relationship between visual identity and emotional well-being was non-significant ($\gamma^2 = 0.092$, $t\text{-value} = 1.74$, $p = 0.082$). Thus, hypothesis H5 was rejected. In other words, the visual identity of a retail store was found to have an insignificant impact on the EWB. This result is in contradiction with prior marketing studies (Dale, 2017; Hung, 2014; Kasser and Ryan, 2001; Lorenzo-Hernandez and Ouellette, 1998; Markin et al., 1976; Martinez and Dukes, 1997; Melewar, 2008; Phinney, 1996; Porter and Claycomb, 1997).

Communication through design elements in retail stores positively contributes to PED. It means conveying a message effectively through various design elements which induces moods, impacts on consumers' perceptions and behaviour, and helps organisations to position themselves, or differentiate themselves from competitors (Aslam, 2006; Tavassoli, 2001). Clear and consistent communication in retail stores

does not only gives right direction to the brand to proceed but also contributes to the consumers' emotional well-being. This statement was supported by one marketing manager as follows:

“Store communication through such mediums can influence the emotional well-being of consumers by stimulating their senses. [For example] signage, specifically if it is digital, can enhance emotional well-being. In a practical sense, communication can be motivational for people. It has a direct effect on consumers' emotional well-being.”

(Interviewee 5, marketing manager)

In contrast to the qualitative findings, communication was not found in the quantitative study to significantly affect the EWB of consumers. The relationship between communication and EWB was insignificant and the regression path illustrated negative results (H6: $\gamma^2 = 0.094$, t-value = 1.67, p = 0.095). Therefore, the hypothesis was rejected. The result is in contrast with previous marketing studies (Aakhus and Laureij, 2012; El Hedhli et al., 2013; Elsbach and Pratt, 2007; Power, 2014; Rubio et al., 2017; Sailer et al., 2015; Seock, 2009; Ulrich et al., 2008).

The prior research suggests that PED greatly impacts on consumers' EWB through cultural values (Phinney and Ong, 2007) and cultural associations (Dredge, 2004; Noonan et al., 2003; Puczko and Bachvarov, 2006), helping the consumers to adapt and enhance their EWB instinctively. The findings reinforce the importance of cultural heritage in the PED of a store for the enrichment of consumers' EWB. The following comments by participants illustrate this:

“I think cultural heritage can help in accomplishing great physical environment designs. We are in a tremendously transformative period and young generations can be easily enabled through heritage, I mean cultural heritage. [...] Any retail organisation can be intentionally designed with ideal structures creating a historically interesting, a whole different platform for the shoppers and providing a vibrant, emotional message. Cultural heritage can bring enthusiasm amongst buyers and people feel respected and valued.” (Interviewee 4, marketing professor)

“Cultural heritage can be a source of recreation, and culture itself has emotional effects due to consumers’ perceptions. [...] Memories of the past can be brought alive.” (Interviewee 5, marketing manager)

Consumers find visual warmth in the atmosphere of retail stores (Vielhauer, 1970). Reagan (2014) and Wastiels et al. (2012b) elaborated that place warmth was related to traditional design elements in spaces for retail consumption. Consumers feel welcome because of the interior decorations and physical settings (Ryan, 2017). The study findings indicated that cultural elements could be used as a differential tool in retail stores which makes the place memorable for consumers (Boyd, 2002). Interestingly, a participant from the focus group stated:

“I think cultural heritage brings warmth to the physical environment design like one feels connected to his family tree. Intangible cultural heritage can certainly enrich the design concept of stores in the face of growing globalisation, and tangible cultural heritage through traditional crafts and sculptures can give living expression to the design concept of the stores.” (Participant from FG 5)

This result leads back to prior studies (Duran et al., 2015; Matarasso, 1997; Puczko and Bachvarov, 2006; Wheatley and Bickerton, 2017), which suggested that the objective of a retail setting was to explore the role of cultural heritage through its artistic values and resources (Branscombe et al., 1999; Chebat and Morrin, 2007; Phinney and Chavira, 1992). The hypothesis, H7 was significant and statistically supported ($\gamma^2 = -0.294$, $t\text{-value} = -3.946$). Therefore, the findings illustrated that using cultural heritage in the PED of an organisation positively contributes to the EWB of the consumer.

7.3.2.3 Consequences of physical environment design

Perceived retail store increases positive emotions about the PED of the store and impels subsequent behaviours (Chebat and Morrin, 2007; Lee et al., 2008; Yalch and Spangenberg, 1990). Consumers’ EWB is the goal of design, through the psychological effect of interior space on one’s personal interiority through retail spaces (El Hedhli et al., 2013; Hughes, 2013; Hwang and Han, 2014; Pallasmaa, 2008; Power, 2014).

In addition, PED is an integrated representation of multiple design elements, which is admired by consumers for utilitarian or hedonic reasons (Baker and Cameron, 1996; Bitner, 1990; Walls et al., 2011). It makes consumers' more likely to revisit, recommend it on their social networks, and spread word-of-mouth (Sweeney and Soutar, 2008) depending upon their emotional perceptions (Baldry et al., 1997; Gurhan et al., 2016; Hafner, et al., 2015; Harris, 2017; El Hedhli et al., 2013; Loeschenbrand, 2016). PED influences emotional responses through a series of distinctive experiences and enhances EWB. This phenomenon cumulatively stimulates consumers' perception towards brand performance, which is the desired outcome of any retail organisation.

Elaborating on the recommendations of researchers (El Hedhli et al., 2016; Goldsmith, 2016; Vada et al., 2019), store's experiences impact consumer's EWB, which in turn increases their perception towards brand performance. Previous research (Bolton et al., 2018; Han and Sung, 2008; Hemsley-Brown and Alnawas, 2016) has suggested brand performance is a product-related influence on customers' experience and decisions, communicating from the company to customers (Nguyen, 2012), and creating a mutual and beneficial relationship between them (Keller, 2003; Melewar and Saunders, 2000; Nguyen et al., 2016; Olins, 1989). The following statements from the respondents support this:

"I believe the foundation of any brand depends upon the brand planning, planning with regard to the target customers, and a promise which needs to be fulfilled for them. To establish a business in today's world, it is very important to project an image that creates interest to potential customers and their emotional well-being. A brand has to create a positive impression for the customers so that they achieve positive emotional well-being, and vice versa." (Interviewee 4, marketing professor)

The items used for the construct "consumers' perception towards brand performance" were also discussed during the interviews. Some of the participants supported these items and mentioned that:

“Feedback from customers [...] I mean positive feedback, can make the brand successful.” (Participant from FG 2)

“Brand is really very significant. To maintain a brand’s consistency is the key foundation for its success. I named so many brands in our discussion because I am familiar with them... all of these brands have performed well in the market.” (Interviewee 6, CEO)

The same interviewee elaborated that:

“These days you are very open to comments and feedback, and those will influence the reputation and performance of a brand, and ultimately things like share price, willingness of people to join the company’s employees, reputation amongst investors, reputation with suppliers, etc., and will be affected by consumers’ reactions and feedback, and increasingly the word goes on. We all have global conversations with each other. [...] The more this happens, the more influence that’s going to help the brand. A brand can achieve a success level through consumers’ emotional well-being. The basis of your topic is consumer satisfaction and brand, they go hand in hand.” (Interviewee 6, CEO)

It can be inferred from these discussions that the degree of consumers’ EWB contributes to brand performance. The suggestions from the qualitative findings are similar to the findings of previous studies by marketing researchers (El Hedhli et al., 2013; 2016; Goldsmith, 2016; Keller, 2003; Loeschenbrand, 2016; Melewar and Saunders, 2000; Nguyen et al., 2016; Olins, 1989). The relationship between consumers’ EWB and their perception towards brand performance is strongly significant. Therefore H8 ($\gamma^2 = 0.681$, t-value = 8.333) was accepted.

The findings emphasise the importance of communication and cultural heritage in the PED of a retail store. The results reinforce that the cultural heritage improves the EWB of consumers, which in turn improves brand performance. The next section is devoted to discussing the demographic profiles of the consumers (such as age, gender,

education, occupation and store's experience) which are used as moderating variables in this research.

7.4 Physical environment design, emotional well-being and demographic variables

Previous studies from researchers (Baek et al., 2018; Cho and Lee, 2017; Eroglu and Machleit, 1990; Levy and Weitz, 2001; Puccinelli et al., 2009; Turley and Milliman, 2000) have observed that it is essential to understand that the same stimuli can be processed differently by individuals. However, reactions to retail store environments are not universal. Results suggested that some individuals respond with a greater magnitude of emotional intensity than others (Aaker et al., 1986; Larsen and Diener, 1987). Moreover, individual differences can cause wide variations in the way people respond to different atmospheres (Baek et al., 2018).

The moderating effect of consumers' age on emotional well-being

Prior research has suggested that reactions to retail store environments vary by age (Jackson et al., 2011; Turley and Milliman, 2000; Yalch and Spangenberg, 1988, 1990, 1993; Gulas and Schewe, 1994). The researcher examined whether the effect of PED on emotional well-being was stronger among younger consumers than among older consumers. However, the findings illustrated that age had no significant difference on the influence of PED on EWB. The chi-square tests (Table 6.33 in Chapter 6) showed a statistically insignificant moderating effect on the relationship between PED and EWB. Therefore H9 ($\Delta\chi^2/\Delta df = 3.544$, $df = 1$) was not supported. Conclusively, age was not found to moderate the effect of PED on EWB.

Another interesting finding of this area of investigation was that a few age groups preferred foreground music to background music. The younger age group reacted positively towards this attribute. This is similar to the findings of past researchers (Gulas and Schewe, 1994; Milliman, 1982; Turley and Milliman, 2000) who clearly stated that music could influence behavioural intentions, even when consumers were not consciously aware of it.

The moderating effect of consumers' gender on emotional well-being

This research examined the differences between the responses of males and females in the context of PED its impact on their emotional well-being. In general, it was expected that there would be a gender difference in the perception towards PED. Counter to expectations, this study did not find any significant differences in this area of investigation.

The findings illustrated that there was no significant gender difference in the perception towards the PED of retail stores (H10: $\Delta\chi^2/\Delta df=.498$, $df=1$) and the hypothesis was not supported. The perceived PED increased positive emotions among consumers (Mehrabian and Russell, 1974) irrespective of gender. Furthermore, positive emotions increase consumers' store preference (Bellizzi and Hite, 1992). Categorically, gender was not found to moderate the effect of PED on EWB.

The moderating effect of consumers' education on emotional well-being

The researcher investigated the role of education to find the effect on EWB. Consumers perceived the same store differently based on their different educational levels (Kotler, 2001; Muter, 2002). The influence of education is noticeable through the fact that highly educated consumers had more clarity, felt there was a greater ease of use and hence felt satisfaction and more enjoyment compared to less educated consumers (Deshwal, 2016; Michon et al., 2005).

In addition, a higher education level of consumers meant they easily understood the concept of technology (internet) and were then able to correlate and understand concepts explained digitally (Burke, 2002; Lohse et al., 2000), for instance electronic shopping. Eventually, these consumers had more satisfying experiences than others. The results highlighted the fact that there was a direct and significant relationship between PED and EWB based on education level. Thus H11 ($(\Delta\chi^2/\Delta df = 12.911$, $df = 1)$) was supported. The chi-square tests (Table 6.33 in Chapter 6) showed a statistically significant moderating effect of education level on the relationship between PED and EWB.

The moderating effect of consumers' occupation on emotional well-being

To determine consumer behaviour (personal, psychological and cultural), one of the most important factors is the shopper's profession (Muter, 2002). Different categories of consumers appear to behave differently when presented with the same atmospheric stimuli (Kotler, 2001). Furthermore, a desire for convenience and social interaction was identified by retired individuals and housewives.

The findings indicated that employed consumers perceived the same retail store differently from a retired or unemployed shopper. H12 ($\Delta\chi^2/\Delta df = .407$, $df = 1$) was not supported. The researcher discovered the unexpected outcome that occupation did not play a moderating role in the relationship between PED and EWB. The chi-square tests (Table 6.33 in Chapter 6) showed a statistically insignificant moderating effect on the relationship between PED and EWB based on occupation.

The moderating effect of store's experience on emotional well-being

Lastly, the researcher examined the moderating effect of store's experience on EWB. Consumers' personality traits and perceptions enhance the hedonic value of their shopping experience (Kim and Forsythe, 2008), satisfaction, enhancement of the perception of reality and overall whether they have a fun, pleasant and personalised experience relevant to them (Poushneh and Vasquez-Parraga, 2017). In other words "drawing consumers in, keeping them engaged, and enhancing their shopping experience" (Elliot and Maier, 2014, p. 109). Consumers participate in and act to influence the execution of store's experience. The result findings are congruent with prior studies (Cho and Lee, 2017; Eroglu and Machleit, 1990; Levy and Weitz, 2001; Turley and Milliman, 2000).

To explore emotions and draw on the personal experiences of consumers, this research took into consideration themed events in retail stores, which offer a suitable experience (entertainment or educational) and thus offer an opportunity of escapism. The findings suggest that retail marketers are adapting to creating a unique PED that positively influences consumers' EWB. The chi-square tests (Table 6.33 in Chapter 6) showed that store's experience had a statistically significant moderating effect on the relationship between PED and EWB. Consequently, H13 ($\Delta\chi^2/\Delta df = 15.815$, $df = 1$) was verified.

7.5 Summary

To sum up, it can be concluded that all the proposed consequences of PED were acknowledged by design consultants and managers who employ a higher degree of PED. The empirical results revealed that the relationship between PED, EWB and brand performance were fully supported. However, based on the results, the wide agreement of managers and design consultants regarding the results of PED provides further support of the notional accordance between PED, EWB and brand performance. Moreover, the study confirmed the direct effects of PED on EWB and the moderating effects of some demographic characteristics on the relationship between PED and EWB. Therefore, the PED of retail stores should be crafted with particular consumers in mind.

To manage retail stores in competitive business markets, the findings suggest it is important for retail owners and managers to grace their stores with unique design elements. The results confirm that PED, when culturally depicted in stores, enables retailers to connect emotionally with their customers, as it helps to elevate their EWB, which is also helpful in improving brand performance. The attractive and welcoming PED of a retail store enables customers to be mentally relaxed, happy and satisfied, which is their fundamental right as a human being. And also, PED can enable retailers and managers to display merchandise in the most appropriate way to grab customers' attention and improve their brand performance.

The next and final chapter of this thesis presents the overall conclusions, and the theoretical as well as managerial implications of this research. It will also discuss the research limitations of the current study and outline avenues for further research.

CHAPTER 8: CONCLUSION AND IMPLICATIONS

8.1 Introduction

The main aim of this research was to examine the influence of PED on consumers' EWB and its effect on brand performance in retail stores. This study has explored the notion of PED and as well as investigating the relationship between PED and brand performance in a retail context from the perspective of consumers in the UK. The research topic is especially relevant because the retail market has become highly competitive. It has become challenging for retailers and managers to create an extraordinary PED that differentiates their stores from others. Thus, it is important for stores to have special design features that can influence the EWB of consumers, which can in turn increase brand performance. This requires establishing a stimulating PED managed by design professionals and architects. Such techniques are important for increasing the brand performance of retail stores.

To achieve the purpose of enhancing brand performance, retail managers require an approach of creating a unique PED by ensuring that they understand the needs of consumers and offer them happiness, thus enriching their EWB and, in turn, increasing brand performance. A successful retail store requires an exclusive design concept that can foster consumers' EWB. The prior literature revealed several gaps (see Chapter 1) regarding the contribution of PED to enhancing brand performance. Numerous theories exist about the role of PED in marketing, but these have contributed little to an understanding of how to increase brand performance with regard to the EWB of patrons. By studying PED from a holistic viewpoint, this research builds an understanding about the role of PED at the consumer level.

Moreover, establishing the construct validity of scales, hierarchical third-order factor and second-order factor analysis is very uncommon in the literature. This study provides support for a multi-dimensional hierarchical model of PED in UK retail stores. The results indicate that the secondary dimensions of PED (music, lighting, temperature, aroma, safety/privacy, spatial layout, functionality and comfort) influence consumers' EWB. According to Cook and Thomson (2000), first-order

factor analysis identifies how many dimensions of PED and EWB exists, while second-order factor analysis explores whether or not these dimensions are part of PED and EWB. However, second-order factor analysis provides a different perspective on PED and EWB than the more conventionally used first-order factor analysis. The second-order factor analysis can be considered to provide an overall view of PED and EWB in retail stores in the UK.

This study has filled research gaps by providing a perspective of the antecedents that affect the PED and its consequences. Based on the research findings and further discussion (see Chapter 7), the results of the study provide an understanding to retailers and managers who are seeking to create an atmosphere that provides a sort of immersion for consumers. Immersion can “create an additional value” for consumers by enhancing PED and thus increasing brand performance. Consequently, this research investigated the influence of PED on EWB and the subsequent effect on brand performance.

The overall focus of this thesis is to broaden the academic perspective and to develop further understanding of PED and brand performance with regard to the topic of EWB. Conceptualisation and the development of reliable and valid measurement scales of PED was another key aim. Finally, a further aim was to develop a process model explaining the antecedents of PED and testing its consequences as perceived by managers. This study can offer valuable insights for existing and future retailer marketers. It also suggests some important strategic guidelines for service positioning and market segmentation of retail services as per customer requirements.

In the following sections, this chapter portrays the study’s theoretical contributions with regard to the conceptualisation and operationalisation of PED. The managerial implications of the findings are then provided. Finally, the limitations of this study are discussed and avenues for future research are described.

8.2 Implications of research findings

This research empirically investigated a comprehensive higher-order model in the context of retail stores in the UK. The PED of retail stores in the UK is mainly developed through three dimensions (latent first-order constructs): (1) ambience; (2)

artefacts, and (3) spatiality. These were measured using the observed variables as identified in the prior literature. The theoretical model was analysed using data collected from 503 respondents in the UK who had visited retail stores for shopping purposes. Seven of the 13 hypotheses were supported, offering new empirical evidence.

Categorically, the results contribute to the existing knowledge on PED at the consumer level, given that prior studies have focused only on reflective approaches with respect to retail shopping destinations. In particular, the findings prove a higher-order model, with all three dimensions contributing significantly in developing the higher-order construct of PED and explaining 27.076% of its variance. This clearly suggests that consumers form their assessment of experience at a retail store on how they evaluate the different dimensions of that store. Thus, it provides strong evidence for a reflective hierarchical composite higher-order model, which consisted of 15 first-order constructs (dimensions): visual identity, communication, cultural heritage, brand performance, music, lighting, temperature, aroma, safety, spatial layout, functionality, comfort, sensorium, behaviour and happiness; four second-order constructs: ambience, artefacts, spatiality and emotional well-being; and one third-order construct: physical environment design. The systematic and factual operationalisation of each measurement construct and dimension is essential for the validity of the comprehensive structural model.

In addition, the conceptual model tested in the current study overcomes possible measurement errors in the operationalisation of PED by providing greater accuracy than previous studies with regard to the theoretical and empirical justifications. Hence, the conceptual model allows for a better investigation of the hypotheses among the constructs and dimensions, as it provides diverging results.

This study illustrates that cultural heritage has a significant effect on the PED of a retail store, which positively influences consumers' EWB and improves brand performance, while communication and cultural heritage have a relatively consistent effect on PED, which influences consumers' EWB and improves brand performance. Moreover, the study helps to fill the gap in understanding consumer's multisensory experiences in a retail setting which intersects with their EWB. In nutshell, retailers

and marketing managers can consider factors beyond merchandise and instigate methods of engaging consumers in an all-embracing experience in the retail environment.

In addition, the study critically reflects potential for learning and development within the scope of the retail marketing structure. It suggest implementing a retail design structure involving not only managers but also allowing for the active participation of potential knowledge contributors. This research was successful in validating the measures and multi-dimensional hierarchical model of PED in retail stores in the UK. The findings have numerous implications. In the following sections, the theoretical contributions and empirical implications are presented.

8.2.1 Theoretical implications

This thesis facilitates understanding in the PED literature regarding consumers' EWB. It contributes to the academic body of knowledge on PED by clarifying its dimensions. By doing so, it addresses the gap identifying a set of dimensions that are relevant for consumers for an experience that can be distinguished from those offered by other stores. This research is among the few works carried out on understanding the PED process in the UK retail sector and consumers' emotional level, in order to improve well-being and consequently accelerates business performance.

Furthermore, this research covers an important gap in EWB by investigating the relationship between visual identity, communication, cultural heritage and PED. It also contributes to the current literature by providing empirical evidence in a retail setting with different mindsets that can provide generalisability of the research findings. The present thesis suggests trichotomous theoretical implications to the literature as follows: (1) by extending the theory, (2) in conceptualisation and measurement; and (3) in theory testing and generalisation.

8.2.1.1 Extending the theory

The current study contributes to interdisciplinary research from diverse fields, including retail marketing, retail design and consumer behaviour. The main purpose of this study is to extend the knowledge by examining the components of PED and examine the influence on EWB and its impact on consumers' perception towards

brand performance (Bolton et al., 2018; Bonetti and Perry, 2017; Grzeskowiak et al., 2016; Vada et al., 2019). Some previous researchers (Bitner, 1992; Bonetti and Perry, 2017; Cartwright et al., 2016; Kotler, 1973; Vada et al., 2019) have viewed the notion of PED as a source of attracting consumers, and the overall shopping experience for consumers is poised to become more exciting and convenient. Despite the importance of PED, how consumers perceive brand performance has been given little attention. However, the present study provides a validated framework which uncovers the relationship between the PED construct and its antecedents and its consequences. In addition, the study attempts to address the research gaps and acknowledge prior investigations from the viewpoint of marketers (Bonetti and Perry, 2017; Cartwright et al., 2016; Kotler, 1973; Vada et al., 2019).

One of the major contributions of the present study is the establishment of a multi-disciplinary paradigm for PED (see Chapter 2). The current study fosters the development of multi-disciplinary insights into relationships which can deliver the findings with functional and strategic meaning relevant for this study (Foroudi, 2012). This thesis presents the empirical studies supported by the integration of PED, visual identity, communication, cultural heritage, EWB, consumers' perception towards brand performance and the literature on design to describe PED in a more aggregate plan.

Predominantly this research is one of the first attempts, to the best of the researcher's knowledge, to examine consumers' EWB from a marketing perspective. Furthermore, it helps to integrate EWB as an additional element in the PED created in retail stores. The investigation of EWB establishes a foundational initiative in unlocking existing models, allowing for the integration of additional dimensions in the future. This thesis advocates the future recognition and integration of other dimensions which can enrich consumers' EWB.

Extending the established evidence on consumer behaviour to a retail context, this study illustrates that PED influences not only consumers' EWB but also their perceptions of brand performance. Retailers under such conditions can consider emotional and psychological factors to formulate short-term policies to meet their performance levels and contribute success to their businesses.

8.2.1.2 Conceptualisation and measurement level

The conceptual framework analysed proposes several analytical conclusions. The first and foremost implication lies in the validation of PED and EWB as a higher-order structure. The current study illustrates that the linkages among the dimensions identify an overall evaluation of the aggregated model. Furthermore, it contributes to the theory by providing a new perspective for PED at the corporate level. Therefore, this piece of work provides a more comprehensive understanding of the effect of PED on consumers' EWB.

More precisely, this thesis contributes to the literature by providing a definition of PED that adds value to consumers' sensory experience, and the success achieved depends on all levels of consumers' involvement, resulting in improved brand performance. Based on the qualitatively validated construct definition of PED, this research additionally provides a multi-item measurement scale for PED (ambience, artefacts and spatiality). The scale was statistically tested and confirmed to be reliable and valid by using different techniques such as descriptive statistics, EFA, CFA and AMOS-SEM. These techniques can be used for future research studies. Moreover, the development of the items that constitute the scale offer an initial insight into the role of EWB as a facet of PED.

In addition, scales for the constructs "physical environment design", "consumers' emotional well-being" and "consumers' perception towards brand performance" were developed and statistically validated. However, for all these scales, more investigation and validation in different research settings is recommended. These scales can serve as logical and effective starting points for other researchers to highlight other unmasked dimensions of PED.

Another contribution relates to the development of the conceptual framework. The framework developed for this research is the first to explore the overlooked domain of PED by proposing the factors that determine brand performance that have been widely recognised in the literature to arise from managing consumers' EWB. Subsequently, this research contributes to academic knowledge by empirically testing the conceptual framework, that is to examine the constitution of possible factors determining PED as well as the consequences of PED as perceived by managers.

Consequently, the proposed path relations between the latent constructs, expressed by the hypotheses, this research should be considered by future researchers when developing a conceptual framework that includes constructs such as PED or brand performance.

8.2.1.3 Theory testing and generalisation

This research seeks to illustrate the relationship between PED and consumers' EWB and their perception towards brand performance within the retail context, using a holistic approach. By examining PED with regard to consumers' EWB, this study unfolds an understanding of the elements that foster EWB, which consequently increases understanding of the organisational paradigm. However, there was no support for the direct relationship between retail stores that follow an organisational strategy and the degree of consumers' EWB, but the findings do suggest that there are some prospects that can be considered by retailers and managers in order that the PED can support consumers' perception towards brand performance (Day, 1987; Goldsmith, 2016; Jarvenpaa et al., 2000).

1. The present study verifies that the possible measurements of the construct under investigation were logically concluded, adopted and/or refined. It also enhances the prior studies from researchers (Casidy et al., 2018; El Hedhli et al., 2013; Hermann et al., 2013; Mehrabian and Russell 1974; Singh, 2006). Additionally, a few new items were adopted from the qualitative study (interviews and focus groups). By doing so, the number of items was changed from the initial number. The statistical findings revealed a high degree of reliability and validity for all the constructs (Churchill, 1991). Therefore, the results of this research recommend further research in order to investigate the possibility of generalising to wider contexts.

By addressing the under-researched field of PED, this study instigates the interest and thinking of academics not only regarding the success of retail stores but also regarding the EWB of consumers. Furthermore, this study provides paramount insights into the domain of PED in the challenging emerging sphere of e-retailing. Hence, the researcher comprehends that this study could expose new avenues for future research.

The theoretical contributions described in the previous section of this chapter have numerous implications. The results of this research recommend that PED in competitive retail markets is not an easy phenomenon as it is determined by psychological and commercial factors. This chapter will provide useful recommendations for managers, which will facilitate managers to gain knowledge and employ these research findings for gaining the desired outcomes.

This study illustrates the links between PED and brand performance in the retail market. The current literature acknowledges the role of PED to increase brand performance (Bloch et al., 2003; Choi et al., 2012; Leitch and Motion, 1999). This research complements the existing theories of PED (Bechara and Damasio, 2005; Brocato et al., 2015; Damasio, 1999; Proshansky et al., 1983). It suggests the use of PED in line with the research conducted by numerous researchers in a retail setting (Azim et al., 2014; Bitner, 1992; Kotler, 1973; Moghaddam et al., 2014; Mukherjee and Shivani, 2013; Singh, 2006). The conceptual model proposed by this research has been formulated to strategically influence brand performance. This model can be applied by marketers to develop a different approach to push the capabilities of their enterprises, hence increasing brand performance. It will help retail stores to gain more profitability and thus become more successful by focusing more on consumers' EWB.

The findings of this study also validate the idea that consumers can intensively perceive well-designed retail stores. In other words, design elements are pull-factors that can enhance the EWB of consumers. In this study, consumers highly valued EWB achieved through their perceptions of the PED of stores. The suggestions for managers include adding these merits in order to captivate non-consumers and improve the sales capacity of their stores. Thus, stores may be able to achieve their business objectives through creative PED that influences consumers' EWB significantly.

The environment created by retail managers in a store can convince consumers to behave in a particular manner. For this reason, retail managers need to become more formalised in their decision-making, in order to create atmospheric stimuli for a particular set of consumers. For instance, Yalch and Spangenberg (1993) stated that

reactions to atmospheric music were different for different age groups. Therefore, retail environments should be projected with diverse consumers in mind. However, it is not necessary for consumers to always notice the physical environmental cues of the retail store, even when it is influencing their behaviour (Milliman, 1982). The findings suggest that specific elements of the retail atmosphere need not be flashy or loud to have an effect on consumers. In fact, sober and sophisticated alterations to the retail environment are all that is required to change consumers' behaviour (Gulas and Schewe, 1994).

The practical implications of this result indicate that retail store managers should pay great attention to the importance of PED in order to create favourable associations in consumers' minds. Retail organisations tend to passively create PED by targeting their customers. This research conceptualised PED with the objective of consumers' EWB being from the emotional and psychological perspective value that PED contributes to consumers and businesses. Consequently, managers are recommended to establish and develop a unique PED in their stores to evoke a sensory experience for consumers and have a lasting effect. For example, the decor of a store can follow different themes to connect with customers. In addition, appropriate lighting, optimum thermal setting and relaxing music can contribute to the EWB of consumers.

The empirical findings also show that PED has a remarkable positive effect on brand performance. This illustrates that a well-designed retail store can become better-known and more successful. Thus, PED represents a critical factor in the way customers judge their satisfaction level. Hence, it becomes important for the management to consider these aspects in order to develop a welcoming and well-designed environment, create a monopoly and thus continue to sustain their business performance. Each element of the PED in the store has to be managed in a way that can create positive experiences for the customers. Managers should consider PED as an important marketing strategy to engage customers from diverse backgrounds, in order to remain competitive in an era of fast-growing online retail markets.

This thesis provides greater insight about individuals' underlying motives regarding their attachment to the PED of a retail store. In addition, it offers practical guidelines

for managers who are managing retail markets for fancy items. It will also influence manifold facets of the brand performance of retail organisations that do not possess a direct model. The findings suggest that stores can increase their profitability and success level by ensuring that consumers are completely satisfied and happy. They also suggests that greater brand performance can be achieved by understanding the consumers' behaviour and approach, which can help managers decide the extent of the design process in the retail market.

Retail stores need to adopt a multi-level approach in order to create PED and cognitive perceptions which are beneficial for both consumers and retail marketers. Consumers express different preferences about shopping activities in traditional stores. Furthermore, managers could use the theories proposed by this research to mingle their PED characteristics with regard to consumers' EWB and welfare, and hence increase brand performance.

The results highlight that in the retail market, PED plays an important role. This thesis concludes the views of researchers who have studied PED (Bitner, 1992; Kotler, 1973; Visser et al., 2006). In practice, organisations can manage their profitability and success level based on their capability to develop skills in understanding consumers not only as target customers, but also on psychological and perceptual grounds.

This thesis proposes that it is important for retail stores to use PED which is not only fascinating but also improve consumers' EWB and reinforces their happiness, in order to achieve success. The findings can serve as a paradigm for planning retail stores: it is important that managers and retailers understand how PED and its elements (ambience, artefacts and spatial layout) affect customers' experience for successful management. Finally, this research provides retailers and managers directions for creating a unique environment in the competitive retail market. Managers should take these implications into consideration when designing a store's interior or layout.

The current study illustrates that in-store communication and cultural heritage have a relatively consistent effect on the PED of a retail store which influences consumers' EWB and improves brand performance. Moreover, it helps to fill the gap in understanding of consumer's multisensory experiences in a retail setting. In a nutshell,

retailers and marketing managers can consider factors beyond the merchandise and instigate the engagement of consumers in the all-embracing experience of the traditional retail environment.

As the research discovers, PED does influence consumers' EWB. H4 uncovers the impact of the PED of a department store in this regard. In a competitive retail scenario, attracting consumers through PED can help to distinguish a store and set it apart from its competitors in order to gain success.

One interviewee in a prior study explained, "Our core philosophy is that we spend the money that other companies spend on marketing to create a store experience that exceeds people's expectations. We don't spend money on messages - we invest in execution" (Labarre, 2002, p. 92). Managers and retailers now have a guideline from this study to follow and to integrate with their company strategies.

This thesis offers them a well-grounded methodology for determining the type of consumer they are seeking to reach and the artistic level needed in the PED to stimulate favourable responses from them. Moreover, it recapitulates the significance of the consumer's inclination in the decision-making processes in the store.

By meeting the current demand for increased retail store's experiences by designing aesthetically pleasing environments, retailers and marketing managers can be confident that consumers will be aware of and respond to these efforts. The focus is on the role of design and how PED can be structured to enrich consumers' emotional well-being. The aim was achieved by identifying similarities amongst respondents' (consumers') experiences as they disclosed their views in specific contexts. Finally, the thesis concludes that retail store planning and space allocation are essential, as customers are more inclined to seek out services that enhance their well-being and deliver a memorable visit.

8.2.2 Methodological implications

This research has considerable implications with regard to methodology. PED is here conceived as a third-order construct affecting second-order dimensions (ambience, spatiality and EWB), which in turn shape first-order latent variables (visual identity,

communication, cultural heritage, artefacts, music, lighting, temperature, aroma, safety/privacy and brand performance) as underlying specific facts of the second-order dimensions. The integrative approach was employed in two stages, commencing with the qualitative (interviews and focus groups) subsequently followed by the quantitative (a self-administered questionnaire). This research makes a considerable methodological value-added contribution to knowledge. The process of data analysis can be adopted as a recommendation for further studies, due to the rigorous approach which was followed in this study.

According to previous scholars (Deshpande, 1983; Zinkhan and Hirschheim, 1992), the qualitative method complements the quantitative method and accounts for a broad range of variables which fill gaps in the theory. The qualitative methods that were used enabled the researcher to explore deeper insights in combination with multiple viewpoints on different perspectives of the research topic. The active conversations with experts provided the researcher with practical understanding and possibilities. Thus, the qualitative approach can be considered as a valuable contributing instrument in this study. However, to test the multidimensional construct of PED at corporate level and to investigate its influence on the EWB of the consumers, quantitative methodology was also used. The combination of the two research methods allows the researcher to gain a holistic view of the topic.

Moreover, the qualitative method explored, validated and justified the research model. It included personal interviews and discussions, and critically reflected the research model using an interview protocol. The quantitative method, meanwhile, justifies (or potentially disproved) the proposed research model using a structured questionnaire. The responses acquired through the survey were explored by means of statistical analysis, using descriptive and multivariate analysis. There was a literature gap with regard to this research topic, as some previous scholars had investigated the subject using quantitative research (survey method) (Baker et al., 2002; Dennis et al., 2014; Hosseini and Jayashree, 2014; Sharma and Stafford, 2000), while other scholars (Kotler, 1973; Lucas, 2015; Newman et al., 2010; Yip et al., 2012) had studied a similar topic using qualitative research methods. Thus, there was a lack of studies exploring this topic using a mixed methodology approach.

The current study has also made a methodological contribution on the measurement level. This research originated from its use of SEM as a highly advanced technique of data analysis to investigate the overall conceptual model. SEM enabled the simultaneous modelling of manifold layers and also provided accuracy of integrated research questions in a taxonomical order (Chin, 1998; Foroudi, 2012).

8.3 Research limitations and further suggestions

This research is an endeavour to examine the role of PED in enriching consumers' EWB to increase the brand performance of retail stores. It makes numerous contributions, but nevertheless it has some limitations pertaining to sampling, research design, research setting and measurement issues. These limitations can be addressed in future studies.

A convenience sampling technique was employed during data collection, which may limit the generalisability of the results to other contexts. Moreover, the data collection was restricted to a single research setting in London. While it is well established that psychological and external factors such as the design features of a store mediate consumer behaviour in retail environments (Fiore and Kim, 2007; Foster and McLelland, 2015; Verhoef et al., 2009), this study did not investigate ethnic background as a moderator of consumer behaviour. Another limitation is that this study did not consider the influence of several other factors such as the effect of employees' behaviour on consumers' emotional well-being. It is necessary to follow a social approach at consumer level to improve and apply successful retail store experiences.

8.3.1 Research limitations

PED should be capable of engaging all senses in one way or another. To experience the store's PED through the sensorium, a more comprehensive study could be conducted that covers a wide range of design features such as the effect of colours on the human senses. Consumers do not merely embrace the displayed products, but also get immersed in the store environment, so it is the responsibility of retailers to create a compelling charisma in the store. This will evoke a sensory experience in the reflective capacity of a store, which will have an instantaneous impact on consumers'

behaviour. By using PED, stores can create a revolution for brands and their consumers.

The research was conducted in the retail industry only, and thus the results are limited to the single discipline of shopping stores. It is recommended to ensure that results are generalisable to other industries or other countries, although a specific domain does have noticeable benefits. This study, if conducted in shopping malls, might have provided more valuable insights on this research topic.

The outcomes of this study suggest a number of avenues for further research. Firstly, this study was able to acknowledge the significance of validating the measures and higher-order structure of the PED construct. However, the study necessitates these findings to be cross-validated in diverse backgrounds. Secondly, the study could apply the validated model to other consumer-centred areas such as the banking sector, education sector and hotel industry. The validated model developed in this study may give a new direction to the retail industry: researchers could examine the effects of PED as antecedents to visual identity, communication and cultural heritage using the current research model. Moreover, the dimensions of PED investigated in this study are more comprehensive than those explored in previous studies, which allows future researchers to capture new opportunities. In addition, further research should include the explicit reproduction of the structural model presented in diverse industries, probably employing longitudinal data collection.

8.3.1.1 The method of sampling/analysis

The current study had several limitations based on its methods of sampling and analysis. Firstly, this study was conducted in a single setting, i.e. only in the U.K. It could be suggested that findings in other cultural contexts or different countries could have different outcomes. Prior studies have suggested various outcomes in different contexts of communication with consumers (Grosso et al., 2018; Lin et al., 2017; Pauwels and Neslin, 2016) in emerging countries like India. This can be considered as one of the limitations in studying this topic.

Secondly, this study was based on retail stores in London because of limited resources and time. London was mainly chosen because it accommodates most famous and

historically traditional retail stores such as Liberty, Abercrombie and Fitch and many more. Additionally, London, as an international city, has financial and global importance (CityLab, 2016; The Culture Trip, 2016). The city is densely populated and has easy opportunities for high-end shopping excursions. However, the findings cannot be generalised to other UK cities, e.g., Manchester, Birmingham or Glasgow, due to different contextual aspects such as cultural diversity (Ilicic et al., 2016). This could be a major limitation in generalising the findings of this research study.

Thirdly, the current study involved focus groups as a part of the exploratory phase which included only a small number of consumers as respondents. These groups were unable to justify the potential impact of the research topic as their response was not as in-depth as that of skilled professionals. Due to the small size of the focus groups, which included open group discussions, the researcher was not able to accomplish all the goals of the study. Hence, this was another limitation of this research study.

Furthermore, this study had a limitation in the quantitative phase. It mainly adopted convenience and snowball sampling techniques due to the lack of access to a sampling frame. These techniques were used due to their easy availability and proximity to the researcher. Prior studies have suggested that probability techniques are more beneficial (Bryman and Bell, 2007; Churchill, 1979, 1999; Malhotra, 2010). The use of convenience and snowball sampling techniques could therefore also be considered as one of the limitations of this research.

Finally, another major limitation could be the addressal of retailers' and managers' viewpoints on the current research topic. Future studies could consider this perspective and provide a different idea about consumers' EWB. This domain was neglected by the researcher, which could be addressed in future research.

8.3.1.2 The measurement level

On a similar note, the researcher found certain limitations with regard to the measurement levels. This thesis was an innovative study on the topic of PED and its effect on consumers' EWB, which resultantly affects brand performance: it could be assumed that there could be generalisability and validity of the current study's measurement scales.

As mentioned previously (in Chapter 1), this was the first study to explore PED and examine its impacts, for which there was limited existing literature. The researcher developed a new scale from the prior literature, filtered it using the qualitative research findings, and later evaluated the scales for reliability and validity. However, due to the paucity of time and survey size, the empirical study was focused only in a single setting context (i.e. London). This issue restricted the expansion and purification of the initially proposed measurement scales, which therefore opens the way to future research.

8.3.2 Further suggestions

This study intensifies the notion of PED its antecedents (visual identity, communication and cultural heritage) and consequences (brand performance), which can be carried forward to advance the knowledge concerning EWB (sensorium, behaviour and happiness). This research is the first attempt to conceptualise and construct comprehensive measurement scales for the PED construct using a mixed-method approach; hence further studies should be implemented in order to strengthen the items measurement validity with regard to PED.

In respect of the research setting, this study was tested in the retail setting in the UK. Hence, it is suggested that future researchers wishing to examine the retail setting could further investigate the reliable and validated measurement scales of this study. If conducted in other countries, the results of such research might be different: this would help to further develop understanding of the concepts.

This thesis has used department stores such as Harrods in the UK which is part of the retail industry, and further investigation could be conducted in different retail organisations to improve the generalisability of the concepts. In addition, due to the fact that such department stores have a strong attraction to customers in the UK because of their graceful design features, other studies could consider using various organisations from different settings to increase the validity and generalisability of the research. Additionally, it might be helpful to test the model from the business perspective.

This study used an exploratory method, and hence, in order to acquire greater validity and generalisability, this should be replicated. Moreover, future studies could broaden and integrate the measurement scales for PED and relevant constructs. This research aimed to empirically test PED, its antecedents and consequences based on a multi-disciplinary approach and using mixed-method research to examine and validate a conceptual model using SEM.

The research findings showed unforeseen results, i.e. EWB was found to have a positive and cognitive effect on human minds. Moreover, PED was not found to directly influence brand performance. This conclusion could be due to the type of retail organisation, and hence, researchers could reproduce this study in different industries or countries to examine its generalisability. Furthermore, it is suggested that different samples across various hospitality industries could be investigated. In addition, future studies could examine the role of moderating factors such as gender and age, since the reactions of customers to PED may vary according to their demographic attributes.

To foster consumers' perception towards brand performance, it is suggested to create a PED that is not restricted to organisational borders but is immersed in the departmental matrix and that allows the active involvement of all potential contributors, such as customers, managers, interior designers, graphic designers and colleagues from all departments. The proper use of interior space throughout the store can facilitate qualities that will focus on the EWB of consumers and thus increase the brand performance.

At managerial level, the zealous facing of the challenges of PED and consumers' EWB is recommended. It is important not to delegate these issues to subordinate levels, but to achieve a profound understanding of design features and their positive effects on consumers' EWB. It is suggested that management should continuously expand their perspective of growth and new forms of digitalised economies to gain prosperity and provide multisensory experiences to customers. In that context, they should approach design changes with an open mind, and consider novel, unconventional strategies to overcome business challenges.

Based on the research findings, it is suggested that retail managers should actively face the necessities of store transformation, meaning that they should seek connection and interaction with other departments and managers to establish knowledge networks which involve marketing innovations and use the cross-fertilised ideas at consumer levels. Therefore, for future research, it might be interesting to focus more on the post-shopping experiences of consumers in a retail environment to evaluate the success of a design in the way it was purposefully created.

This study focused only on the retail layout of department stores which is perceived holistically by the customers. However, further studies could be carried out in shopping malls or various other public facilities such as banks, libraries and many others where the perceived environment affects customers emotionally. Furthermore, a comparative study of competing retail stores could help future researchers to explore the elements of PED from a different perspective. This kind of a knowledge would provide a better insight of the target market and of how to modify the store environment to attract and retain customers.

8.4 Summary

The findings of this research are relevant to the retail market from the theoretical, empirical and managerial points of view. The outcomes achieved by this study have been demonstrated to be stable and reliable. The research findings illustrate the importance of PED in retail stores. The key finding of this study is that when PED is favourable, it helps the consumers to gain EWB through numerous emotional and psychological associations. This EWB and its elements associated with PED can help retail stores to become well-known and successful. In conclusion, this research provides empirical evidence for the role that visual identity, communication and cultural heritage can play in enhancing PED (ambience, artefacts and spatial layout).

This research fills a number of existing gaps in the retail marketing literature regarding the contribution of PED (ambience, artefacts and spatiality) to the EWB of consumers. The factors that are responsible for the outcome of such an environment have also been investigated in this research. The antecedents and consequences from the existing theories of PED at consumer level were looked at, to provide insights into the perspective of this research. The realm of influence that PED can have on the

dimensions of consumers' EWB was explored using a conceptual framework. To seek answers to the research questions, this study adopted a mixed-method approach which comprised both a qualitative and quantitative perspective. Both sets of findings justified the framework after a review of the literature. This chapter has described how the findings from the scale purification and hypothesis testing consequently contributed to the knowledge, and also considered the influence of PED on consumers' perception towards brand performance, compared with the theoretical expectations of this research. It has also given some considerations to researchers for future studies on the topic. The managerial implications of the findings have also been described in this chapter, along with the limitations of this research.

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APPENDIXES

Appendix 2.1: Key researchers and definitions (physical environment design (PED) and its elements)

Researchers	Definitions
Kotler (1973, 1974)	<ul style="list-style-type: none"> PED is an atmosphere that makes “efforts to design a shopping environment able to produce specific emotional effects among buyers that increase the purchase probability”
Gilchrist (1977)	<ul style="list-style-type: none"> Spatiality is the property possessed by an array of things that have space between them, which demonstrates a spatial interaction in lightness perception
Bernstein (1984)	<ul style="list-style-type: none"> Design is a constructed set of impressions by a company to appeal to an audience and therefore does not have to reflect reality Recognition of an organisation is important, as it is mandatory for brand familiarity, which can lead to brand favorability
Ulrich (1984)	<ul style="list-style-type: none"> Physical environment spaces have direct effects on emotional well-being and happiness
Baker (1987)	<ul style="list-style-type: none"> PED conditions include background characteristics of the environment, such as temperature, lighting, noise, music and scent, which influence the consumer’s senses and store patronage intentions while spending time in a store
Smith (1990)	<ul style="list-style-type: none"> PED is linked to the visual cues of an organisation PED refers to the capability of design elements and provides information about the culture, values and norms of an organisation
Bitner (1992)	<ul style="list-style-type: none"> PED focuses on ambient cues (those cues that affect the five senses) layout and functionality (store arrangement and ability to facilitate consumer goals), and signs, symbols, and artefacts (signals that communicate information to the shopper)
Berman and Evans (1992, p. 42)	<ul style="list-style-type: none"> “Spatiality refers to the amount and the size of merchandise, fixtures and furnishings, the way they are arranged and the spatial relationship among them” “Store functionality is the ability of these items to facilitate performance of the store and accomplishment of goals”
Hatch and Schultz (1997)	<ul style="list-style-type: none"> The concepts of PED and brand performance are multidisciplinary Marketing communications and organisational communications provide a bridge between PED and brand strategies
Yoo (1998)	<ul style="list-style-type: none"> PED is an atmosphere that consists of elements of design, music, light and air quality
Wakefield and Baker (1998)	<ul style="list-style-type: none"> Ambience as a part of the servicescape that is sensorial in nature includes light, sound, smell, decor and air quality – factors that influence customer behaviours such as time and money spent at a specific lodging location/on a specific lodging brand, and desire to stay
Farshchi and Fisher (1999)	<ul style="list-style-type: none"> PED is an extension of nature into the man-made realm and provides the ground for perception and the horizon to experience from which one can learn to understand the world PED takes a consumer perspective, promoting the “ideal” brand
Law et al. (2000)	<ul style="list-style-type: none"> Spatiality refers to an arrangement of design elements to make spaces recognisable and create a structure using the dimensions of that area which even influences the economic value of that place
Zachman and John (2000)	<ul style="list-style-type: none"> Artefacts are the beautiful and rare collection of objects analysed to determine which primitives they contain or relate to (rather like a card catalogue in a library)
Dauce and Rieunier (2002)	<ul style="list-style-type: none"> PED is an atmosphere comprised of the physical (ambience and interior design) and social environment (internal and external stakeholders) of the store

Michalek et al. (2002)	<ul style="list-style-type: none"> ▪ Spatiality is the configuration of physical design elements concerned with feasible locations and dimensions for a set of interrelated objects that meet all design requirements and maximise design quality in terms of design preferences
Foo (2003)	<ul style="list-style-type: none"> ▪ The use of design elements, symbols and colours is related to attractiveness, creativity, image of professionalism and epistemology as embedded in a logo ▪ Consumers are attracted to logos and designs that are more complex, and that complexity may enhance the perceptions of an organisation as being unique and creative
Simay (2005) and Thibaud (2012, p. 4)	<ul style="list-style-type: none"> ▪ “It is the very materiality of the organisation that is screened by sensory perception, revealing and detailing the ‘lived features’ of built environments” ▪ Physical environmental changes affect the customers’ experience and perception and, in doing so, modify the human sensorium ▪ “It is a fifth axis to seeking transversal connections between sensory, spatial and social forms”
Karaosmanoglu and Melewar (2006)	<ul style="list-style-type: none"> ▪ PED can help employees and clients understand a company’s values and how the company differs from its competitors
Melewar et al. (2006)	<ul style="list-style-type: none"> ▪ Visual identity and communication are positively related to an organisation’s PED ▪ Focusing on visual identity and communication demonstrates that there is a multifaceted nature of organisational identity beyond logo, name and physical design
Samuel and Douglas (2006)	<ul style="list-style-type: none"> ▪ Artefacts are the material aspects of culture ranging in form from symbols and religious icons to shoes or clothing; they may also be an expression of intangible beliefs that bind and perpetuate an ethnic system
Xiangyang and Jonathan (2007)	<ul style="list-style-type: none"> ▪ Artefacts are tools for analysing traditional and cultural backgrounds which can be used as an inspiration for contemporary designs in creating structures
Elsbach and Pratt (2007, p. 181-182)	<ul style="list-style-type: none"> ▪ PED encompasses “all of the material objects and stimuli (e.g. buildings, furnishings, equipment and ambient conditions such as lighting and air quality) as well as the arrangement of those objects and stimuli (e.g. open-space office plans and flexible teamwork spaces) that people encounter and interact with in organisational life”
Kelley (2007)	<ul style="list-style-type: none"> ▪ PED is an artistic work: the process of transforming ideas from the imagination into a creative solution that has value and thus amounts to innovation ▪ Individuals do not react to reality but to perceived brand reality ▪ What consumers perceive to be true is true for them
Bachynski (2009)	<ul style="list-style-type: none"> ▪ Interior design allows organisations to communicate their corporate identity in a more dynamic way than other visual expressions, because interiors can be employed in three dimensions and in different spaces
Keller (2009)	<ul style="list-style-type: none"> ▪ Design is the most powerful tool and, when used effectively, can be the foundation for driving a brand or business forward ▪ The physical characteristics of commercial spaces can be linked to human behaviour
Berleant (2010)	<ul style="list-style-type: none"> ▪ PED is experienced with all the human senses, not just sight. Therefore, it should be able to intrigue the entire body sensorium. Air movement, acoustics, ambient temperature and smell can all change our experience of space ▪ The consumer’s sensorium is automatically activated to fully experience the space and place
Mohanty and Sikaria (2011)	<ul style="list-style-type: none"> ▪ Ambience is an atmosphere that is sophisticated, comfortable, happening in a store and a change from traditional retailing to modern or organised retailing, which makes shopping convenient and easy for a young mass market and attracts crowds
Roquet (2012)	<ul style="list-style-type: none"> ▪ Ambience is an atmosphere generated by environmental art, background music and therapy culture, which at the same time explores the relationship between them and landscape, dreams, the cosmos and the rhythms of urban life

Welch (2013)	<ul style="list-style-type: none"> ▪ PED is an enriched artwork responsible for connecting interior spaces with exteriority through awareness of all our senses
Conole (2013)	<ul style="list-style-type: none"> ▪ Artefacts (models, iconic diagrams, textual case studies, etc.) are mediators used to inform, illustrate and represent design, which can be further used in the construction of a building
Krukar and Dalton (2013)	<ul style="list-style-type: none"> ▪ Spatiality is a powerful curatorial tool which focuses on the perceptual salience of artworks and adds meanings to objects by creating an order of space
Sabrina (2014)	<ul style="list-style-type: none"> ▪ Ambience is an environmental characteristic of a particular place that affects the actions and feelings of a subject (through music, smell and design) and helps him take decisions
Sandanasamy et al. (2015)	<ul style="list-style-type: none"> ▪ “Interior design allows organizations to communicate their corporate identity in a more dynamic way than other visual expressions, because interiors can be employed in three dimensions and in different spaces (Bachynski, 2009, p. 216)
Bargenda (2015)	<ul style="list-style-type: none"> ▪ Corporate PED not only serves as a support for ambient marketing initiatives, but its sign value as an urban and cultural touch-point represents a symbolically charged communication tool in its own right
Chen et al. (2015)	<ul style="list-style-type: none"> ▪ Design continues a rich cultural heritage, in order to create a rich affinity with culture, and can deliver a very good sense of belonging and identity for consumers
Tyler and Adhitya (2015)	<ul style="list-style-type: none"> ▪ Infrastructure has an important role to play in the improvement of quality of life and thus the achievement of societal well-being ▪ Thus in order to obtain societal well-being, infrastructure design must first address how individuals encounter infrastructure and the implications these encounters have for both the people and the infrastructure system itself. It is therefore incumbent upon designers to design these interactions between people and infrastructure ▪ Positive change starts with positive experiences, and the dynamic, multisensorial design of people-environment interactions is the key
Shahli and Hussain (2015)	<ul style="list-style-type: none"> ▪ PED helps people increase the value of a healthy lifestyle and emotional well-being
Sahoo and Ghosh (2016)	<ul style="list-style-type: none"> ▪ Artefacts are physical signals which are communicated by way of general meanings in exchanges with consumers
Ainsworth and Foster (2017)	<ul style="list-style-type: none"> ▪ Atmospheric elements provide comfort which impacts on consumers’ perceptions
Dedeoglu et al. (2018)	<ul style="list-style-type: none"> ▪ A multidimensional structure created in the retail environment provides hedonic value perceptions to customers
Pizam and Tasci (2019)	<ul style="list-style-type: none"> ▪ PED provides experience through a multi-disciplinary approach

Appendix 2.2: Key researchers and definitions (visual identity, communication, and cultural heritage)

Researchers	Definitions
Visual identity	
Olins (1989)	<ul style="list-style-type: none"> Visual identity embraces all the facets of an organisation that influence the way consumers perceive and think about it
Leuthesser and Kohli (1997)	<ul style="list-style-type: none"> Visual identity is the way organisations display their strategy and philosophy through communication, symbolism and behaviour
Balmer (2001)	<ul style="list-style-type: none"> The dominance of visual identity over non-visual senses is complicated, since non-visual senses can be as powerful as the visual dimension
Melewar (2001)	<ul style="list-style-type: none"> Visual identity is a multidimensional construct, mainly following Churchill's (1979) approach, and has nine determinants: 1) demographic profile, 2) visual structure, 3) preparation site, 4) key internal driving force, 5) key motivator, 6) control, 7) global drivers, 8) application, 9) perceived impact
Melewar (2003) p. 195	<ul style="list-style-type: none"> From a projection perspective, visual identity is "the set of meanings by which a company allows itself to be known and through which it allows people to describe, remember and relate to it"
Simoes et al. (2005)	<ul style="list-style-type: none"> Visual identity is the most tangible asset of corporate identity, including dimensions such as company logo, name, colour and slogan
Elving et al., (2012); Van den Bosch, (2006, p. 871)	<ul style="list-style-type: none"> Visual identity is "the visual common thread that runs through the way an organisation expresses itself"
Alkibay et al., (2007, pp. 135-136)	<ul style="list-style-type: none"> "Used cleverly, corporate visual identity can improve an organization's standing within the community by providing its staff with a sense of pride, building a strong reputation and gaining an advantage over competitors"
Resnick (2003, p. 15); Dyrud and Worely (2006)	<ul style="list-style-type: none"> Visual identity can be defined as "the art of communication to inform, educate, influence, persuade and provide a visual experience-one that combines art and technology to communicate messages vital to our daily lives" Within a unique company, visual identity provides an opportunity to reflect the brand's characteristics and meaning Visual design is simultaneously informative and artistic; and "effective design involves choice, judgment and a sense of aesthetics and the intersection of image, word, number and art"
Hynes (2009)	<ul style="list-style-type: none"> Corporate visual identity (CVI) includes all the visual expressions of an organisation, including the logo, colour choices, interiors, architecture and staff uniform
Bidin et al. (2014)	<ul style="list-style-type: none"> Visual identity is a marketing concept that focuses on how to increase an organisation's visibility by creating memorable associations
Buil et al. (2016); Van Rekom (1997)	<ul style="list-style-type: none"> Visual identity is a set of meanings by which an organisation is known and through which people can describe, remember and relate to it
Foroudi et al. (2017)	<ul style="list-style-type: none"> Design experts have visually orientated perceptions, whereas marketing experts perceive through a verbal approach
Simoes and Sebastiani (2017)	<ul style="list-style-type: none"> Visual identity acknowledges an organisation's philosophy, sense of purpose and core values; and creates its individuality
Melewar and Skinner (2018)	<ul style="list-style-type: none"> Visual identity encompasses an organisation's overall presentation which is multi-modal and multisensory to consumers
Communication	
Jackson (1987)	<ul style="list-style-type: none"> Communication is the total dissemination effort of an organisation to accomplish its objectives

Shelby (1993)	<ul style="list-style-type: none"> Communication can be defined as the universalities that exist inside and outside of an organisation. Its focus is arbitration, based on interior environmental factors and managerial methods
Van Riel (1995)	<ul style="list-style-type: none"> Communication is the instrument through which all forms of internal and external communication are harmonised as effectively and efficiently as possible to create favorability for the brand
Gray (1995)	<ul style="list-style-type: none"> Communication is an aggregate of displays, design elements and messages through which an organisation conveys its performance to ethnically diverse consumers
Schmidt (1995)	<ul style="list-style-type: none"> Communication is internal and external information on organisational measures that aim to influence consumers' perceptions
Kerfoot et al. (2003)	<ul style="list-style-type: none"> Communication is visual stimulation that affects consumers' decisions
Weitz (2004)	<ul style="list-style-type: none"> Communication enhances visual merchandising by providing necessary information for displayed products and thus suggesting shopping options for visitors
Balmer and Greyser (2006)	<ul style="list-style-type: none"> Communication refers to the various communication channels offered by organisations to communicate with visitors
Van Riel and Fombrun (2007)	<ul style="list-style-type: none"> Communication is the set of activities involved in operating all internal and external communications aimed at creating a favourable environment for stakeholders
Cornelissen (2008)	<ul style="list-style-type: none"> Communication can be defined as the cumulative elements available in the organisation, offering a framework for effective coordination and information for establishing and maintaining favourable reputations with stakeholders
Lammers (2011)	<ul style="list-style-type: none"> Communication as design invites people to think about the physical space of organisations in terms of how the arrangement of space reflects choices influenced by relevant and encumbering occupational discourse
Aakhus and Laureij (2012)	<ul style="list-style-type: none"> Communication reflects the understanding that people attempt to do things with language and interactivity Material conditions in which organisations emerge It involves the creation or reformation of messages, conversations, systems of interaction and communication technologies
Cant and Hefer (2012)	<ul style="list-style-type: none"> Communication can be defined as the theme message through visual elements which adds value to the store character, and enhances store image and consumer shopping experience
Harrison et al. (2014)	<ul style="list-style-type: none"> Communication is a channel through which information is shared within an organisation. The elements constitute the basic interaction environment of the organisation
Niinimäki et al. (2015)	<ul style="list-style-type: none"> Communication is an effort through various channels, made by an organisation on its physical platform by which design stories are narrated to customers to promote the purchase of products
Melewar et al. (2016)	<ul style="list-style-type: none"> Communication is the benchmark that depicts integrated identity and has an immense impact on consumers
Simoes and Sebastiani (2017)	<ul style="list-style-type: none"> The various forms of communication act as a marketing instrument
Arrigo (2018)	<ul style="list-style-type: none"> In-store communication supports retailers in terms of making consumers aware of the sustainability of products
Cultural heritage	
Herbert (1997)	<ul style="list-style-type: none"> Cultural heritage can be defined as the aspect through which spatial arrangements are created (in relation to place and leisure) as historical reality or national identity, planned by a business to impart design; possessing the duality of being both a cultural and economic value and performing both cultural and economic functions (serving consumers' needs)

Glendinning (2001)	<ul style="list-style-type: none"> ▪ Cultural heritage is a concept perceived as a symbol of material endurance by visitors
Graham (2002)	<ul style="list-style-type: none"> ▪ Cultural heritage is a multidisciplinary field that demarcates heritage into various categories (cultural landscapes, handicrafts, music and song, culinary traditions etc.)
Silberman (2005)	<ul style="list-style-type: none"> ▪ Cultural heritage is described as a medium for cultural identity; and communication imparting aesthetic and cultural value to customers adds to the attractiveness and enrichment of a place, embodying the deepest cultural sensibilities of the time in which the structures and artefacts were made
Anholt (2005); Dinnie (2004); Kotler and Gertner (2002); Kubacki and Skinner (2006); Mihalache and Vukman (2005)	<ul style="list-style-type: none"> ▪ Culture exists in all strands of economics, management, politics, psychology and other fields. It is uniquely connected to the past and present, to people, and to spiritual and intellectual qualities depicting ways of life. It is the core of ideas, customs and values that serve as a tool of competitive advantage. History, art, music and other cultural products enlighten traditions and have a long-lasting influence on consumer perception
Orbagli (2008)	<ul style="list-style-type: none"> ▪ Cultural heritage is a valuable asset that gives added value to revitalisation by establishing a unique environment defined by historic character and sense of local identity, which are regenerated and renewed by the physical environment to adapt and integrate with new concepts of material endurance
Bradshaw et al. (2011)	<ul style="list-style-type: none"> ▪ Culture is the basis of all social identity and development, and cultural heritage is the endowment that each generation receives and passes on
Turpeinen (2012)	<ul style="list-style-type: none"> ▪ Cultural heritage is a kind of footprint of artefacts which can be displayed in an environment to find deeper insights into different cultures and traditions, in order to convey multiple meanings and messages to people with a variety of purposes and functions, and to integrate with design structures
Cavender and Kincade (2014)	<ul style="list-style-type: none"> ▪ Cultural heritage contributes to the preservation of cultural roots and values from the past, and brands are asserting it to support artistic creation and make the environment pleasant for people
Wang et al. (2016)	<ul style="list-style-type: none"> ▪ Cultural heritage not only adds cultural value to a retail store, but also builds a landmark with identifying features
Schroeder et al. (2017)	<ul style="list-style-type: none"> ▪ Cultural themes in a retail store create a foundation for communication and allow history to be communicated to consumers through a new identity
Yang and Chen (2018)	<ul style="list-style-type: none"> ▪ Cultural heritage provides a cultural experience for consumers and helps the promotion of retail stores

Appendix 2.3: Key researchers and definitions (emotional well-being and its elements)

Researchers	Definitions
Hodgins and Knee (2002, p. 824)	<ul style="list-style-type: none"> “Emotional well-being may be facilitated by mindfulness through self-regulated activity and fulfilment of the basic psychological needs for autonomy (self-endorsed or freely chosen activity, competence, and relatedness)”
Joseph (2006)	<ul style="list-style-type: none"> Emotional well-being is an overall satisfaction of a physically active and healthy individual, achieved through different aspects of ambient conditions such as light, spatial layout, supportive design features and finishes, reduced noise and music as well as access to outdoor spaces
Morris Hargreaves McIntyre (2006)	<ul style="list-style-type: none"> Emotional well-being is the reduced stress and greater overall health of an individual or community, gained through performance and efficiency leading to increased productivity. These impacts are achieved through the comfort of the workforce in terms of furniture, temperature and design of the office environment, and the quality of lighting and air
Heerwagen and Heerwagen (2007)	<ul style="list-style-type: none"> Emotional well-being needs are associated with fulfilment, quality of life and psychological health; failure to meet emotional well-being needs can lead to psychosocial maladjustment and stress-related illnesses
Pallasmaa (2008)	<ul style="list-style-type: none"> Emotional well-being is defined as “a way of life oriented toward optimal health and emotional well-being in which the body, mind, and spirit are integrated by the individual to live more fully within the human and natural community”
Thieme et al. (2012, p. 1)	<ul style="list-style-type: none"> “Emotional well-being is defined as positive mental health, and therefore not only the absence of mental illness, but also the presence of positive psychological functioning and it can be facilitated through design”
Power (2014)	<ul style="list-style-type: none"> Consumers’ emotional well-being is the end goal of design, which has the psychological effect of interior space on one’s personal interiority Emotional well-being can be influenced by the use of design elements and principles in a space, as well as by more subjective outcomes such as inspirational and uplifting spaces
Sixsmith and Gibson (2007)	<ul style="list-style-type: none"> Emotional well-being improves quality of life, which can even be achieved through music as this engenders a positive attitude
El Hedhli (2013)	<ul style="list-style-type: none"> Shopping in a store contributes to overall life satisfaction and enhances emotional well-being
Petermans and Pohlmeier (2014)	<ul style="list-style-type: none"> Emotional well-being involves the complete spectrum that will affect the process of designing interior environments and aims to contribute to people’s happiness
Dennis et al. (2016)	<ul style="list-style-type: none"> Traditional shopping is associated with consumers’ happiness and increases emotional well-being
Vada et al. (2019)	<ul style="list-style-type: none"> Consumers gain memorable experience which influences place attachment and improves emotional well-being
Lucas and Romice (2008)	<ul style="list-style-type: none"> The sensorium is described as being mindful of the overlapping corroborative nature of perception for our purposes, to deal with the senses as separate but interlinked phenomena
Foley and Matlin (2009)	<ul style="list-style-type: none"> The sensorium is described as the fundamental means by which a sensory receptor produces neural impulses that the brain interprets as a sound, visual image, odour, taste, pain or other sensory image, and recognises the centrality of emotions and by implication of senses in our lives
Welch (2013)	<ul style="list-style-type: none"> Sensorium refers to the sensory organs as a whole, which are responsible for receiving and integrating sensations from the outside world
Helmeffalk et al. (2017)	<ul style="list-style-type: none"> The sensorium perceives design cues and has several impacts on

	consumers' emotions and shopping behaviour
Haase et al. (2018)	<ul style="list-style-type: none"> Consumers perceive through the sensorium on two levels: explicit and implicit
Bloch et al. (1994)	<ul style="list-style-type: none"> Behaviour is a natural phenomenon in response to a physical setting offering a favourable environment, for interaction, perception and experiences
Schmidt (1995)	<ul style="list-style-type: none"> Behaviour is the sum total of those actions resulting from consumer attitudes which influence the identity, whether planned in line with the company culture, occurring by chance or arbitrary
Woodruffe (1997)	<ul style="list-style-type: none"> Behaviour is described as an action performed by people during shopping activity (casual window shopping, browsing or actual shopping)
Luomala (1998)	<ul style="list-style-type: none"> Behaviour can be defined as the emotional response of a consumer towards shopping in an environment
Ryu and Jang (2007)	<ul style="list-style-type: none"> Behaviour refers to an emotional state around a physical environment, which can either enhance or suppress feelings and emotions
Lockton (2012)	<ul style="list-style-type: none"> Behaviour determines the attitude of responsibility in design. Design features might lead to certain behaviours with larger social or environmental consequences
Mitchell and Hall (2003)	<ul style="list-style-type: none"> Behaviour is defined as a consumer response towards novel/new environments, influencing decision making
Sorrento (2012)	<ul style="list-style-type: none"> Behaviour is a critical component which creates harmony and balance through interior design, allowing humans to be comfortable in the environment
Ali et al. (2014)	<ul style="list-style-type: none"> Consumers' behavioural intentions can be influenced through PED, either favorably or unfavorably
Sailer et al. (2015)	<ul style="list-style-type: none"> Consumers' behaviour within retail organisations can be in the form of communication, knowledge exchange, productivity, creativity or innovation
Kahn et al. (2018)	<ul style="list-style-type: none"> Consumers' in-store shopping behaviour depends entirely on congruent sensory cues
Saleh (1982)	<ul style="list-style-type: none"> Happiness refers to the ability of a human being to use his or her perceptual faculties to interpret and understand the surrounding environment by a simple method which can be controlled by the neural system
Wanger (2007)	<ul style="list-style-type: none"> Happiness is a feeling of contentment, shopping enjoyment and consumers' overall quality of life
Waternan et al., (2008)	<ul style="list-style-type: none"> Happiness is consumer satisfaction of all inclinations is multiple and extended, in intensity and duration Happiness is the maximum enjoyment of consumers, influenced by the overall satisfaction of their individual desires.
Seligman (2011)	<ul style="list-style-type: none"> Happiness is defined as a steady state of mind
Shaw (2011); Watson and Spence (2007)	<ul style="list-style-type: none"> Happiness is a strong factor of consumers which has a remarkable effect on purchasing actions in the retail store environment
Hassenzahl et al. (2013)	<ul style="list-style-type: none"> Happiness is the experience of joy, contentment or positive emotional well-being, combined with a sense that one's life is good, meaningful and worthwhile, and feeling comfortable in the diverse physical environment
Dennis et al. (2016), Goldsmith (2016)	<ul style="list-style-type: none"> The duration of a consumer's stay in a traditional shopping store affects happiness and well-being Happiness has a direct effect with consumer buying intention, and mediates the influence of emotional attachment, agreeability and sociability
Badrinarayanan and Becerra (2018)	<ul style="list-style-type: none"> The traditional retail store environment affects consumers' level of happiness, creates store attachment and develop cognitive behaviour

Appendix 2.4: Key researchers and definitions (consumers' perception towards brand performance)

Researchers	Definitions
Birkigt and Stadler (1998); Maathuis (1999)	<ul style="list-style-type: none"> Consumers' perception towards brand performance is defined as the achievement of a brand by means of consumer adaptability, behaviour, communication and artefacts in ensuring the value of an organisation Consumers' perception towards brand develops a reputation through displayed products in a well-designed environment to bring a sense of appeal to visitors Consumers' perception towards brand is a part of an organisation's identity, which is affected by the perception of consumers, creating a brand image in their minds
De Chernatony (1999, 2001); Harris and de Chernatony (2001)	<ul style="list-style-type: none"> The internal resources of an organisation such as communication, internal planning, functionality and consumers' perception, reinforce the brand's success and simultaneously meet consumers' needs Consumers' perception towards brand performance affects consumers' perceptions about the brand and thus develops trust towards the brand Appropriate and adaptive organisational values as perceived by consumers are associated with consumers' perception towards brand performance Internal factors of an organisation affect consumer behaviour, thus enhancing consumers' perception towards brand performance
Mangini (2002)	<ul style="list-style-type: none"> Consumers' perceptions towards brand performance depend on the visual, emotional, rational and cultural images that are associated with it at consumers' perceptual level An organisation's brand identity, including logo, design placement and brand associations, cumulatively enhance consumers' perception of brand performance
O'Cass and Ngo (2007)	<ul style="list-style-type: none"> Market orientation and the innovative culture of an organisation make a positive contribution to consumers' perception of brand performance
Brady et al. (2008)	<ul style="list-style-type: none"> In a retail setting, brand equity has a direct effect on consumers' perception towards brand performance
Khan (2009)	<ul style="list-style-type: none"> The key advantage and importance of corporate branding lies not only in its positioning of the company, but in creating internal arrangements (e.g. physical design, organisational structure, values and culture) that support the meaning of the corporate brand
O'Cass and Weerawardena (2010)	<ul style="list-style-type: none"> There is a mutual integration between the influence of environment, learning and capabilities on brand performance in a business-to-business environment that influences consumers' perception of brand performance
Nguyen (2012)	<ul style="list-style-type: none"> Consumers' perception of brand performance is the primary product-related influence on customer's experience with the brand It involves how well the product delivers its brand promise and satisfies its customers Several influential factors can guide marketers to improve consumers' perception of brand performance: primary characteristics and secondary features of the product (product reliability, durability, serviceability, service effectiveness, efficiency, empathy, style, design, price, price tier)
Glynn et al. (2012)	<ul style="list-style-type: none"> Brand value is a resource for marketers to improve consumers' perception of brand performance
Gupta et al. (2016)	<ul style="list-style-type: none"> Retailers can act as a source for creating consumers' perception of brand performance that can develop consumer decision-making processes
Foroudi (2019)	<ul style="list-style-type: none"> Perceptual representation in an environment describes the overall appeal to all main key constituents, and generates positive feelings and desired attributes in a consumer's mind that positively affect brand loyalty, brand re-purchase and brand recommendation, which constitute brand performance
Mussol et al. (2019)	<ul style="list-style-type: none"> In-store design attributes convey brand willingness for developing relationships with consumers

Appendix 4.1: Interview Protocol

(Company interviews question sheet (research questions, main effects hypotheses, and qualitative questions))

Introduction: Hello, My name is Suyash Khaneja and I am currently a Doctoral student at Business School in Middlesex University, London. My former education is in the various streams of design. My main interests are to explore the elements of design. The topic of my research is ‘to study the influence of physical environment design on emotional well-being and its effect on brand performance of an organisation: A study of consumers’ perception in the context of a retail setting in the United Kingdom.

Aim of the research: My PhD study is the investigation about the elements of physical environment design: ambience, artefacts and spatiality which enhance the emotional well-being of a consumer. The different strategies of physical environment design are discussed with respect to visual identity, communication and cultural heritage. The focus is on the role of design and how the physical environment design may be structured to stimulate brand performance which is the key factor of any service organisation. The study elaborates the effect of physical environment design on the sensorium through emotions and behaviours, providing happiness and contributing to the emotional well-being. The study is mainly focused on physical environment design of a retail store. This aim of research study is to provide interior designers and experts in this field with guidelines on the selection or modification of a physical environment design to achieve a recognisability and appreciation for an organisation from consumers’ point of view.

Your opinion on my topic is very important for me to understand the interaction between physical environment design and brand performance. I can assure that everything we discuss today will be kept completely confidential. It would be extremely helpful if you could allow me to record our conversation. Whenever you do not feel comfortable about recording something, I can pause the recorder. Whatever subjects you may not feel talking about or find them inappropriate, then we can switch over to the other questions or topics.

About the interviewee

Title:

Interviewer:

Position:

Personal responsibilities:

How long have you been with the organisation?

Date:

Have you been involved with the progress of the physical environment design of an organisation?:

Yes/No

Hypotheses	Major references	Qualitative questions
RQ1 - What is the role of visual identity, communication and cultural heritage in enhancing physical environment design?		
H1: The visual identity positively contributes to the physical environment design through various features	Abratt, 1989; Foroudi et al., 2014, 2016; Melewar, 2003; Melewar and Saunders, 1998, 1999	<p>Would you please explain what does visual identity mean to you?</p> <p>To the best of your knowledge, what are the basic elements of visual identity of a store?</p> <p>Do you think visual elements help you to recognise the store?</p> <p>Do you think visual identity of the store is attractive?</p> <p>Would you please explain how visual identity enriches physical environment design?</p>
H2: The communication positively contributes to the physical environment design through various features	Aslam, 2006; Tavassoli, 2001	<p>Would you please explain what does communication mean to you?</p> <p>To the best of your knowledge, what are the basic elements of communication of a store?</p> <p>Would you please explain how much these communication tools influence your perception?</p> <p>Do you think communication enriches physical environment design?</p>
H3: The cultural heritage positively contributes to the identity and integration of new concepts in the physical environment design	Evans, 2009; Jayne, 2005; Neill, 2005	<p>Would you please explain what does cultural heritage mean to you?</p> <p>To the best of your knowledge, what are the basic elements of cultural heritage of a store?</p> <p>Do you find that store is traditional?</p> <p>Do you think cultural heritage enriches physical environment design?</p>
RQ2 - What is the role of visual identity, communication and cultural heritage in enhancing physical environment design?		
H4: The physical environment design is positively related to the emotional well-being of the consumer	Aakhus, 2007; Ainsworth and Foster, 2017; Gardner and Siomkos, 1985; Jeremy et al., 2002; Kotler, 1973; Mehrabian and Russel, 1974; Olson, 1977; Spangenberg et al., 1996; Terje et al., 2009; Vada et al., 2019; Vaikla-Poldma, 2003; Xin et al., 2007; Zeithaml, 1988	<p>Would you please explain what does physical environment design mean to you?</p> <p>To the best of your knowledge, what are the basic elements of physical environment design of a store?</p> <p>To the best of your knowledge, what is the impact of physical environment design on your emotional well-being?</p>
RQ3 - How can a physical environment design enrich consumers' emotional well-being and enhance brand performance?		
H5: Visual identity of physical environment design is positively	Diener, 2009; Hassenzahl et al., 2013; Michaelson et al., 2009; Stiglitz et al., 2009;	<p>Would you please explain what does emotional well-being mean to you?</p> <p>To the best of your knowledge, what are the</p>

related to the emotional well-being of the consumer	Sorrento, 2012; Welch, 2013; Zikmund, 2003	basic elements of emotional well-being? To the best of your knowledge, what is the impact of visual identity on your emotional well-being?
H6: Communication of physical environment design is positively related to the emotional well-being of the consumer	Diener, 2009; Hassenzahl et al., 2013; Michaelson et al., 2009; Stiglitz et al., 2009; Sorrento, 2012; Welch, 2013; Zikmund, 2003	To the best of your knowledge, what is the impact of communication on your emotional well-being?
H7: Cultural heritage represented in a retail store positively contributes to the emotional well-being of consumers	Diener, 2009; Hassenzahl et al., 2013; Michaelson et al., 2009; Stiglitz et al., 2009; Sorrento, 2012; Welch, 2013; Zikmund, 2003	To the best of your knowledge, what is the impact of cultural heritage on your emotional well-being?
H8: Consumers' emotional well-being positively contributes to their perception towards brand performance	Johnstone and Conroy, 2008; Keller, 2003; Khan, 2009; Melewar and Saunders, 2000; Nguyen et al., 2016; Olins, 1989; Weerawardena et al., 2006	Would you please explain what does brand performance mean to you? To the best of your knowledge, what are the basic elements of brand performance of a store? To the best of your knowledge, what impact has the emotional well-being on the brand performance?

Appendix 4.2: Focus group protocol

Group No:
Description of participants:
 1
 2
 3
 4
 5
Place:
Date:
Length of session:

Questions:
Opening questions
1) Will you please introduce yourself to all of us? (Ask all the group members) 2) Can you recall the department store where you generally go for shopping?
Transition questions
3) How do you select which department store is suitable for you? What is the main criteria of store selection in your mind? 4) Will you please name the components of the store's physical environment design? How compelling are the design features in your mind? (ambience, artefacts, spatiality) 5) Do you think these design components of a store make it famous? Would you please elaborate your answer.
Key questions
6) If you think all the above mentioned components create the physical environment design of a store, which of them is more influential in terms of evoking your senses, uplifting your moods, providing you happiness and affecting your behaviour? 7) Do you think there are visual expressions available in the store that makes your experience memorable and interesting? 8) Would you please explain how much these communication tools (adverts and promotional offers) influence your perception? 9) Do you find that store displays traditional objects that connects you with your culture instantly? Do you think cultural heritage enriches physical environment design? Please elaborate your answer. 10) Do the store experiences give you satisfaction? How do you think that physical environment design gives you relaxation and effect your emotional well-being?
Final questions
11) Does any other component comes to your mind which can contribute to the physical environment design of a store to make the store more popular? 12) The whole purpose of this study is to understand the elements of physical environment design and how these elements influence the consumers' emotional well-being and increase the consumers' perception of brand performance of a retail store (in terms of success and prosperity). If you think we have missed out some points, would you please like to mention them?

Could you please provide names of three department stores in London?
--

Appendix 4.3:



Questionnaire – Department stores in London (Reference Shopping Stores such as Harrods, Liberty, John Lewis, Selfridges, Debenhams)

Research aim:

This research is conducted by Suyash Khaneja who is currently a Doctoral student at Middlesex Business School, Middlesex University, London, United Kingdom. This study aims to examine the influence of physical environment design on emotional well-being and its impact on brand performance.

In this study you will be asked to participate in a survey concerning your perceptions and feelings about a store's physical environment design. The interviewer would like to thank you for your precious time spent completing this questionnaire as part of this research project.

Your kind co-operation is essential to the completion of this project. The success of this investigation depends entirely on the data contributed by consumers such as you.

Answering the enclosed questionnaire is voluntary. Your participation and any data collected will be anonymous and the responses will only be presented in an aggregated form and no single name will be disclosed. The questionnaire will only take 15 minutes of your time to fill out.

Thank you for your cooperation!

Yours sincerely,
Ms Suyash Khaneja
sk1786@live.mdx.ac.uk
Middlesex Business School
Middlesex University
Hendon
London NW4 4BT

1. Which department store have you shopped at most recently?

- ☐ Harrods ☐ Liberty ☐ John Lewis ☐ Selfridges
☐ Debenhams ☐ Other - _____ (please name)

Please answer the following questions with respect to shopping at the store that you have ticked in Question 1.

2. Below are the statements about **visual identity** (e.g. symbol, sign, colour or logo) of the department stores. Please indicate your degree of agreement or disagreement with the following statements.

Tick the box that best describes your opinion.

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
The store's visual identity							
...is recognisable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...has a symbolic meaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...is attractive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...is artistic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...is novel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...is elegant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...is honest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...is familiar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...is meaningful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...reflects the personality of the company	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...is distinct	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...evokes positive effect	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...is a powerful source of differentiation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...positively contributes to physical environment design	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...is positively related to my emotional well-being	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Below are the statements about in-store **communication** (e.g. advertisements) used by the department stores. Please indicate your degree of agreement or disagreement with the following statements.

Tick the box that best describes your opinion.

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
The store's communication							
...is through the advertising and promotions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...is influential	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...is an interactive experience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...is through digitalisation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...of sponsoring activities is exciting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...of sponsoring activities is entertaining	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...positively contributes to physical environment design	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...is positively related to my emotional well-being	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store has a good understanding of marketing communication tools	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store communicates a clear message to me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Below are the statements about **cultural heritage** (traditional elements) used by the department stores. Please indicate your degree of agreement or disagreement with the following statements.

Tick the box that best describes your opinion.

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
Cultural heritage							
...positively contributes to the physical environment design	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...is positively related to my emotional well-being	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store exhibits interesting cultural objects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store offers me an enriching traditional experience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store organises cultural events/festivals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store offers ethnic products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. Below are the statements about **ambience** (e.g. music, lighting, temperature, aroma) used by the department stores. Please indicate your degree of agreement or disagreement with the following statements.

Tick the box that best describes your opinion.

Ambience	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
<i>The store's music</i>							
...is pleasing to me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...is appropriate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...makes environment a more enjoyable place	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...influences my decision	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...is suitable for my shopping experience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...fits well with the merchandise	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>The store's lighting</i>							
...is appropriate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...is pleasing to me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...highlights the displayed products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...creates a warm atmosphere	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...creates a comfortable atmosphere	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...influences my decision	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...differentiate shopping areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>The store's temperature</i>							
...is comfortable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...is appropriate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...influences my decision	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...is well maintained	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>The store's aroma</i>							
...is appealing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...is adequate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...evokes positive influence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store has gender-appropriate aroma	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store has a pleasant smell	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>The store's security/privacy</i>							
The store offers safe and secure environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store ensures personal safety within the store	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store's safety generates positive emotional response	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The facilities and equipment are safe in the store	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The level of security/safety felt makes me feel comfortable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store's ambience is positively related to physical environment design	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. Below are the statements about **artefacts** (display materials) used by the department stores. Please indicate your degree of agreement or disagreement with the following statements.

Tick the box that best describes your opinion.

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
The store's artefacts							
...provide adequate display of information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...are helpful (in-store signage)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...have attractive colours	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...affect patronage behaviour (digital signage)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...are memorable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...provide aesthetic sense	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...are positively related to physical environment design	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store possesses attractive paintings/pictures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store possesses utilitarian artefacts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. Below are the statements about **spatiality** of department stores. Please indicate your degree of agreement or disagreement with the following statements.

Tick the box that best describes your opinion.

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
Spatiality							
The store has easy accessibility (entrance)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store has multiple windows and gates	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The overall layout of the store is easy to get around	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store's layout provides spatial density (space)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store's layout is eye catching	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store's area is big enough to handle the crowds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store provides sufficient open space	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store's spatial layout offers a good and relevant functionality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store has comfortable equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The signs and symbols made it easy to get where I wanted to go	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store has well designed escalators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The store has adequate price displays	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store is well equipped with surrounding facilities (lounge)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store provides easy accessibility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store provides comfortable arrangement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store is convenient	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store has logical location of products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store has sufficient aisle space and width	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store has convenient billing counters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store's spatiality is positively related to physical environment design	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. Below are the statements about your impression of consumers' **emotional well-being**. Please indicate your degree of agreement or disagreement with the following statements.

Tick the box that best describes your opinion.

Emotional well-being

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
The store makes me feel relaxed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store's ambience makes me feel satisfied	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store provides mindfulness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store's physical environment design arouse positivity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store's physical environment design plays a very important role in my leisure well-being	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store's physical environment design enhances my quality of life	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store's physical environment design is positively related to my emotional well-being	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. The section below examines your understanding about your perception through **sensorium** (sense organs). Please indicate your degree of agreement or disagreement with the following statements.

Tick the box that best describes your opinion.

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
Sensorium							
The store arouses excitement in my sensorium	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store arouses satisfaction in my sensorium	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store makes a strong impression on my senses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store induces perceptions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store generates emotional experiences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store engages my senses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store stimulates my curiosity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My store perception through sensorium positively contributes to my emotional well-being	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store's physical environment design is positively related to my sensorium	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10. The section below examines your understanding about your perception through **behaviour**. Please indicate your degree of agreement or disagreement with the following statements.

Tick the box that best describes your opinion.

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
Behaviour							
The store engages me in physical actions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store engages me in a lot of thinking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I love to browse when shopping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I buy a product/brand for utilitarian reasons	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I buy a product/brand based on certain social image	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I buy a product/brand because of routine purchase behaviour	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I buy a product/brand without much thinking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

My behaviour in the store positively contributes to emotional well-being	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store's physical environment design is positively related to my behaviour	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

11. The section below is prepared to understand your perception through **happiness**. Please indicate your degree of agreement or disagreement with the following statements.

Tick the box that best describes your opinion.

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
Happiness							
The store gives me more satisfaction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store helps me to enjoy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store puts me in a good mood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store is part of something fun	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store is part of something happening	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store is part of something exciting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store's shopping experience is very pleasant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am pleased with my decision to visit the store	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My happiness attained from the store positively contributes to emotional well-being	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The store's physical environment design is positively related to my happiness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12. The section below is prepared to understand your impression about the **consumer's perception towards brand performance** (prosperity of the department stores). Please indicate your degree of agreement or disagreement with the following statements.

Tick the box that best describes your opinion.

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
Consumer's perception towards brand performance							
I believe that the store is successful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe that the store is attracting new customers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe that the store is attaining desired growth	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe that the store is providing value for customers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe that the store is keeping current customers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe that the store's brand performance is enhanced by brand support	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe that the store's brand performance is enhanced by relationship commitment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe that the store's brand performance adds to the contribution to sales	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe that the store is professional and helpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe that the store is synonymous to high quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe that my emotional well-being positively affects the brand performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

13. What does physical environment design mean to you?

.....

.....

14. How would you describe the physical environment design of the department stores?

.....

.....

15. Do you think the department store affects your emotional well-being with its physical environment design?

.....

.....

A FEW THINGS ABOUT YOURSELF

In order to get full understanding about your opinion on the benefit of physical environment design, please answer the following questions.

A. What is your gender:

☐ Male

☐ Female

B. Your age group:

☐ below 30

☐ 30-39

☐ 40-49

☐ 50-59

☐ 60 or above

C. Please state the last degree you have earned.

☐ High school

☐ Undergraduate

☐ Postgraduate and

above

D. Please specify the most appropriate option below that indicates your employment status (tick only one).

Q1 I am currently employed as a

Q2 I am a

☐ Top executive or manager

☐ Student

☐ Senior manager

☐ House wife

☐ Sales associate

☐ Office/clerical staffs

☐ Store employee

☐ Professional (no management)

☐ Retired

☐ Civil servant

I would like to thank you again for your kind cooperation and valuable time.
The sequence of the questions were based on recommendations by Krueger (1994).

Appendix 4.4: Initial number of items before qualitative phase (based on literature review)

Construct		Items	Major references
Visual identity			
1	The store's visual identity is recognisable	Buil et al. (2016); Coleman (2011); Csordas (2008); Dowling (2001); Foroudi et al. (2014, 2016); Kirhenstein (2013); Van den Bosch et al. (2005)	
2	The store's visual identity has a symbolic meaning	Dennis et al. (2016); Melewar and Saunders (1999); Van den Bosch et al. (2005)	
3	The store's visual identity is attractive	Balmer (1995); Balmer and Burghausen (2015); Balmer and Chen (2016); Buil et al. (2016); Ebrahim et al. (2016); Olins (1985)	
4	The store's visual identity is artistic	Balmer (1995); Balmer and Burghausen (2015); Balmer and Chen (2016); Buil et al. (2016); Olins (1985)	
5	The store's visual identity is novel	Balmer (1995); Balmer and Burghausen (2015); Balmer and Chen (2016); Buil et al. (2016); Olins (1985)	
6	The store's visual identity is elegant	Balmer (1995); Balmer and Burghausen (2015); Balmer and Chen (2016); Buil et al. (2016); Olins (1985)	
7	The store's visual identity is honest	Balmer (1995); Balmer and Burghausen (2015); Balmer and Chen (2016); Buil et al. (2016); Olins (1985)	
8	The store's visual identity communicates with me strongly	Balmer (1995); Balmer and Burghausen (2015); Balmer and Chen (2016); Buil et al. (2016); Olins (1985)	
9	The store's visual identity is interesting	Buil et al. (2014); Nguyen et al. (2016)	
10	The store's visual identity is appealing to multiple senses	Dooley (2007); Ebrahim et al. (2016); Lindstrom (2005)	
11	The store's visual identity is familiar	Cohen (1991); Foroudi et al. (2014, 2019, 2020); Robertson (1989)	
12	The store's visual identity is meaningful	Foroudi et al. (2014, 2019, 2020)	
13	The store's visual identity reflects the personality of the company	Bernstein (1986); Foroudi et al. (2014); Van Heerden and Puth (1995); Van Riel et al. (2001)	
14	The store's visual identity is distinct	Fombrun and Van Riel (2004); Foroudi et al. (2014, 2019, 2020)	
15	The store's visual identity evokes positive effect	Foroudi et al. (2014, 2019, 2020)	
16	The store's visual identity is a powerful source of differentiation	Melewar and Akel (2005)	
17	The store's visual identity positively contributes to the PED	Hynes (2009); Melewar et al. (2006); Melewar and Saunders (2000); Munajjed and Sulaiman (2015); Olins (1985); Shimp (1990); Van den Bosch et al. (2005)	
18	The store's visual identity is positively related to my well-being	Dale (2017); Hung (2014); Kasser and Ryan (2001); Porter and Claycomb, (1997)	
Communication			
1	The store communicates through the advertising and promotions	Alwi (2009); Grace and O'Cass (2005); Hogan and Coote (2014)	
2	The store's communication is influential	Alwi (2009); Grace and O'Cass (2005); Hogan and Coote (2014)	
3	The store's communication is an	Brakus et al. (2009); De Rojas and Camarero (2008);	

	interactive experience	Ebrahim et al. (2016)
4	The store's communication of sponsoring activities is exciting	Brakus et al. (2009); De Rojas and Camarero (2008)
5	The store's communication of sponsoring activities is entertaining	Brakus et al. (2009); De Rojas and Camarero (2008)
6	The store's communication is a part of luxury, sophistication, and exclusivity	Brakus et al. (2009); De Rojas and Camarero (2008)
7	The communication positively contributes to the PED	Bargenda (2015); Crilly et al. (2004); Munajjed and Sulaiman (2015); Nguyen and Leblanc (2001)
8	The in-store communication is positively related to my well-being	El Hedhli et al. (2013); Feenstra et al. (2015); Rubio et al. (2017); Sailer et al. (2015); Ulrich et al. (2008)
9	The store has a good understanding of marketing communication tools	Buil et al. (2016); Coleman (2011)
10	The store communicates a clear message to me	Balmer (2001); Bartholme and Melewar (2009); Coleman (2011)
Cultural heritage		
1	The cultural heritage positively contributes to the PED	Aaker et al. (2001); Jiang et al. (2015); Vukadin et al. (2016)
2	The cultural heritage is positively related to my well-being	Duran et al. (2015); Puczko and Bachvarov (2006); Wheatley and Bickerton (2017)
3	The store exhibits interesting cultural objects	Chianese et al. (2015); Choi et al. (2016); De Rojas and Camarero (2008)
4	The store offers me an interesting, traditional experience	Choi et al. (2016); De Rojas and Camarero (2008); Paige and Littrell (2002)
5	The store offers me an enriching, traditional experience	Choi et al. (2016); De Rojas and Camarero (2008); Paige and Littrell (2002)
6	The store organises cultural events/festivals	Napoli et al. (2014); Qu et al. (2011)
7	The store offers local cuisine	Napoli et al. (2014); Qu et al. (2011)
8	The store offers ethnic products	Choi et al. (2016); Paige and Littrell (2002)
Physical environment design		
Ambience		
Music		
1	The store's music is pleasing to me	Dennis et al. (2012); Dube and Morin (2001); Duncan Herrington (1996); Han and Ryu (2009); Hui et al. (1997); Martinez and Casielles (2017); Mattila and Wirtz (2001); North et al. (1999); Singh (2017); Yalch and Spangenberg (1990); Wakefield and Baker (1998)
2	The store's music is appropriate	Dennis et al. (2012); Dube and Morin (2001); Duncan Herrington (1996); Han and Ryu (2009); Hui et al. (1997); Mattila and Wirtz (2001); North et al. (1999); Singh (2017); Wakefield and Baker (1998); Yalch and Spangenberg (1990)
3	The store's music makes environment a more enjoyable place	Banat and Wandebori, 2012; Kim et al. (2016); Milliman (1982); Oakes (2000); Siddhibphongsa and Kim (2017)
4	The store's music influences my	Banat and Wandebori, 2012; Eroglu et al. (2003);

	decision	Holbrook and Anand (1990); Siddhibphongsa and Kim (2017)
5	The store's music is suitable for my shopping experience	Ballouli and Bennett (2014); Beverland et al. (2006)
6	The store's music fits well with the merchandise	Ballouli and Bennett (2014); Mattila and Wirtz (2001); Oakes and North (2008)
7	The store's music goes together well with other features	Ballouli and Bennett (2014); Mattila and Wirtz (2001); Oakes and North (2008)
Light		
8	The store's lighting is appropriate	Babin et al. (2004); Bonn et al. (2007); Martinez and Casielles (2017); Wakefield and Baker (1998)
9	The store's lighting is pleasing to me	Babin et al. (2004); Bonn et al. (2007); Dennis et al. (2012); Han and Ryu (2009); Martinez and Casielles (2017); Singh (2017); Summers and Hebert (2001)
10	The store's lighting highlights the displayed products	Babin et al. (2004); Bonn et al. (2007); Dennis et al. (2012); Han and Ryu (2009); Singh (2017); Summers and Hebert (2001)
11	The store has good lighting	Martinez and Casielles (2017); Wakefield and Baker (1998)
12	The store's lighting creates a warm atmosphere	Han and Ryu (2009); Munajjed and Sulaiman (2015)
13	The store's lighting creates a comfortable atmosphere	Hanaysha (2016); Jang and Namkung (2009)
14	The store's lighting influences my decision	Eroglu et al. (2003); Martinez and Casielles (2017)
15	The store's lighting improves general visibility	Sahiner (2016)
16	The store's lighting differentiate shopping areas	Sahiner (2016)
Temperature		
17	The store's temperature is comfortable	Han and Ryu (2009); Jani and Han (2014); Kim et al. (2016); Wakefield and Baker (1998) Jani and Han (2014); Kim et al. (2016)
18	The store's temperature is appropriate	Ghosh et al. (2010); Martinez and Casielles (2017)
19	The store's temperature influences my decision	Eroglu et al. (2003); Martinez and Casielles (2017)
20	The store's air quality is acceptable	Jani and Han (2014); Kim et al. (2016)
21	The store's temperature is well maintained	Kim et al. (2016); Ng (2003)
Aroma		
22	The store's aroma is enticing	Dennis et al. (2012); Chebat and Michon (2003); Han and Ryu (2009)
23	The store's aroma is appealing	Mongkol (2016); Ryu and Jang (2007)
24	The store's aroma is adequate	Bogicevic et al. (2016)
25	The store's aroma is fitting	Bogicevic et al. (2016)
26	The store has pleasant smell	Jani and Han (2014); Martinez and Casielles (2017); Mattila and Wirtz (2001)
27	The store has gender- appropriate aroma	Dennis (2012); Spangenberg (2006)

28	The store's aroma evokes positive influence	Martinez and Casielles (2017); Ryu and Jang (2007)
Security/Privacy		
29	The store offers safe and secure environment	Haj-Salem et al. (2016); Qu et al. (2011)
30	The store ensures personal safety within the store	Sit et al. (2003)
31	The store's safety generates positive emotional response	Bogicevic et al. (2016)
32	The facilities and equipment are safe in the store	Kim et al. (2016)
33	The level of security/safety felt makes me feel comfortable	Sit et al. (2003)
34	The store's ambience positively contributes to the PED	Baker (1987); Bitner (1992); Chebat and Michon (2003); Cheng et al. (2016); Han and Ryu (2009); Hui et al. (1997); Kotler (1973); Lee and Jeong (2012); Mattila and Wirtz (2001); Nguyen and Leblanc (2002); North and Hargreaves (1998); Tuzunkan and Albayrak (2017); Wakefield and Bakers (1998); Yalch and Spangenberg (1993)
Artefacts		
1	The store's artefacts provide adequate display of information	Singh (2006)
2	The store's artefacts are helpful (in-store signage)	Singh (2006)
3	The store's artefacts have attractive colours	Bogicevic et al. (2016); Dhurup et al. (2013)
4	The store's artefacts affect patronage behaviour (digital signage)	Dennis et al. (2012); Eroglu et al. (2003)
5	The store's artefacts are appreciable	Siu et al. (2016)
6	The store's artefacts are memorable	Siu et al. (2016)
7	The store's artefacts provide aesthetic sense	Du Randt (2016)
8	The store's artefacts positively contributes to the PED	Baker (1987); Bitner (1992); Chebat and Michon (2003); Cheng et al. (2016); Han and Ryu (2009); Hui et al. (1997); Kotler (1973); Lee and Jeong (2012); Mattila and Wirtz (2001); Nguyen and Leblanc (2002); North and Hargreaves (1998); Tuzunkan and Albayrak (2017); Wakefield and Bakers (1998); Yalch and Spangenberg (1993)
9	The store possesses attractive paintings/pictures	Tuzunkan and Albayrak (2016)
Spatiality		
Spatial layout		
1	The store has easy accessibility (entrance)	Mathur and Goswami (2014); Paige and Littrell (2002); Wakefield and Blodgett (1994)
2	The store has easy access by personal vehicle	Wakefield and Blodgett (1994)

3	The store has easy access by public transport	Wakefield and Blodgett (1994)
4	The store has multiple windows and gates	Wakefield and Blodgett (1994)
5	The store has ample parking space	Mathur and Goswami (2014); Paige and Littrell (2002); Wakefield and Blodgett (1994)
6	The overall layout of the store is easy to get around	El Hedhli et al. (2013); Mathur and Goswami (2014); Wakefield and Baker (1998)
7	The store's layout provides spatial density (space)	Sahiner (2016); Wakefield et al. (1996)
8	The store's layout is eye catching	Sundar and Kellaris (2016)
9	The store's area is big enough to handle the crowds	Sahiner (2016); Wakefield et al. (1996)
10	The store provides sufficient open space	Baker et al. (1995); Singh (2017)
Functionality		
11	The store's spatial layout offers a good and relevant functionality	Bonn et al. (2007); Du Randt (2016); Riviezzo et al. (2009)
12	The store has comfortable equipment	Ebrahim et al. (2016); Mongkol (2016)
13	The signs and symbols made it easy to get where I wanted to go	Bogicevic et al. (2016)
14	The store has well designed escalators	Daniel et al. (2016)
15	The store has adequate price displays	Du Randt (2016)
16	The store is well equipped with surrounding facilities (lounge)	Kim et al. (2016)
Comfort		
17	The store provides easy accessibility	Bonn et al. (2007); Jang and Namkung (2009); Wakefield et al (1996); Qu et al. (2011); Wakefield and Blodgett (1994); Wakefield and Baker (1998)
18	The store provides comfortable arrangement	Bogicevic et al. (2016); Han and Ryu (2009); Qu et al. (2011); Steen (2016)
19	The store is convenient	Haj-Salem (2016); Singh (2006)
20	The store has logical location of products	Baker et al. (1995); Singh (2017)
21	The store has sufficient aisle space and width	Du Randt (2016); Kim et al. (2016); Steen (2016); Developed and based on Baker et al. (1994)
22	The store has sufficient billing counters	Kim et al. (2016); Mathur and Goswami (2014)
23	The store has convenient billing counters	Kim et al. (2016); Mathur and Goswami (2014)
24	The store's spatiality positively contributes to the PED	Baker (1987); Bitner (1992); Chebat and Michon (2003); Cheng et al. (2016); Han and Ryu (2009); Hui et al. (1997); Kotler (1973); Lee and Jeong (2012); Mattila and Wirtz (2001); Nguyen and Leblanc (2002); North and Hargreaves (1998); Tuzunkan and Albayrak (2017); Wakefield and Bakers (1998); Yalch and Spangenberg (1993)
Emotional well-being		

1	The store makes me feel relaxed	Harris (2017); Sweeney and Soutar (2001)
2	The store's ambience makes me feel satisfied	Harris (2017); Kim et al. (2012); Lee et al. (2002)
3	The store provides mindfulness	Brown and Kasser et al. (2005)
4	The store's PED arouse positivity	Harris (2017); Sweeney and Soutar (2001)
5	The store's PED plays a very important role in my social well-being	El Hedhli et al. (2013); Harris (2017)
6	The store's PED plays a very important role in my leisure well-being	El Hedhli et al. (2013); Harris (2017)
7	The store's PED enhances my quality of life	El Hedhli et al. (2013); Harris (2017)
8	The store's PED is positively related to my well-being	Arnold and Reynolds (2003); Butcher (1998); Harris (2017); Howarth (2016); Klosowski (2013); Menec et al. (2011); Solomon et al. (2006); Tyler and Adhitya (2015)
Sensorium		
1	The store arouses pleasure in my sensorium	Craig Roberts et al., 2009; Dube and LeBel, (2003); Gentile et al. (2007); Korichi et al. (2009); Pine et al. (1999); Schmitt, (1999)
2	The store arouses excitement in my sensorium	Craig Roberts et al., 2009; Dube and LeBel, (2003); Gentile et al. (2007); Korichi et al. (2009); Pine et al. (1999); Schmitt, (1999)
3	The store arouses satisfaction in my sensorium	Craig Roberts et al., 2009; Dube and LeBel, (2003); Gentile et al. (2007); Korichi et al. (2009); Pine et al. (1999); Schmitt, (1999)
4	The store makes a strong impression on my senses	Beckman (2013); Brakus et al. (2009); Ngo et al. (2016)
5	The store induces perceptions	Beckman (2013); Ngo et al. (2016)
6	The store generates emotional experiences	Beckman (2013); Brakus et al. (2009); Ebrahim et al. (2016)
7	The store engages my senses	Beckman (2013); Ngo et al. (2016)
8	The store stimulates my curiosity	Beckman (2013)
9	My store perception positively contributes to emotional well-being	Frederickson (2001); Goldstein (2009); Howes (2008)
10	The store's PED is positively related to my sensorium	Dennis et al. (2014); Hulten et al. (2011); Krishna (2010); Lindstrom (2005); Madzharov et al. (2015); Morrison et al. (2011); Rozendaal and Schifferstein (2010)
Behaviour		
1	The store engages me in physical actions	Beckman (2013); Ebrahim et al. (2016)
2	The store engages me in a lot of thinking	Brakus (2009); Ebrahim et al. (2016)
3	I tend to impulse buy when shopping	Baumgartner (2002); Liu et al. (2007)
4	I love to browse when shopping	Liu et al. (2007)
5	I buy a product/brand for utilitarian reasons	Baumgartner (2002)
6	I buy a product/brand based on certain social image	Baumgartner (2002)

7	I buy a product/brand because of routine purchase behaviour	Baumgartner (2002)
8	I buy a product/brand because of curiosity	Baumgartner (2002)
9	I buy a product/brand without much thinking	Baumgartner (2002)
10	My behaviour in the store positively contributes to well-being	El Hedhli et al. (2013); Hsu and Chen (2014); Sirgy et al. (2006)
11	The store's PED is positively related to my behaviour	Baksi (2013); Dennis et al. (2014); Ladhari et al. (2017); Lee et al. (2015); Levy and Weitz (2004); Haselwandter et al. (2015); Turley and Chebat (2002); Wakefield and Blodgett (2016)
Happiness		
1	The store gives me more satisfaction	Ali et al. (2016); Babin et al. (2005); Beckman et al. (2013); Brakus et al. (2009); Grace and O'Cass (2005); Han and Ryu (2009); Yvette and Turner (2003)
2	The store helps me to enjoy	Ali et al. (2016); Babin et al. (2005); Beckman et al. (2013); Brakus et al. (2009); Grace and O'Cass (2005); Han and Ryu (2009); Yvette and Turner (2003)
3	The store puts me in a good mood	Ali et al. (2016); Babin et al. (2005); Beckman et al. (2013); Brakus et al. (2009); Grace and O'Cass (2005); Han and Ryu (2009); Yvette and Turner (2003)
4	The store is part of something fun	Brakus et al. (2009)
5	The store is part of something happening	Brakus et al. (2009); Martinez and Casielles (2017)
6	The store is part of something exciting	Brakus et al. (2009)
7	The store's shopping experience is very pleasant	Brakus et al. (2009); Ebrahim et al. (2016)
8	The store makes me feel content	De Rojas and Camarero (2008); Martinez and Casielles (2017); Sands et al. (2015)
9	The store makes me feel entertained	De Rojas and Camarero (2008); Martinez and Casielles (2017); Sands et al. (2015)
10	I am pleased with my decision to visit the store	De Rojas and Camarero (2008); Sands et al. (2015)
11	My happiness attained from the store positively contributes to well-being	El Hedhli et al. (2013); Dennis et al. (2016); Hassenzahl et al. (2013); Hofmann et al. (2014)
12	The store's PED is positively related to my happiness	Arnold and Reynolds (2003); Hassenzahl et al. (2013); Jang and Namkung (2009); Michon et al. (2005); Ryu and Han (2011)
Consumer's perception towards brand performance		
1	I believe that the store is successful	Harris and de Chernatony (2001); Lehmann et al. (2008); Weerawardena et al. (2006)
2	I believe that the store is attracting new customers	Irving (1995); Kohli et al. (1993); Kumar et al. (1993)
3	I believe that the store is attaining desired growth	Irving (1995); Karpen et al. (2015); Kohli et al. (1993); Wu et al. (2011)
4	I believe that the store is achieving customer performance	Irving (1995); Kohli et al. (1993)

5	I believe that the store is providing value for customers	Irving (1995); Kohli et al. (1993); Nguyen et al. (2016)
6	I believe that the store is keeping current customers	Irving (1995); Kohli et al. (1993)
7	I believe that the store's brand performance is enhanced by brand conduct	Gupta et al. (2016); Keller (2010); Mudambi (2002)
8	I believe that the store's brand performance is enhanced by brand support	Gupta et al. (2016); Keller (2010); Mudambi (2002)
9	I believe that the store's brand performance is enhanced by relationship commitment	Gupta et al. (2016); Keller (2010); Mudambi (2002)
10	I believe that the store's brand performance adds to the contribution to sales	Irving (1995); Karpen et al. (2015); Weerawardena et al. (2006); Wu et al. (2011)
11	I believe that the store's brand performance adds to the contribution to profits	Karpen et al. (2006); Kumar et al. (1993)
12	I believe that the store's brand performance adds to the contribution to growth	Karpen et al. (2006); Kumar et al. (1993); Weerawardena et al. (2006); Wu et al. (2011)
13	I believe that the store is professional and helpful	Lehmann et al., (2008); Nguyen et al. (2016)
14	I believe that the store is consistent in quality	Beverland et al., (2015); Nguyen et al. (2016); Punjaisri and Wilson (2011)
15	I believe that the store is synonymous to high quality in overall	Beverland et al., (2015); Nguyen et al. (2016); Punjaisri and Wilson (2011)
16	I believe that the store delivers its promises promptly and correctly	Harris and de Chernatony (2001); Hsiao and Chen (2013); Lehmann et al., (2008); Nguyen et al. (2016); Punjaisri and Wilson (2011)
17	I believe that my emotional well-being positively affects the brand performance	El Hedhli et al. (2013); Gurhan et al. (2016); Harris (2017); Hughes (2013); Hwang and Han (2014)

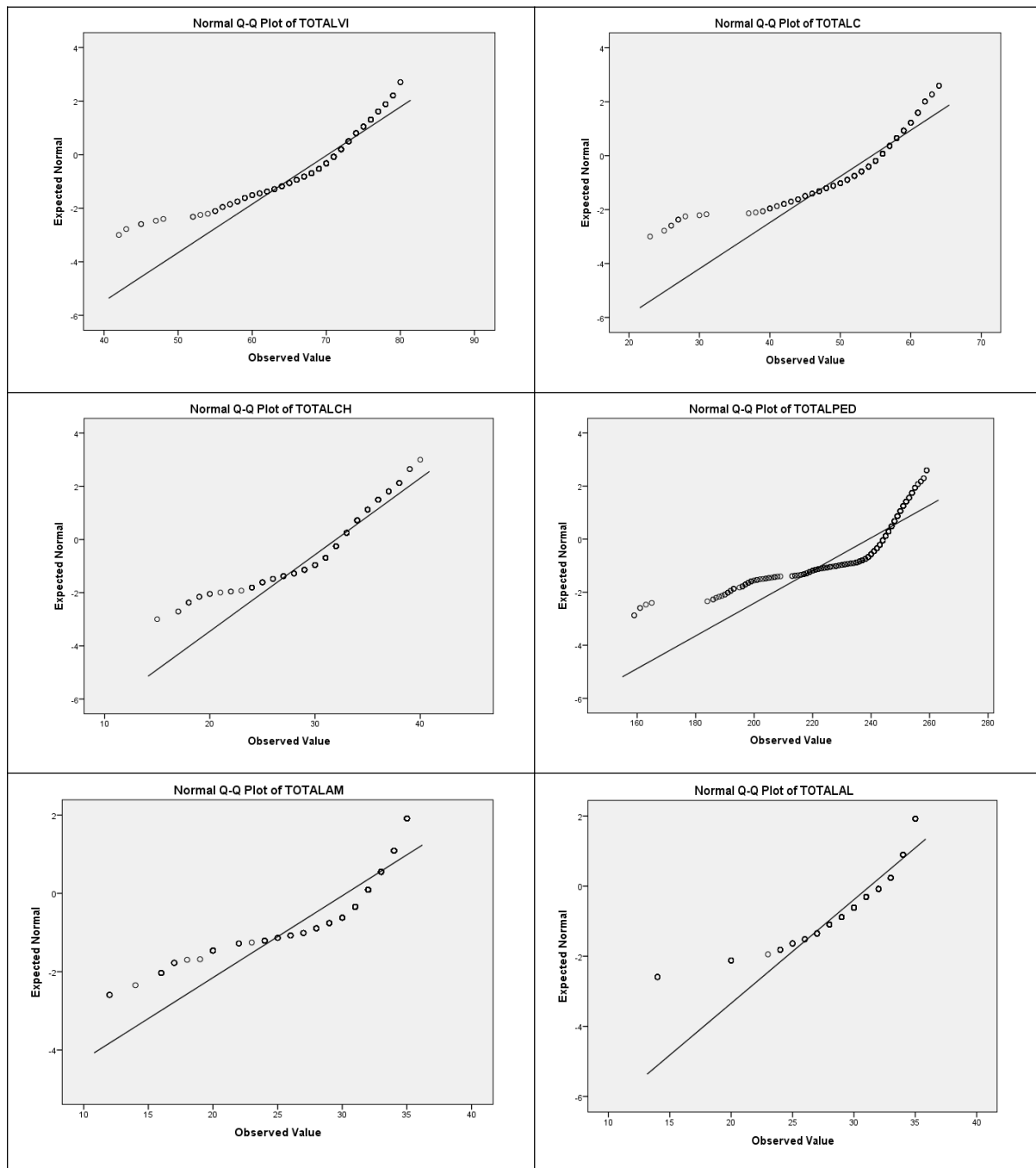
Appendix 6.1: Missing data examination at item-level

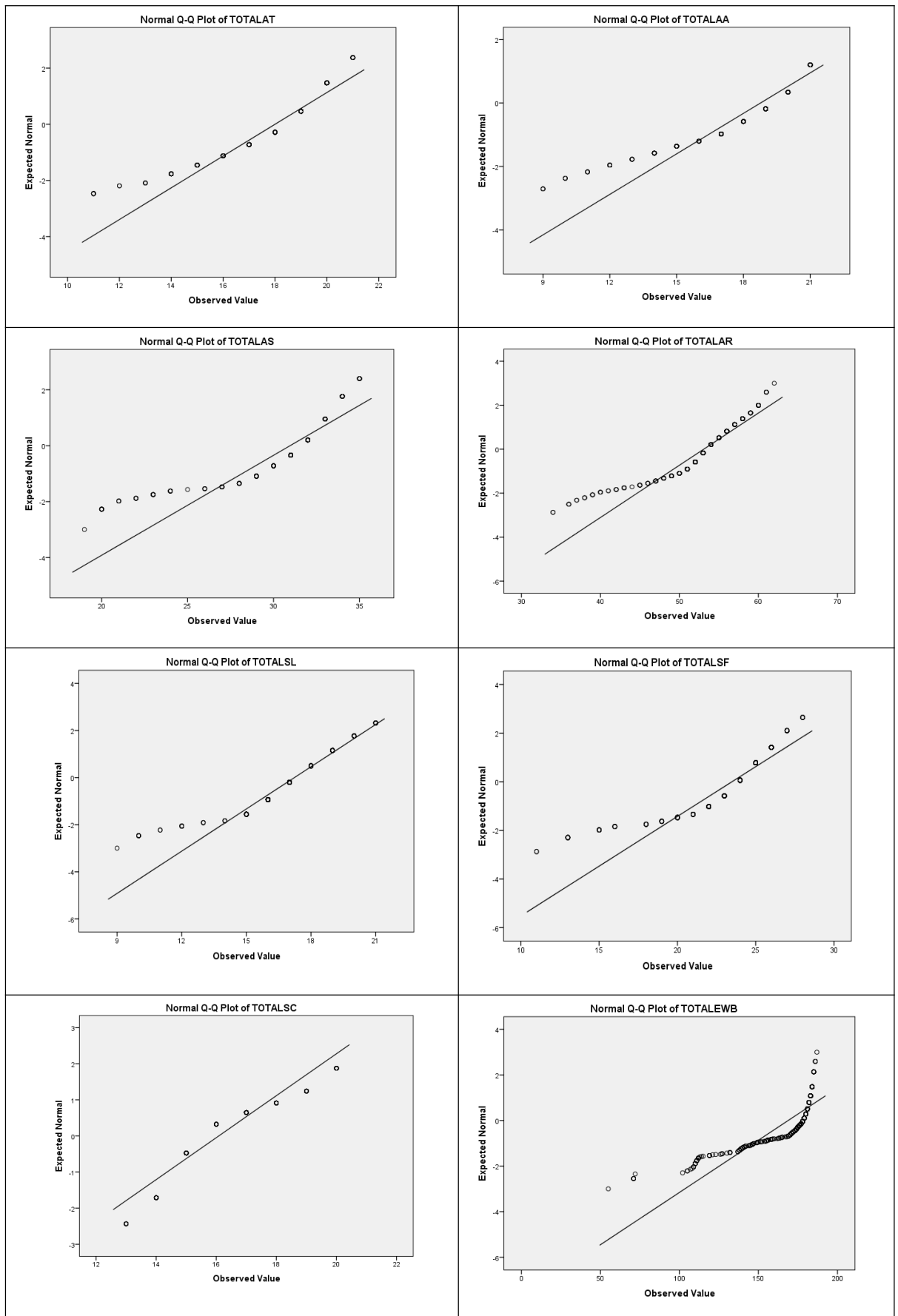
	N	Mean	Std. Deviation	Missing		No. of extremes(a)	
	Count	%	Low	High	Count	%	Low
Visual identity							
VI2	503	5.19	.691	0	.0	14	0
VI3	503	4.68	.952	0	.0	17	0
VI4	503	5.37	.938	0	.0	23	0
VI5	503	4.95	1.192	0	.0	42	0
VI6	503	5.01	1.001	0	.0	39	0
VI7	503	5.77	1.293	0	.0	24	0
VI9	503	4.88	1.188	0	.0	21	0
VI10	503	5.86	1.132	0	.0	37	0
VI11	503	5.52	.925	0	.0	15	0
VI12	503	6.01	1.197	0	.0	37	0
VI13	503	5.97	1.448	0	.0	23	0
VI14	503	6.12	1.164	0	.0	37	0
VI15	503	4.80	1.206	0	.0	35	0
Communication							
C1	503	4.75	1.116	0	.0	35	0
C2	503	5.38	1.627	0	.0	17	0
C3	503	5.01	1.087	0	.0	37	0
C4	503	5.25	.947	0	.0	15	0
C5	503	5.23	1.262	0	.0	39	0
C6	503	6.14	1.331	0	.0	39	0
C7	503	6.29	1.117	0	.0	31	0
C8	503	5.16	1.349	0	.0	34	0
C9	503	6.13	.921	0	.0	18	0
C10	503	5.09	1.123	0	.0	18	0
Cultural heritage							
CH1	503	5.41	.941	0	.0	18	0
CH2	503	5.20	1.079	0	.0	24	0
CH3	503	5.35	1.035	0	.0	24	0
CH4	503	5.57	1.031	0	.0	24	0
CH5	503	5.16	1.208	0	.0	31	0
CH6	503	5.25	.987	0	.0	23	0
Ambience (Music)							
AM2	503	5.81	1.223	0	.0	36	0
AM3	503	6.29	1.099	0	.0	14	0
AM4	503	5.78	1.165	0	.0	17	0
AM5	503	6.01	1.579	0	.0	17	0
AM6	503	6.33	1.060	0	.0	8	0
Ambience (Lighting)							
AL1	503	6.19	1.166	0	.0	21	0
AL2	503	6.24	1.027	0	.0	24	0
AL3	503	6.06	.838	0	.0	8	0
AL4	503	6.58	.781	0	.0	8	0
AL5	503	6.20	.791	0	.0	8	0
Ambience (Temperature)							
AT1	503	6.08	.851	0	.0	15	0
AT3	503	5.99	1.001	0	.0	17	0
AT4	503	5.93	.774	0	.0	17	0
Ambience (Aroma)							
AA1	503	6.19	.894	0	.0	14	0
AA2	503	6.31	.902	0	.0	17	0

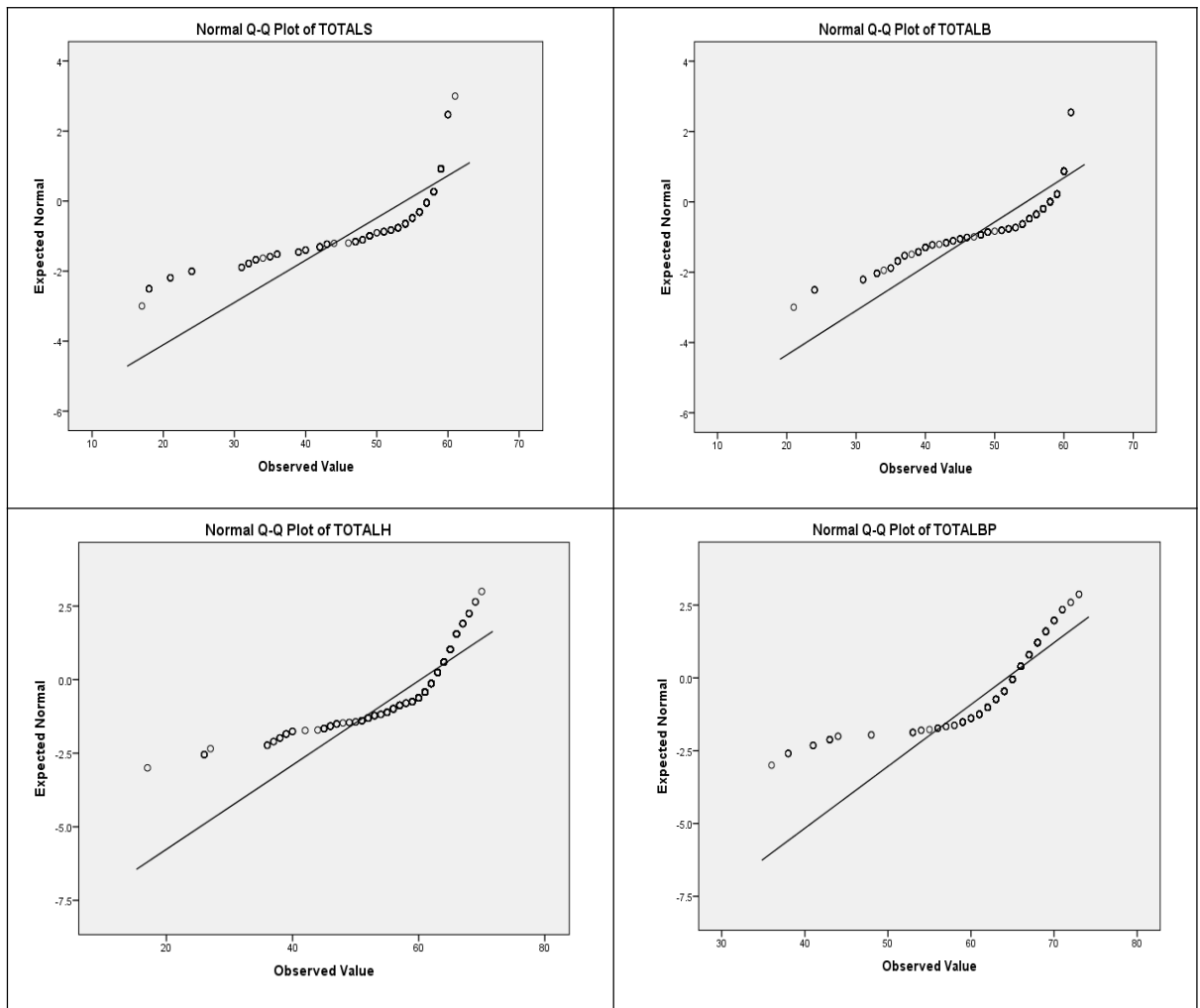
AA5	503	6.24	1.024	0	.0	36	0
Ambience (Security/Privacy)							
AS1	503	6.47	.801	0	.0	21	0
AS2	503	6.40	.812	0	.0	21	0
AS4	503	5.95	.944	0	.0	37	0
AS5	503	6.46	.797	0	.0	9	0
AS6	503	5.67	.830	0	.0	27	0
Artefacts							
AR1	503	5.68	.853	0	.0	17	0
AR2	503	6.17	.812	0	.0	14	0
AR3	503	5.93	.984	0	.0	21	0
AR4	503	5.92	.964	0	.0	24	0
AR5	503	5.53	.903	0	.0	9	0
AR6	503	6.21	.984	0	.0	8	0
AR7	503	5.58	.848	0	.0	15	0
AR8	503	6.44	1.042	0	.0	23	0
AR9	503	5.62	.935	0	.0	11	0
Spatial layout							
SL1	503	5.83	.762	0	.0	21	0
SL2	503	5.63	.871	0	.0	9	0
SL3	503	5.76	.965	0	.0	14	0
Spatial functionality							
SF1	503	6.37	.965	0	.0	9	0
SF3	503	5.78	1.079	0	.0	35	0
SF5	503	5.86	.932	0	.0	24	0
SF6	503	5.48	.859	0	.0	27	0
Spatial comfort							
SC1	503	5.37	.703	0	.0	12	0
SC4	503	5.29	.753	0	.0	26	0
SC6	503	5.42	.848	0	.0	17	0
Sensorium							
S1	503	6.27	1.175	0	.0	24	0
S2	503	6.27	1.159	0	.0	31	0
S3	503	5.26	.939	0	.0	24	0
S4	503	6.27	1.202	0	.0	17	0
S5	503	6.29	1.175	0	.0	12	0
S6	503	5.17	.840	0	.0	12	0
S7	503	6.33	1.169	0	.0	21	0
S8	503	6.20	1.295	0	.0	24	0
S9	503	5.93	1.237	0	.0	27	0
Behaviour							
B1	503	6.31	1.286	0	.0	43	0
B2	503	5.21	1.063	0	.0	37	0
B3	503	6.16	1.235	0	.0	26	0
B4	503	6.44	.980	0	.0	35	0
B5	503	6.26	1.238	0	.0	21	0
B6	503	6.43	1.031	0	.0	23	0
B7	503	5.92	1.587	0	.0	12	0
B8	503	5.66	1.100	0	.0	14	0
B9	503	6.16	1.117	0	.0	12	0
Happiness							
H1	503	5.41	1.012	0	.0	27	0
H2	503	5.90	1.007	0	.0	9	0
H3	503	5.66	1.015	0	.0	17	0
H4	503	6.19	1.154	0	.0	35	0
H5	503	6.27	1.026	0	.0	24	0
H6	503	6.37	1.004	0	.0	12	0
H7	503	6.38	.869	0	.0	21	0

H8	503	6.01	.918	0	.0	18	0
H9	503	6.01	1.174	0	.0	23	0
H10	503	6.07	1.161	0	.0	14	0
Consumers' perception towards brand performance							
BP1	503	5.46	.773	0	.0	42	0
BP2	503	5.88	1.324	0	.0	35	0
BP3	503	5.83	.828	0	.0	14	0
BP4	503	6.20	.872	0	.0	37	0
BP5	503	5.88	.916	0	.0	41	0
BP6	503	5.61	.856	0	.0	9	0
BP7	503	6.25	.929	0	.0	23	0
BP8	503	5.41	.766	0	.0	18	0
BP9	503	6.49	.825	0	.0	24	0
BP10	503	5.96	.831	0	.0	21	0
BP11	503	5.33	1.385	0	.0	33	0

Appendix 6.2: Normal probability Q-Q plot







Appendix 6.3: Univariate variables

Items	Mean Missing	Std.	Deviation	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
				Statistic	df	Sig.	Statistic	df	Sig.
Visual identity									
VI2	5.19	.691	.0	.314	503	.000	.744	503	.000
VI3	4.68	.952	.0	.340	503	.000	.773	503	.000
VI4	5.37	.938	.0	.270	503	.000	.862	503	.000
VI5	4.95	1.192	.0	.263	503	.000	.870	503	.000
VI6	5.01	1.001	.0	.221	503	.000	.885	503	.000
VI7	5.77	1.293	.0	.253	503	.000	.811	503	.000
VI9	4.88	1.188	.0	.242	503	.000	.885	503	.000
VI10	5.86	1.132	.0	.302	503	.000	.795	503	.000
VI11	5.52	.925	.0	.391	503	.000	.675	503	.000
VI12	6.01	1.197	.0	.277	503	.000	.790	503	.000
VI13	5.97	1.448	.0	.278	503	.000	.701	503	.000
VI14	6.12	1.164	.0	.305	503	.000	.747	503	.000
VI15	4.80	1.206	.0	.285	503	.000	.863	503	.000
Communication									
C1	4.75	1.116	.0	.209	503	.000	.917	503	.000
C2	5.38	1.627	.0	.238	503	.000	.834	503	.000
C3	5.01	1.087	.0	.196	503	.000	.905	503	.000
C4	5.25	.947	.0	.219	503	.000	.888	503	.000
C5	5.23	1.262	.0	.212	503	.000	.892	503	.000
C6	6.14	1.331	.0	.329	503	.000	.694	503	.000
C7	6.29	1.117	.0	.337	503	.000	.679	503	.000
C8	5.16	1.349	.0	.165	503	.000	.912	503	.000
C9	6.13	.921	.0	.257	503	.000	.792	503	.000
C10	5.09	1.123	.0	.181	503	.000	.893	503	.000
Cultural heritage									
CH1	5.41	.941	.0	.221	503	.000	.887	503	.000
CH2	5.20	1.079	.0	.203	503	.000	.901	503	.000
CH3	5.35	1.035	.0	.257	503	.000	.825	503	.000
CH4	5.57	1.031	.0	.224	503	.000	.825	503	.000
CH5	5.16	1.208	.0	.179	503	.000	.919	503	.000
CH6	5.25	.987	.0	.252	503	.000	.872	503	.000
Ambience (Music)									
AM2	5.81	1.223	.0	.254	503	.000	.822	503	.000
AM3	6.29	1.099	.0	.343	503	.000	.688	503	.000
AM4	5.78	1.165	.0	.212	503	.000	.854	503	.000
AM5	6.01	1.579	.0	.314	503	.000	.674	503	.000
AM6	6.33	1.060	.0	.362	503	.000	.678	503	.000
Ambience (Lighting)									
AL1	6.19	1.166	.0	.318	503	.000	.715	503	.000
AL2	6.24	1.027	.0	.364	503	.000	.712	503	.000
AL3	6.06	.838	.0	.309	503	.000	.766	503	.000
AL4	6.58	.781	.0	.417	503	.000	.591	503	.000
AL5	6.20	.791	.0	.243	503	.000	.799	503	.000
Ambience (Temperature)									
AT1	6.08	.851	.0	.334	503	.000	.731	503	.000
AT3	5.99	1.001	.0	.250	503	.000	.828	503	.000
AT4	5.93	.774	.0	.285	503	.000	.840	503	.000
Ambience (Aroma)									
AA1	6.19	.894	.0	.266	503	.000	.768	503	.000
AA2	6.31	.902	.0	.313	503	.000	.743	503	.000

AA5	6.24	1.024	.0	.290	503	.000	.721	503	.000
Ambience (Security/Privacy)									
AS1	6.47	.801	.0	.359	503	.000	.679	503	.000
AS2	6.40	.812	.0	.322	503	.000	.714	503	.000
AS4	5.95	.944	.0	.253	503	.000	.838	503	.000
AS5	6.46	.797	.0	.367	503	.000	.686	503	.000
AS6	5.67	.830	.0	.240	503	.000	.853	503	.000
Artefacts									
AR1	5.68	.853	.0	.272	503	.000	.837	503	.000
AR2	6.17	.812	.0	.244	503	.000	.795	503	.000
AR3	5.93	.984	.0	.258	503	.000	.822	503	.000
AR4	5.92	.964	.0	.214	503	.000	.853	503	.000
AR5	5.53	.903	.0	.226	503	.000	.875	503	.000
AR6	6.21	.984	.0	.312	503	.000	.772	503	.000
AR7	5.58	.848	.0	.272	503	.000	.851	503	.000
AR8	6.44	1.042	.0	.399	503	.000	.601	503	.000
AR9	5.62	.935	.0	.265	503	.000	.852	503	.000
Spatial layout									
SL1	5.83	.762	.0	.260	503	.000	.825	503	.000
SL2	5.63	.871	.0	.263	503	.000	.851	503	.000
SL3	5.76	.965	.0	.265	503	.000	.782	503	.000
Spatial functionality									
SF1	6.37	.965	.0	.335	503	.000	.677	503	.000
SF3	5.78	1.079	.0	.263	503	.000	.802	503	.000
SF5	5.86	.932	.0	.228	503	.000	.842	503	.000
SF6	5.48	.859	.0	.283	503	.000	.845	503	.000
Spatial comfort									
SC1	5.37	.703	.0	.398	503	.000	.715	503	.000
SC4	5.29	.753	.0	.378	503	.000	.760	503	.000
SC6	5.42	.848	.0	.356	503	.000	.775	503	.000
Sensorium									
S1	6.27	1.175	.0	.347	503	.000	.668	503	.000
S2	6.27	1.159	.0	.350	503	.000	.678	503	.000
S3	5.26	.939	.0	.308	503	.000	.824	503	.000
S4	6.27	1.202	.0	.362	503	.000	.665	503	.000
S5	6.29	1.175	.0	.366	503	.000	.659	503	.000
S6	5.17	.840	.0	.334	503	.000	.755	503	.000
S7	6.33	1.169	.0	.382	503	.000	.637	503	.000
S8	6.20	1.295	.0	.352	503	.000	.670	503	.000
S9	5.93	1.237	.0	.255	503	.000	.806	503	.000
Behaviour									
B1	6.31	1.286	.0	.384	503	.000	.607	503	.000
B2	5.21	1.063	.0	.317	503	.000	.761	503	.000
B3	6.16	1.235	.0	.356	503	.000	.708	503	.000
B4	6.44	.980	.0	.386	503	.000	.626	503	.000
B5	6.26	1.238	.0	.331	503	.000	.650	503	.000
B6	6.43	1.031	.0	.386	503	.000	.611	503	.000
B7	5.92	1.587	.0	.307	503	.000	.712	503	.000
B8	5.66	1.100	.0	.300	503	.000	.812	503	.000
B9	6.16	1.117	.0	.315	503	.000	.750	503	.000
Happiness									
H1	5.41	1.012	.0	.251	503	.000	.834	503	.000
H2	5.90	1.007	.0	.291	503	.000	.776	503	.000
H3	5.66	1.015	.0	.269	503	.000	.800	503	.000
H4	6.19	1.154	.0	.305	503	.000	.723	503	.000
H5	6.27	1.026	.0	.333	503	.000	.726	503	.000
H6	6.37	1.004	.0	.362	503	.000	.671	503	.000
H7	6.38	.869	.0	.355	503	.000	.719	503	.000

H8	6.01	.918	.0	.222	503	.000	.842	503	.000
H9	6.01	1.174	.0	.261	503	.000	.796	503	.000
H10	6.07	1.161	.0	.261	503	.000	.767	503	.000
Consumers' perception towards brand performance									
BP1	5.46	.773	.0	.333	503	.000	.791	503	.000
BP2	5.88	1.324	.0	.282	503	.000	.787	503	.000
BP3	5.83	.828	.0	.264	503	.000	.854	503	.000
BP4	6.20	.872	.0	.277	503	.000	.797	503	.000
BP5	5.88	.916	.0	.234	503	.000	.835	503	.000
BP6	5.61	.856	.0	.311	503	.000	.814	503	.000
BP7	6.25	.929	.0	.317	503	.000	.764	503	.000
BP8	5.41	.766	.0	.356	503	.000	.774	503	.000
BP9	6.49	.825	.0	.370	503	.000	.654	503	.000
BP10	5.96	.831	.0	.292	503	.000	.829	503	.000
BP11	5.33	1.385	.0	.323	503	.000	.758	503	.000

Appendix 6.4: Multivariate normality

Items	Mean	SD	Skewness		Kurtosis	
			Statistic	Std. Error	Statistic	Std. Error
Visual identity						
VI2	5.19	.691	-1.006	.090	3.789	.180
VI3	4.68	.952	.432	.090	-.576	.180
VI4	5.37	.938	-.215	.090	.901	.180
VI5	4.95	1.192	.298	.090	-1.112	.180
VI6	5.01	1.001	-.436	.090	.954	.180
VI7	5.77	1.293	-.577	.090	-1.022	.180
VI9	4.88	1.188	-.097	.090	-.127	.180
VI10	5.86	1.132	-1.457	.090	2.318	.180
VI11	5.52	.925	-1.589	.090	1.811	.180
VI12	6.01	1.197	-1.119	.090	.651	.180
VI13	5.97	1.448	-1.685	.090	1.985	.180
VI14	6.12	1.164	-1.293	.090	.834	.180
VI15	4.80	1.206	.053	.090	-.383	.180
Communication						
C1	4.75	1.116	.219	.090	-.446	.180
C2	5.38	1.627	-.904	.090	-.296	.180
C3	5.01	1.087	-.072	.090	.072	.180
C4	5.25	.947	-.505	.090	.342	.180
C5	5.23	1.262	-.154	.090	-.261	.180
C6	6.14	1.331	-1.737	.090	2.536	.180
C7	6.29	1.117	-1.797	.090	2.758	.180
C8	5.16	1.349	-.198	.090	-.771	.180
C9	6.13	.921	-1.336	.090	2.655	.180
C10	5.09	1.123	-.253	.090	.578	.180
Cultural heritage						
CH1	5.41	.941	-.485	.090	.576	.180
CH2	5.20	1.079	-.568	.090	.701	.180
CH3	5.35	1.035	-1.162	.090	2.280	.180
CH4	5.57	1.031	-1.157	.090	2.462	.180
CH5	5.16	1.208	-.444	.090	-.173	.180
CH6	5.25	.987	-.626	.090	.767	.180
Ambience (Music)						
AM2	5.81	1.223	-1.255	.090	1.509	.180
AM3	6.29	1.099	-1.694	.090	2.329	.180
AM4	5.78	1.165	-.738	.090	.098	.180
AM5	6.01	1.579	-1.798	.090	2.392	.180
AM6	6.33	1.060	-1.599	.090	1.684	.180
Ambience (Lighting)						
AL1	6.19	1.166	-1.548	.090	1.809	.180
AL2	6.24	1.027	-1.111	.090	.816	.180
AL3	6.06	.838	-1.525	.090	4.633	.180
AL4	6.58	.781	-2.008	.090	3.460	.180
AL5	6.20	.791	-.843	.090	.352	.180
Ambience (Temperature)						
AT1	6.08	.851	-1.588	.090	3.838	.180
AT3	5.99	1.001	-.623	.090	-.214	.180
AT4	5.93	.774	-.460	.090	.074	.180
Ambience (Aroma)						
AA1	6.19	.894	-1.479	.090	3.051	.180
AA2	6.31	.902	-1.324	.090	1.217	.180

AA5	6.24	1.024	-1.607	.090	2.208	.180
Ambience (Security/ Privacy)						
AS1	6.47	.801	-1.729	.090	3.098	.180
AS2	6.40	.812	-1.625	.090	3.266	.180
AS4	5.95	.944	-.911	.090	.851	.180
AS5	6.46	.797	-1.498	.090	1.634	.180
AS6	5.67	.830	-.103	.090	.125	.180
Artefacts						
AR1	5.68	.853	.129	.090	-.533	.180
AR2	6.17	.812	-1.049	.090	1.840	.180
AR3	5.93	.984	-1.098	.090	1.488	.180
AR4	5.92	.964	-.457	.090	-.602	.180
AR5	5.53	.903	-.247	.090	.145	.180
AR6	6.21	.984	-1.024	.090	.150	.180
AR7	5.58	.848	.095	.090	-.213	.180
AR8	6.44	1.042	-2.308	.090	6.187	.180
AR9	5.62	.935	-.039	.090	-.350	.180
Spatial layout						
SL1	5.83	.762	-.342	.090	.669	.180
SL2	5.63	.871	.029	.090	-.300	.180
SL3	5.76	.965	-1.675	.090	6.191	.180
Spatial functionality						
SF1	6.37	.965	-1.841	.090	3.216	.180
SF3	5.78	1.079	-1.603	.090	4.423	.180
SF5	5.86	.932	-.916	.090	2.682	.180
SF6	5.48	.859	.012	.090	.269	.180
Spatial comfort						
SC1	5.37	.703	1.050	.090	.533	.180
SC4	5.29	.753	.723	.090	.847	.180
SC6	5.42	.848	.435	.090	.302	.180
Sensorium						
S1	6.27	1.175	-1.925	.090	3.596	.180
S2	6.27	1.159	-1.839	.090	3.342	.180
S3	5.26	.939	-.232	.090	1.546	.180
S4	6.27	1.202	-1.762	.090	2.409	.180
S5	6.29	1.175	-1.828	.090	2.795	.180
S6	5.17	.840	-.628	.090	3.280	.180
S7	6.33	1.169	-1.941	.090	3.406	.180
S8	6.20	1.295	-1.711	.090	2.103	.180
S9	5.93	1.237	-1.135	.090	.907	.180
Behaviour						
B1	6.31	1.286	-2.115	.090	3.979	.180
B2	5.21	1.063	-1.428	.090	5.066	.180
B3	6.16	1.235	-1.543	.090	2.272	.180
B4	6.44	.980	-2.048	.090	4.139	.180
B5	6.26	1.238	-2.182	.090	4.925	.180
B6	6.43	1.031	-2.136	.090	4.286	.180
B7	5.92	1.587	-1.456	.090	1.076	.180
B8	5.66	1.100	-1.473	.090	3.123	.180
B9	6.16	1.117	-1.387	.090	1.745	.180
Happiness						
H1	5.41	1.012	-.914	.090	3.110	.180
H2	5.90	1.007	-1.815	.090	6.031	.180
H3	5.66	1.015	-.474	.090	1.064	.180
H4	6.19	1.154	-1.693	.090	2.787	.180
H5	6.27	1.026	-1.414	.090	1.472	.180
H6	6.37	1.004	-1.838	.090	3.567	.180
H7	6.38	.869	-1.250	.090	.647	.180

H8	6.01	.918	-.601	.090	-.248	.180
H9	6.01	1.174	-1.215	.090	1.165	.180
H10	6.07	1.161	-1.514	.090	2.486	.180
Consumers' perception towards brand performance						
BP1	5.46	.773	.374	.090	.422	.180
BP2	5.88	1.324	-.914	.090	-.320	.180
BP3	5.83	.828	-.507	.090	.429	.180
BP4	6.20	.872	-.872	.090	.293	.180
BP5	5.88	.916	-1.150	.090	-.108	.180
BP6	5.61	.856	.418	.090	-.880	.180
BP7	6.25	.929	-1.068	.090	.544	.180
BP8	5.41	.766	.562	.090	.439	.180
BP9	6.49	.825	-1.939	.090	4.097	.180
BP10	5.96	.831	-.828	.090	1.015	.180
BP11	5.33	1.385	-1.357	.090	2.721	.180

Source: Analysis of survey data