CRANFIELD UNIVERSITY

ADAM MANIKOWSKI

THE IMPACT OF PRODUCT, SERVICE AND IN-STORE
ENVIRONMENT PERCEPTIONS ON CUSTOMER SATISFACTION
AND BEHAVIOUR

CRANFIELD SCHOOL OF MANAGEMENT
Doctor of Business Administration

DBA
Academic Year: 2012 - 2016

Supervisor: Professor Emma Macdonald
September 2016

CRANFIELD UNIVERSITY

CRANFIELD SCHOOL OF MANAGEMENT
Doctor of Business Administration

DBA

Academic Year 2012 - 2016

ADAM MANIKOWSKI

THE IMPACT OF PRODUCT, SERVICE AND IN-STORE
ENVIRONMENT PERCEPTIONS ON CUSTOMER SATISFACTION
AND BEHAVIOUR

Supervisor: Professor Emma Macdonald
September 2016

This thesis is submitted in partial fulfilment of the requirements for
the degree of Doctor of Business Administration

ABSTRACT

Much previous research concerning the effects of the in-store experience on customers' decision-making has been laboratory-based. There is a need for empirical research in a real store context to determine the impact of product, service and in-store environment perceptions on customer satisfaction and behaviour.

This study is based on a literature review (Project 1) and a large scale empirical study (Projects 2/3) combining two sources of secondary data from the largest retailer in the UK, Tesco, and their loyalty 'Clubcard' provider, Dunnhumby. Data includes customer responses to an online self-completion survey of the customers' shopping experience combined with customer demographic and behavioural data from a loyalty card programme for the same individual. The total sample comprised n=30,696 Tesco shoppers. The online survey measured aspects of the in-store experience. These items were subjected to factor analysis to identify the influences on the in-store experience with four factors emerging: assortment, retail atmosphere, personalised customer service and checkout customer service. These factors were then matched for each individual with behavioural and demographic data collected via the Tesco Clubcard loyalty program. Regression and sensitivity analyses were then conducted to determine the relative impact of the in-store customer experience dimensions on customer behaviour.

Findings include that perceptions of customer service have a strong positive impact on customers' overall shopping satisfaction and spending behaviour. Perceptions of the in-store environment and product quality/ availability positively influence customer satisfaction but negatively influence the amount of money spent during their shopping trip. Furthermore, personalised customer service has a strong positive impact on spend and overall shopping satisfaction, which also positively influences the number of store visits the week after. However, an increase in shopping satisfaction coming from positive perceptions of the in-store environment and product quality/ availability factors helps to reduce their negative impact on spend week after.

A key contribution of this study is to suggest a priority order for investment; retailers should prioritise personalised customer service and checkout customer service, followed by the in-store environment together with product quality and availability. These findings are very important in the context of the many initiatives the majority of retail operators undertake. Many retailers focus on cost-optimisation plans like implementing self-service check outs or easy to operate and clinical in-store environment. This research clearly and solidly shows which approach should be followed and what really matters for customers. That is why the findings are important for both retailers and academics, contributing to and expanding knowledge and practice on the impact of the in-store environment on the customer experience.

Keywords:

experience, retail, atmosphere, customer, influence, shopping trip, layout, secondary data, big data, purchasing cues

ACKNOWLEDGEMENTS

It was a challenging but at the same time fascinating journey to work on this dissertation. Writing and completing it, however, required an enormous amount of effort and it would never have been possible without the support and contributions of many people. I was incredibly fortunate to have such a supportive, engaged and at the same time very encouraging consultation Research Panel, chaired by Professor Hugh Wilson. The Panel helped me to not only complete every stage of this Doctoral thesis, but also taught me how to be a researcher, make the most of every research opportunity, and never give up.

I would like to express particular gratitude to my lead supervisor Professor Emma Macdonald, who went above and beyond what could be expected from a supervisor. Thank you Emma that I could always count on your advice, your time and your help. It was always very inspiring and supportive – especially during some of those difficult moments during my study. You were always encouraging me and giving me direction for the research project, proving that there is no 'dead end.' Thank you also for all the positive motivation in helping me move forward along this journey. I certainly appreciate all the confidence you gave me, thanks to which I could overcome even the most difficult challenges during the research process. Thanks to you, I will remember this time as not only a lot of hard work but also a unique pleasure of working on new and exciting things.

I am also thankful to Professor Hugh Wilson who was the chair of my research consultation panel and who helped me enormously with his huge expertise and unique 'outside the box' thinking. His full support helped me to make most of this research project, never give up and finish it on time. He also taught me that there is always a solution to every difficulty and that a positive attitude towards even the most complicated research problem can create outstanding solutions.

I would also like to thank Dr Radu Dimitriu, for all his great expertise and knowledge. His constructive and at the same time encouraging feedback helped me to make this work much better. I appreciate Radu's support and always

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

LIST OF ABBREVIATIONS

ANOVA	Analysis of Variance
CDP	Consumer Decision Process
DBA	Doctor of Business Administration
EDLP	Every Day Low Prices
EFA	Exploratory Factor Analysis
ETA	Expected Time of Accomplishment
ID	Identification
IT	Information Technology
KPI	Key Performance Indicators
M-R	Mehrabian and Russell model
No.	Number
PAD	Pleasure Arousal Dominance model
PROMO	Promotional Pricing
S-O-R	Stimulus Organism Response flow
SPSS	Statistical Package for the Social Sciences
Tesco Express	Small format store
Tesco Extra	Large format store
UK	United Kingdom

1 LINKING DOCUMENT

1.1 Introduction

This dissertation is my Doctor of Business Administration research thesis, and is the outcome of my four-year study in the field of the impact of the in-store environment on customer experience. It consists of three key parts:

- Linking document (Chapter 1);
- Literature review – project 1 (Chapter 2);
- Empirical study – projects 2 & 3 (Chapters 3 and 4).

In my linking document I provide an overall summary of the research project starting from its background and rationale, summarising the methods used and finishing with a summary of key findings, as well as their contribution to practice and knowledge. I complete this chapter with suggestions as to how the findings can be implemented into a retail environment context. Chapter 2 is my literature review in which, by means of an extensive study of existing academic knowledge, I attempt to achieve a holistic understanding of the customers' complete shopping path. This background also helped me design my research project with regards to the in-store elements having the biggest impact on customer behaviour. Chapter 3 is my empirical work, in which I describe, in detail, the entire research process; the creation of the final research framework, a description of methods used, and all statistical analyses performed. The results are described in Chapter four, together with implications for retailers and future research opportunities.

1.2 Background and rationale

Competition in the retail market is highly intense today. Mainly owing to new technologies, industry consolidations and higher customer expectations, it is becoming increasingly difficult to compete in the retail sector. In order to differentiate, retailers create environments which shape customers' in-store experiences and influence their behaviour (Babin *et al.*, 1994), while at the same time attempting to become more competitive. There is a growing number of publications concerning atmospherics and the effects of the store environment on customers' decision-making models (Eroglu & Machleit, 1990;

Kaltcheva & Weitz, 2006; Shankar *et al.*, 2011). The effects of atmospherics, being tools used to differentiate for retailers, have been measured spanning a wide variety of dependent variables, over the last 30 years. Sales, time spent in the environment, and approach-avoidance behaviours have been the most widely studied dependent variables in experimental studies of the retail atmosphere.

Interestingly, a review of existing literature has identified that the focus of research is mainly on elements of the retail environment, which are in the retailer's control (e.g., lighting, layout, colour, music, in-store visualisation). However, very little research has investigated the manner in which consumers experience these different aspects, particularly in a grocery-retailing environment. Furthermore, very few studies have focused on the impact of several in-store experience constructs at one time, which could help to understand better what impacts customer behaviour most. This knowledge would be beneficial for practical reasons, as the success of each retailer depends on the right mix of elements creating the in-store experience, which should result in higher customer satisfaction and higher spend. In addition, not many studies have researched the manner in which the in-store experience impacts customers' future behaviour (for example spend or number of visits). These are very important issues as the retail sector is so competitive that the possibility of finding a way to increase customer spend by even 1%, may decide a retailer's success or failure. That is why, for most retail operators, success depends on the right mix of elements creating the in-store experience. In order to achieve this, all promotional, merchandising, and store design policies, are controlled by retailers in order to increase customer spending, their overall satisfaction and loyalty.

In my literature review (Chapter 2), I described many publications concerning atmospherics and the effects of adding the store environment into customer decision-making models (Eroglu & Machleit, 1990; Hui & Bateson, 1991; Kaltcheva & Weitz, 2006; Milliman, 1986; Park *et al.*, 1989; Smith & Curnow, 1996). Having completed an extensive literature review, I observed that much of the research focused on identifying key possible ways in which

store atmosphere could influence customer satisfaction, and purchasing behaviour. It was interesting to observe that in all the studies, the positive effect of a pleasant store atmosphere on customer reactions was clearly demonstrated (Donovan & Rossiter, 1994; Spies *et al.*, 1997). This is important information and rationale for my project as from this perspective, the in-store experience and creating a positive customer experience is the main force impacting customer behavior. I also observed that the literature concerning the effects of atmospherics on consumer behaviour has evolved and marketing researchers are increasingly realising its importance in creating an influential atmosphere at the point of purchase (Turley & Milliam, 1992). In a competitive and low margin sector this aspect alone may decide a retailer's success or failure.

In addition, as a retailer, I have observed that in recent years it has become extremely difficult for retailers to differentiate and stand out based solely on merchandise, price, promotion, or location. The in-store experience is able to create a uniqueness, which then becomes the base for competitive advantage. However, despite numerous studies on in-store environment, findings are not detailed enough to provide retailers with clear indication as to which in-store experience constructs they should invest in to achieve the highest results in customer satisfaction and spend. Managers are continually planning, building, or changing in-store physical surroundings in order to improve the store's impact on customers, without really knowing which constructs are most important for customers (Bitner, 1992). That is why, there is a need for additional research in order to understand how the physical and social environment impacts customers and their behaviour, in a retailing environment (Lam, 2001). The relationship between shopper mission, store layout, in-store atmosphere, and customer service constructs, as well as their impact on consumer satisfaction should also be researched in more depth. There is a need for a study linking the impact of the in-store experience with purchase behaviour and overall shopping satisfaction.

Furthermore, many previous studies have been experimental, empirical or declarative in nature. Baker *et al.* (1992) describe several methods of testing

the effects of store environment: using a prototype store, asking participants to respond to verbal descriptions of a store, or creating a simulated store environment. These methods generally used small sample sizes, and as they were based on a single instance rather than a continuous and objective measure, the results form reliable benchmarks but they are not as robust as results of research performed on large samples and in a real in-store environment. The reason for this is also based on the fact that we can observe that the use of customer insights in marketing decisions is poorly understood, partially due to difficulties for academics in obtaining research access (Said *et al.*, 2015), and for retailers mainly due to the amount of information available and options to make proper sense of them.

Keeping all the above in mind, the purpose of my research was to identify which of the in-store experience constructs has the biggest impact on customer behaviour. I wanted to clearly identify what influences customers most, positively impacting their spending, as well as shopping satisfaction. In order to achieve this, I needed to create a robust academic research model which I could combine together with detailed customer survey and behavioural data provided by Tesco marketing and Dunnhumby teams. My research model was based on a large amount of data, which represented big data which were secondary data at the same time. Customers' spend data was of significant value for the research as they were factual, rather than declarative, data. Obtaining access to matched spend till-data with perceptual data can be difficult for academics. The benefit of such data is that they help observe in detail the impact of measured in-store experience constructs on customer attitudes and behaviour. Findings from such an analysis would constitute an important contribution to both knowledge and practice, as not many studies have investigated the direct effects of the in-store experience and the mediating role of physiological states in the relationship between store environment and shopping behaviours. There are also very few studies in which academics have been granted access to such data, as well as experiments conducted in a real in-store environment on a large sample.

Focusing on selected in-store experience constructs and measuring them in terms of their influence on customer behaviour is not only interesting from an academic perspective but also has a significant practical aim and professional implications for the industry. Through the results of this research project, I aim to provide clear indication to retailers as to which elements of the in-store experience cues impact customer behaviour most. If I find even a small relationship between one of the researched elements and customer spending supported by observed, as opposed to declarative data – the benefits considering the scale of some of the retailers (Tesco: $91 billion in sales in 2015; Carrefour: $98 billion in sales in 2014 (Deloitte, 2016)) could be enormous. Findings leading to an increase in sales by even 1% can provide huge financial benefits in terms of scale for many retailers. That is why, through this research, I could also provide retailers with a clear indication with regards to which elements of the in-store experience cues are impacting their customers' behaviour most and where they could expect the highest return from one unit investment in the researched factors. Understanding the challenges but also the possible, significant contribution to the knowledge and practice, I decided to use my professional experience, as a retailer and academic skills learned during my DBA studies to attempt to find the answer to my research questions.

1.3 Summary of the research process

1.3.1 Scoping study

I began my research process with a detailed scoping study in order to "...assess the relevance and size of the literature and to delimit the subject area or topic" (Tranfield *et al.*, 2003, p. 214). This helped me develop appropriate questions for interrogating existing literature, before starting my literature review. In my scoping study, I focused on an analysis of the different disciplinary perspectives that have been proposed in the area of my study and "…a brief overview of the theoretical, practical and methodological history debates surrounding the field and sub-fields of study" (Tranfield *et al.*, 2003, p. 214). There were four purposes for the scoping study: 1. To examine the range and nature of the research activity; 2. To determine the value in

undertaking a systematic review; 3. To summarise and disseminate research findings; 4. To identify research gaps in the existing literature (Arksey & O'Malley, 2005). The outcome of this activity was the identification of gaps in research, which helped me propose a research topic which could make a significant contribution to the literature by tackling interesting and relevant retailing-related issues, advancing theoretical and methodological understanding of those issues and broadening my knowledge of it (Brown & Dant, 2008).

Knowing that the customer-experience construct is holistic in nature and involves the customer's cognitive, affective, emotional, social and physical responses to the retailer (Grewal *et al.*, 2009), I focused on the holistic customer experience in my scoping study, which was a starting point to narrow down my research. Holistic conceptualisation of the customer experience differs from most studies in the retailing literature. These have largely focused on elements of the retail environment, which are controlled by the retailer, and how these elements influence specific customer responses (Bell *et al.*, 2011). That is why, my key focus while conducting the scoping study, was to learn what drives customer behaviour, loyalty, attitudes and feelings, as well as how the shopper is influenced through the shopping experience in the in-store environment (Shankar *et al.*, 2011). Therefore, the research focus in the scoping study, was on the in-store experience and its impact on the customer's shopping trip, from the perspective of an unified customer view.

I began the process by mapping the field and literature domains related to this. With a review question focusing on the influence of the in-store environment and its impact on the consumer shopping-trip, I could distinguish the process spanning several areas of interest, influencing the shoppers' behaviour (Figure 1.1).

The first one is the largest area of interest. It covers all aspects connected with retail brand encounters and their impact on shopping behaviours. Most of the literature I found concerns in-store retail brand encounters, however there is a gap when considering the impact of out of store

brand encounters. That is why, this field in the literature concentrates mostly on the atmospherics of the store.
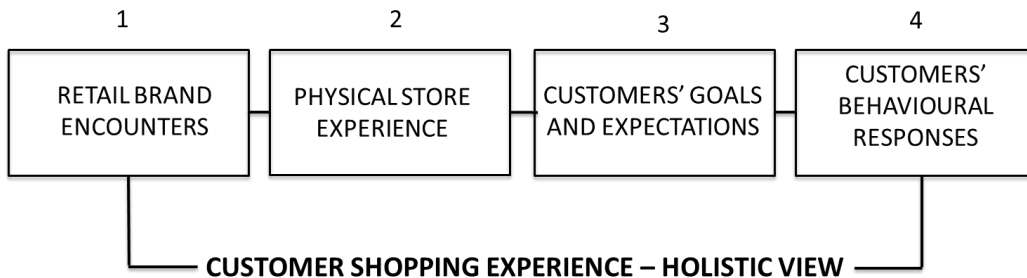
Figure 1.1 Research literature. Source: Author

I grouped all the literature concerning the in-store atmospherics in three main topics (Turley & Milliam, 1992). This helped me systematise my research work:

1. **Elementary level:** Effects of music, colour, ambient, lighting, visual information rate and consumer density;

2. **Factor level:** Main effect and interaction effect of ambient, social and design factors;

3. **Global level:** Identification of emotions and their relationship with shopping behaviours.

This approach helped me outline the literature in this field, assess existing knowledge and identify the opportunities for future research.

The second literature domain focuses on shoppers' emotional responses impacted by the in-store environment with the main focus being on the physical store-experience. This literature attempts to broaden the theoretical and empirical understanding of atmospheric influences on buyer behaviour. It was noted that environmental psychology draws from the stimulus-organism response (S-O-R) paradigm (Spangenberg *et al.*, 1996). In this context, the atmosphere is the stimulus (S) that causes a consumer's evaluation (O) and causes a behavioural response (R) (Donovan & Rossiter, 1994; Mehrabian & Russell, 1974). Much of environmental psychology is based on this paradigm. For my review in this area, approach/avoidance behaviours are of particular importance. These are studied in marketing, and include measures of the level

of product examination, time spent in the store, intent to visit the store, social interaction with personnel, and money spent (Bitner, 1992; Spangenberg *et al.*, 1996; Yalch & Spangenberg, 2000). In the papers analysed in this field, I observed that approach behaviours are measured more often, rather than any other common dependent construct, the stated 'intention to shop at store again,' where a time frame is typically not specified (Roy & Tai, 2003). Furthermore, I noticed that in some papers an S-O-R model was developed and described as an extension of the traditional S-O-R framework, showing how it can provide unique insights into the effect of store environment on shopper behaviour. (Roy & Tai, 2003).

The third literature domain focused on consumers' goals, expectations and their positioning versus in-store environmental setting. While reviewing the literature here, I wanted to understand how shoppers' goals are shaped by the marketing they are exposed to before they enter a store, and how all this influences their unplanned buying decisions when they are inside the store. I also needed to remember that consumer goals play a key role in determining how consumers perceive the retail environment and various elements of the retail marketing-mix (Grewal *et al.*, 2009). Customers have different motives and expectations concerning their shopping trips, which is why they want different things from different shopping trips (Bell *et al.*, 2011). I also found that the motives of shoppers, in terms of hedonic and utilitarian values, have been widely studied, but are rarely considered in the context of the effects of store environment. Reviewing the literature in this field helped me to better understand the overall impact of store atmospherics on shoppers.

The fourth literature domain focuses on the customers' behavioural responses. This aspect is not widely addressed in the literature when considering the number of publications, however several landmark papers provide a picture of the customers' movements within a store. Not only do they highlight their physical nature but also explain how the relationship between shopping goals and the retail environment affects consumer perceptual and emotional evaluations, as well as search and shopping behaviours. Understanding this domain will allow for a holistic view of the influence of the

in-store experience on consumer behaviour and shopping intentions. As the outcome of checking the literature in those four fields, I could observe that the literature covering the researched field comes from different academic domains and can be presented in Figure 1.2.
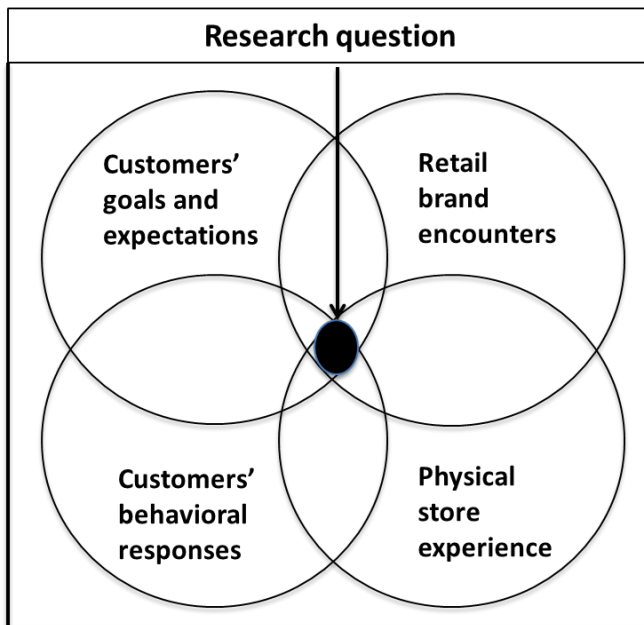
Figure 1.2 Research literature mapping. Source: Author

The scoping study attempted to identify the principle literature domains relevant to my initial, broad field of study: 'In-store environment and its impact on the customer shopping-trip. A unified customer view.' I studied the findings on different levels of aggregation which helped me to better understand the individual environmental elements: music, noise, colour, scent and furnishing. Furthermore, I applied a more aggregated level in order to create groups and for studying them: ambient, design and social factors. While analysing the findings, I could observe that the store environment affects emotions, behaviours and cognition. This formed a significant conclusion and direction for my further research process. I could also observe that different enduring aspects of the store environment influenced customers' shopping trips, and that by improving it, retailers can encourage customer loyalty. All of this provided me with a clear direction for my literature review.

1.3.2 Literature review

My literature review aimed to understand the impact of the in-store experience on consumer behaviours. This helped create an overview, forming the base for the researched topic and direction for the research framework creation. Through this literature review, I aimed to achieve a holistic understanding of customers' complete shopping paths. Furthermore, it helped me design the empirical work, to glean which in-store elements have the biggest impact on customers' shopping paths. The analysed gaps and unexplored fields helped to identify new research opportunities.

Based on the studies analysed, I was able to conclude that shopping trips can be very complex, considering the number of stimuli shoppers encounter both inside and outside the store (Esbjerg *et al.*, 2012) – this was a very important insight for the creation of my final research framework. However, the empirical studies reviewed for this literature review, were mostly based on studying customer behaviour within the store. The techniques identified in the research papers include (1) analysis of records; (2) observations; (3) interviewing; (4) controlled experimentation. Interestingly, I also observed that the majority of in-store studies were based on the Pleasure Arousal Dominance (PAD) Emotional State model (Mehrabian & Russell, 1974) with a theoretical background concerning the impact of environment on behaviour. These insights were significant for my final research process and framework creation. Furthermore, a review of existing literature has identified that the research is mainly focused on elements of the retail environment, which are in the retailer's control (e.g., lighting, layout, colour, music, in-store visualisation). Although a substantial body of literature describes the manner in which retailers can influence observable customer behaviours by manipulating enduring and transient aspects of their store environments, very little research has investigated how consumers experience these different aspects, particularly in a grocery-retailing environment. Related research should recognise that store environment and store image work on different levels. I observed that store environment literature focuses on particular details of the experience, whereas store image literature takes a more general approach.

With the broad review question focusing on the impact of the in-store experience on consumer goals and behaviours, a new model was developed, covering the complete shopping path of the customers. In the model, the major factors influencing customers' shopping trips are identified and its key elements are highlighted (Figure 1.3) with an even more detailed model, which is a part of the literature review. The model helps to understand how the customer experience is created, what kind of impact it potentially may have, and its different components. It is also a great base for narrowing the study. In my literature review, the model's main components were explored – ones, which have direct impact on creating the shopping, experience, and at the same time influencing customer behaviour. Using a holistic approach to customer experiences, it is very important to understand that a customer experience is not limited only to the customer's interaction in the store. It is rather created and implicated by a combination of different factors, also taking place before and after sales.
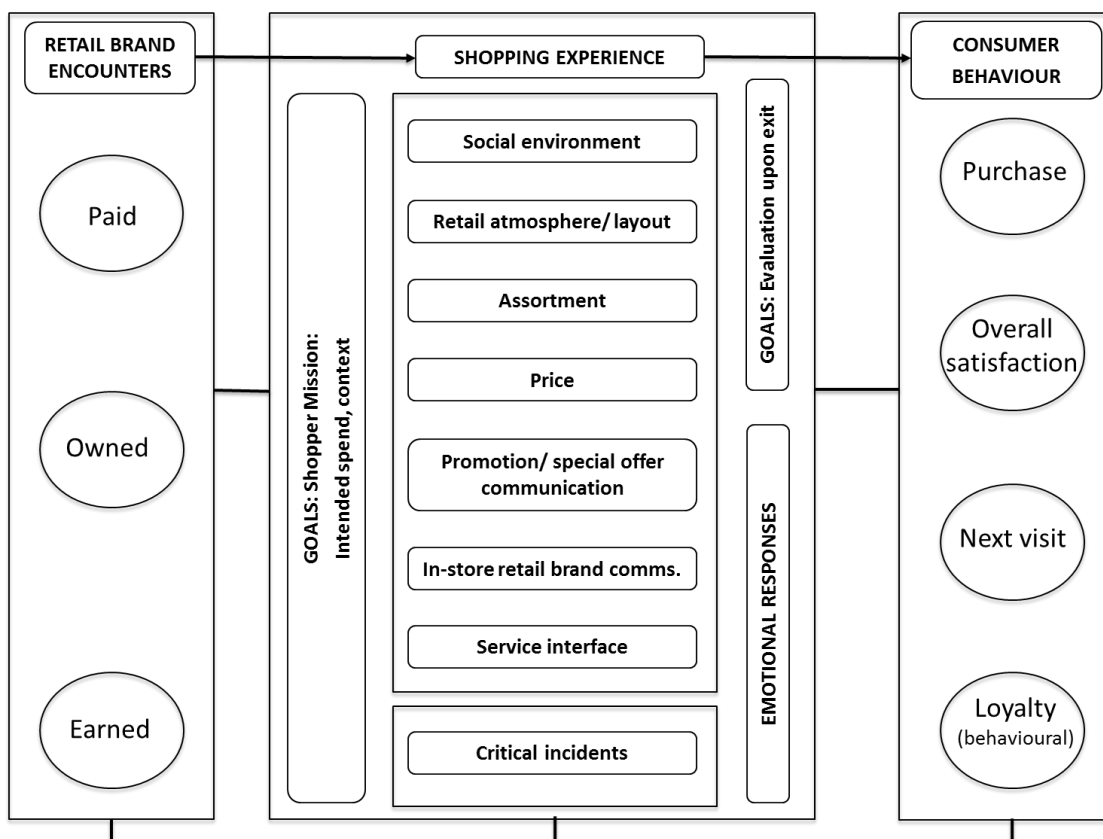
Figure 1.3 Customers' complete shopping path determinants. Source: Author

Based on my theoretical approach and 'complete customers' shopping path framework' (Figure 1.3) which I created based on the results of my literature review, I identified the most important elements impacting customer behaviour as well as customers' behavioural responses. This helped me understand which elements constitute delightful and unpleasant in-store experiences, having the biggest impact on customers and their behaviour responses. Through this literature review and having analysed the implications from previous studies (Baker *et al.*, 1994; Baker *et al.*, 2002; Grewal *et al.*, 2004; Kaltcheva & Weitz, 2006; Sirohi *et al.*, 1998; Verhoef *et al.*, 2009) key determinants were developed creating the in-store experience, narrowing my study. Based on this, I developed a new model with the major factors influencing customers' shopping trips (Figure 1.4).
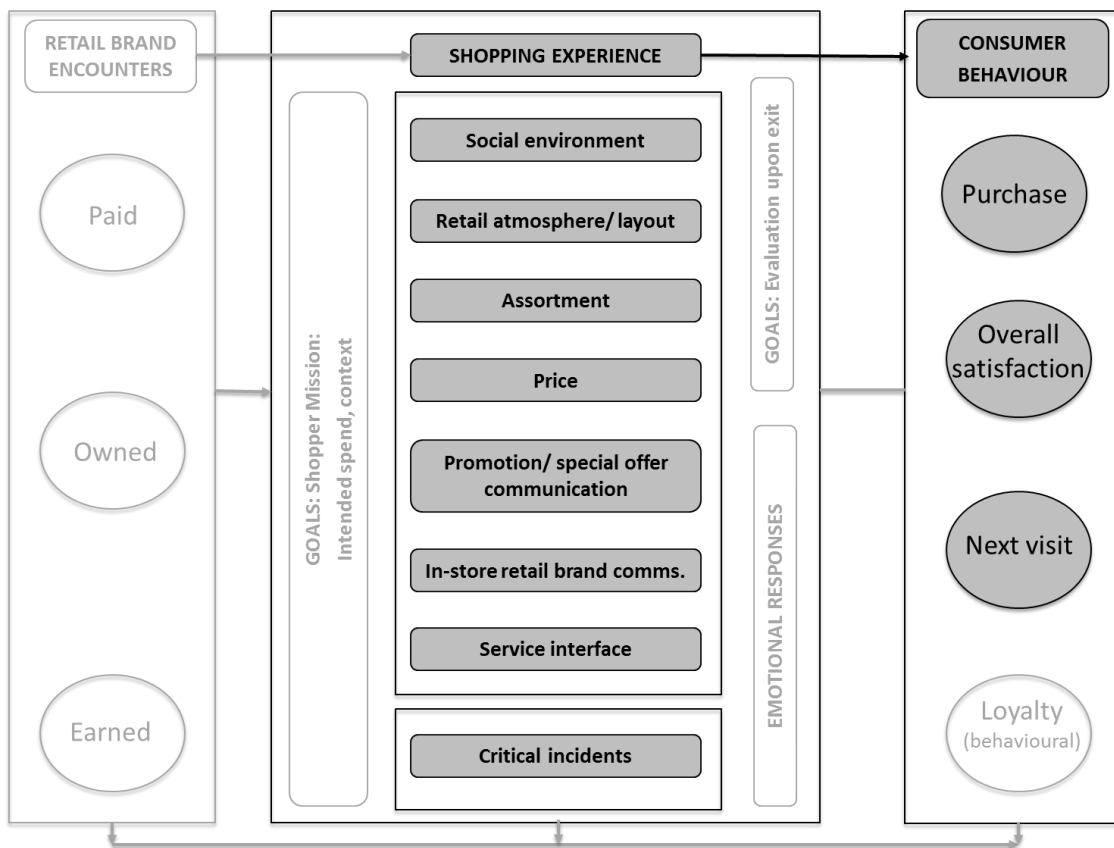
Figure 1.4 Key dimensions of customer experience and behavioural responses – high-level research framework. Source: Author

Elements in Figure 1.5 have a direct impact on creating the shopping experience and, at the same time, influencing customer behaviour. As I narrowed the study, I did not discuss other determinants, which are the part of the customers' complete shopping path (fully described in my literature review) any further. Thus, despite narrowing my study, the dynamics influencing and impacting the customer shopping experience from a holistic point of view, remained within focus. My high-level research framework also includes dependent variables (spend, shopping satisfaction and number of visits) in order to check how they are impacted by in-store experience constructs. I used this framework as the basis for formulating my final research question, to collect the data and also to create a more detailed research framework as a result of my statistical analysis.

Through my literature review, I achieved a detailed understanding as to the manner in which in-store experience influences customers' shopping trips and behavioural responses. This, together with identified gaps in the existing knowledge, was a starting point for my further research process and establishing my final research question:

What is the impact of product, service and in-store environment perceptions on customer satisfaction and behaviour?

My literature review helped me identify that through achieving the answer to my research question, I would be able to give clear indication to retailers in terms of which elements of the in-store experience impact customers' behaviour most. This is particularly important for the retail industry as retailers are able to control many factors of the in-store experience and retailers invest in different in-store experience determinants, without really understanding their detailed impact on customers. There is on-going debate in the industry between the importance of range, in-store environment and customer service. In my research, I addressed these factors and identified which created the biggest value for customers and at the same time for the retailers; which creates loyalty

from increased shopping experience and which particular one drives retailers' sales from increased customer spend. Through my research, I attempted to provide retailers with a clear indication in terms of which elements of the in-store experience cues impact their customers' behaviour most but also where they could expect the highest return from one unit investment in the researched factors.

My literature review also helped me assume an appropriate philosophical and theoretical positioning for my work, which I describe in the 'methods' section.

1.3.3 Joint research project 2 and 3

In order to answer my research question and at the same time provide a practical contribution, I wanted to attempt to identify which elements of the in-store experience have the biggest impact on customer satisfaction, which ones influence customer behaviour most and also where retailers can expect the highest return from investments in the researched factors. I also wanted to look closer at what impacts the number of visits of individual customers in the week after their initial shopping trip, as well as the following week's spend. My objective was to achieve a large research sample, focusing on two sets of big data: survey data and customers' behavioural data – all collected in an in-store environment context. This approach had a big advantage in comparison to prior studies as it was not declarative, or experimental, and provided a very high level of findings credibility. Furthermore, my research framework helped me evaluate the importance of each of the researched constructs, separately.

In terms of data collection and analysis, I decided to use two sets of secondary data (described in Chapter 3.4.6) for the detailed quantitative research analysis, taking an analytical approach to the generated data. I used a descriptive and comparative research approach. In the descriptive work, I focused on the statistical data analysis (Chapter 3.6). The comparative approach helped me compare the data between groups, which helped obtain a holistic understanding of the research question. Eight important steps were included in designing the project's research process (Figure 1.5):

1. Extended literature review helped me design the research framework (Figure 1.4);
2. Based on the framework I identified two data sets which I wanted to use;
3. Negotiate access to the data for research purposes;
4. As the selected data sets were secondary data, I needed to run data validation checks;
5. I subjected two data sets to a data cleaning process;
6. The data cleaning process together with reverse routing activity helped identify the final sample from data set 1;
7. The final data set 1 sample was subjected to exploratory factor analysis;
8. After exploratory factor analysis (EFA) of survey data in data set 1, I matched together the two data sets achieving a final data set combining individual customers' perceptual (survey) and behavioural (loyalty card) data;
9. I conducted a series of statistical analyses: correlation, regression, sensitivity, moderation, mediation and one-way ANOVA analysis, in order to answer the research question and to test my hypotheses (Figure 1.5).

My high-level research framework (Chapter 2.4), was the summary of all key elements creating the in-store experience for customers and a good starting point for further research and statistical activities. It was holistic in nature and covered all the insights from the existing literature. With this research framework I was able to assess what kind of data was needed in order to answer the research question. I identified two sets of secondary data, which I could use for my analysis. To capture the in store experience, I used an existing online survey in which store users were invited to participate after an in-store visit. The second set of data was behavioural data (Clubcard data provided by Dunnhumby). The survey data was based on recruited customers who were asked to complete a questionnaire (Appendix C), which reflected elements of my conceptual framework (Figure 1.4).
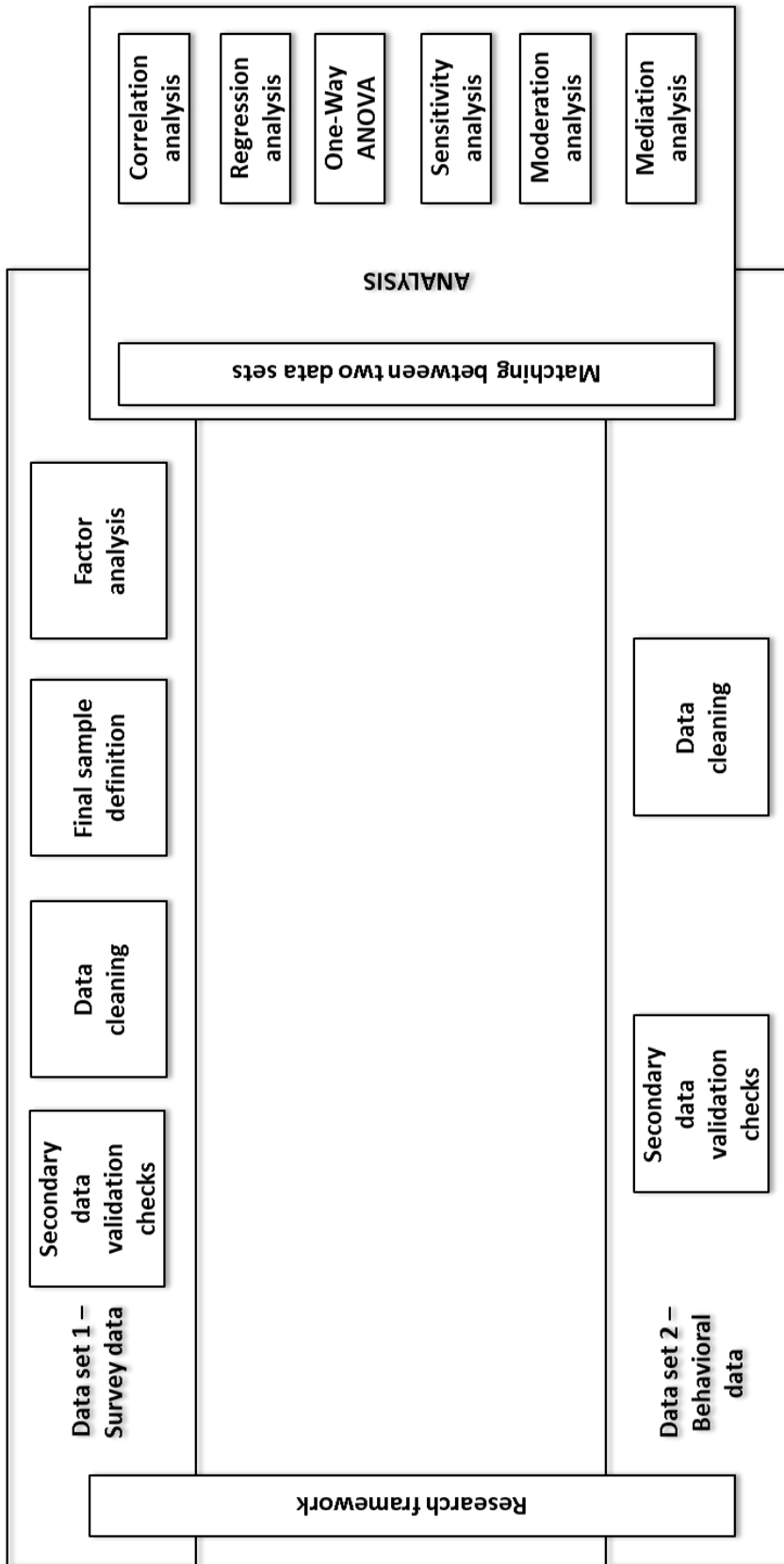
Figure 1.5 Research project design. Source: Author

As discussed earlier, this helped to measure the key elements of the in-store environment and therefore helped later on to understand their relationship with customer satisfaction, spend and also future behaviour. The customer survey was performed by inviting store customers to complete an on-line survey. Customers were invited by being offered a card with the website address printed on it as well as information regarding rewards in Clubcard points upon completion of the questionnaire. The research spanned all Tesco UK Extra (large format) – 420 stores and Express (small format) – 1 700 stores. All the customers invited to participate in the on-line survey were existing Tesco Clubcard holders. This meant that the customers' purchase histories were available, as well as the possibility for the tracking of future purchases. This survey represents data set 2 – behavioural data. The data were collected over a period between April 2014 and June 2014, and collection was administered online. I received responses from 69,695 customers and after cleaning all the data (described in Chapter 3.4.5), my final sample consisted of 30 696 customers. This provided a large sample size, the overview of which is presented in Table 1.1 I also divided the sample based on the shopping mission, which gave me a better understanding of the purpose of the surveyed customers' shopping trip (Table 1.1). In order to be able to observe how representative the final sample was, I added data concerning all Tesco customers in the store's Clubcard programme. This information confirmed that the sample was perfectly representative of the target population (more details in Chapter 3.4.6).

The data to which I had access represented 'big data' with a large volume requiring special treatment with regards to information extraction, cleaning, data integration and aggregation as well as modelling and analysis. Furthermore, as the data were secondary data, it was necessary to run data validation checks – for the survey, as well as behavioural, data. Having ensured that the two data sets were of high quality and could be used in my research, I performed a data cleaning process. The process aimed to remove errors in the data as well as to identify inaccurate and incomplete entries. There were several challenges in the field of heterogeneity and incompleteness. It is for this

Table 1.1 Sample demographics and shopping mission. Source: Author

		Active Tesco Clubcard Holders	ALL surveyed Customers	Study Sample (Sample #1)
Store Format				
	Tesco Extra (420 stores)	25%	25%	100%
	Tesco Express (1 700 stores)	75%	75%	0%
Gender				
	Male	30%	37%	35%
	Female	65%	56%	57%
	Undisclosed	5%	8%	8%
Lifestyle				
	Less Afluent	32%	35%	37%
	Mid-Market	38%	35%	33%
	Upmarket	27%	25%	26%
	Undisclosed	3%	5%	4%
Age Group				
	Under 18 *	N/A	3%	2%
	18-24	N/A	12%	9%
	25-34	N/A	18%	16%
	35-44	N/A	25%	25%
	45-54	N/A	22%	25%
	55-64	N/A	17%	22%
	65+	N/A	2%	2%
	N/A	N/A	0%	0%
Shopping Mission				
	For a specific item	10%	19%	6%
	To buy fuel	1%	1%	0%
	To buy fuel and items from the store	1%	1%	0%
	To buy items from the store	1%	2%	0%
	To do a main shop	45%	30%	54%
	To do a top-up shop	27%	29%	32%
	To pick up food for later	8%	8%	5%
	To pick up food for now	7%	9%	4%
Sample Size				
		15 000 000	69 695	30 696

∗ Age group data is not available for Tesco active Clubcard holders due to different age measures vs. surveyed customers

reason that for the purpose of further analysis, the key steps were: sample definition, exploratory factor analysis as well as matching between two sets of data in order to run correlation/ regression/ sensitivity/ moderation/ mediation, as well as one-way ANOVA analyses.

The final sample definition was applied to all the customers who completed the on-line survey. In order to launch the survey, customers needed to enter their Clubcard number, which helped during data preparation to track the details of the customers' shopping spend. In order to measure the selected areas Likert-type questions were included. Unfortunately, Tesco used different scales for some of the questions. This was done on purpose, in order to measure some of the items separately and to produce forced choice where no

indifferent option was available. It was a challenge for the consistency of the data. That is why the cleaning and data verification process described above was very important. However, the most common format was a 4-point scale, which referred to the level of agreement with a given statement. A Yes/No measure was also applied, as well as a descriptive five-point scale starting from excellent to very poor performance in a given area. Details of the questionnaire are available in Appendix C.

Based on the coding and identification of all the items (Appendix D), I knew that not many of the questions were posed to all respondents. Customers were routed to different questions depending on the kind of store visit – these consisted of the type of store they visited (Extra or Express), if they visited the produce (fresh food) section, and the type of checkout used. Many items were asked dependent on this routing. There were also many not answered questions, depending on the relevance of the selected area (e.g., asking about car park access in situations where the customer didn't use the car park). That is why I needed to do proper information extraction and cleaning. This was a very important activity as the big data, which I had access to were not in a format ready for analysis. The proper cleaning process gleaned the required information from the underlying sources I achieved, helping to apply sampling procedures.

My research sample was randomly selected from my earlier predefined population of interest. This produced a representative and probabilistic sample of respondents. Then, by applying reverse engineering routing, I could identify a smaller sample, fully meeting all my requirements (described below). The smaller sample, allowed me to generalise the results of the study to the entire population. Based on this activity, I identified 22 different samples and items corresponding to each of them (Table 1.2). I could observe, that the more generalisable my sample was, the fewer items I could take into consideration (only a small number of items were common across all 22 samples). That is why, for my further analysis I chose the sample with the most items asked, which made it closest to my research framework. This is sample #1: Tesco Extra customers, who used the car park, visited the fruits & vegetable section

and used manned checkouts. This sample represents 44% of all responses (30,696 customers) and it provides the most items for the analysis – 23. Table 1.1shows the demographic description, as well as the shopping mission. This descriptive sample is very similar to my full sample and all Tesco shoppers using the Clubcard, thus making it a representative sample. It skews towards women, which is representative for UK grocery shoppers. In discussing Tesco Extra, the big format stores, the full shopping mission is dominant. It is also representative for big-format store shoppers. In order to have the data to conduct a full analysis, I clearly identified the Clubcard data specification needed for the research (Table 1.3), which reflected the following, and which is the part of my sample description (Table 1.2).

My Clubcard data had the following behavioural specifications:

- Transactional information (outlined below) for the time period Jan 2013 to Oct 2014 reported weekly. If customers shopped more than once during the week the average for that week was used;
- Shopping information for a shopping visit on a specific date from the questionnaire;
- Lifestyle segment (details in Appendix E);
- Life stage segment (details in Appendix E);
- Date of birth;
- Gender.

The transactional information included for each purchase occasion within the time period:

- Shopping mission on that occasion;
- Basket value (spend);
- Basket value (spend) by division: grocery food/ grocery non-food/ fresh food;
- Spend on own label (home brand) across 3 value tiers (basic/ regular/ premium);
- Spend on items in the promotional offer;
- Date of visit;
- Store format.

Table 1.2 All identified sub-samples. Source: Author

Sample#	No. of Variables asked	Sub-questions			No.	%
		Car Park	Fruit and Veg	Checkout Type		
Extra UK Customers*					**52041**	
1	24	Y	Y	Normal	30696	44,0%
2	20	Y	N	Normal	7346	10,5%
3	23	N	Y	Normal	2103	3,0%
4	19	N	N	Normal	824	1,2%
5	22	Y	Y	Self-Service - Needed Help	1707	2,4%
6	18	Y	N	Self-Service - Needed Help	1025	1,5%
7	21	N	Y	Self-Service - Needed Help	231	0,3%
8	17	N	N	Self-Service - Needed Help	123	0,2%
9	21	Y	Y	Self-Service - No Help	655	0,9%
10	17	Y	N	Self-Service - No Help	588	0,8%
11	20	N	Y	Self-Service - No Help	131	0,2%
12	16	N	N	Self-Service - No Help	105	0,2%
13	21	Y	Y	Other	2923	4,2%
14	19	Y	N	Other	3056	4,4%
15	18	N	Y	Other	235	0,3%
16	16	N	N	Other	293	0,4%
Express Customers*					**16923**	
17	17	NA	Y	Self-Service - Needed Help	1550	2,20%
18	16	NA	N	Self-Service - Needed Help	317	0,45%
19	16	NA	Y	Self-Service - No Help	1165	1,67%
20	15	NA	N	Self-Service - No Help	806	1,16%
21	16	NA	Y	Other	9927	14,24%
22	15	NA	N	Other	3158	4,53%
Missing					**731**	
Sample					**69 695**	

* Tesco's UK operation is divided into formats, differentiated by size. **Tesco Extra**: average area = 6 500m^2 and **Tesco Express**: average area = 200m^2

The variables were reported weekly and if the customer shopped more than once during the week, the average was used. It is important to highlight, that Clubcard data is managed by the Dunnhumby company, which is part of Tesco. Dunnhumby is the world's leading customer science company, gathering till data of Tesco customers. Based on those data the company provides insights concerning the customer shopping-experience, in-store merchandising strategies, category development strategies and all other actions helping to build customer loyalty while developing sustainable business performance. I use Dunnhumby data as secondary data in my research. As I described, I wanted to cross match it with survey answers in order to analyse if there were any relationships between the data, which could help me answer my research question.

In my final behavioural and survey data specification (Table 1.3) I included key research constructs from the survey, obtained while conducting my EFA (described below, and also in Chapter 3.4.8). There was, however, one item addressed to all the customers, and gleaned directly from the survey for the purpose of the research: 'How would you rate your overall satisfaction with this store on your recent visit.' A Likert-type five-point scale was used to measure this in the survey. For the purpose of the research, I labelled it: 'Overall shopping satisfaction.'

After cleaning the data using SPSS software, I achieved a complete list of relevant items asked of sample 1 (Table 1.4). In order to make better sense of all the items asked of 30,696 customers, I conducted a factor analysis. Mapping these items to the a-priori constructs in my conceptual framework meant that I was able to look at most of my in-store experience constructs. However, there were some items which could better reflect the measured constructs. Nevertheless, I could also demonstrate that for the constructs I do have (Table 1.3), there are many items which are likely to get a very good measure of these aspects of the in-store experience. I performed an exploratory factor analysis to investigate the variable relationships between the items, allowing the identification of several underlying factors testing my a-priori assumptions regarding aspects of a customer's in-store experience.

Table 1.3 Final survey and behavioural data specification. Source: Author

Data Specification	
Survey Data	**Behavioural Data (Clubcard)**
Visit date	Demographics
Overall shopping satisfaction	Shopping mission
Assortment	Total basket spend
Retail atmosphere/ Layout	Grocery food spend
Checkout service	Basic own-label spend
Personalised customer service	Regular own-label spend
	Premium own-label spend
	Grocery non-food spend
	Fresh food spend
	Spend on promotions
	Total basket spend next week
	Number of visits next week

Those factors formed the basis for my final, narrowed research framework creation (Figure 1.6). However, in order to conduct the full analysis and to answer my research question, I needed to incorporate the Clubcard data, described in Table 1.4. Based on the data availability discussed earlier, and the results from my factor analysis, I arrived at a revised research framework to address the research question (Figure 1.6). The final research framework, therefore, consists of four key in-store experience constructs: product quality and availability, in-store environment and layout, checkout service, personalised customer service.
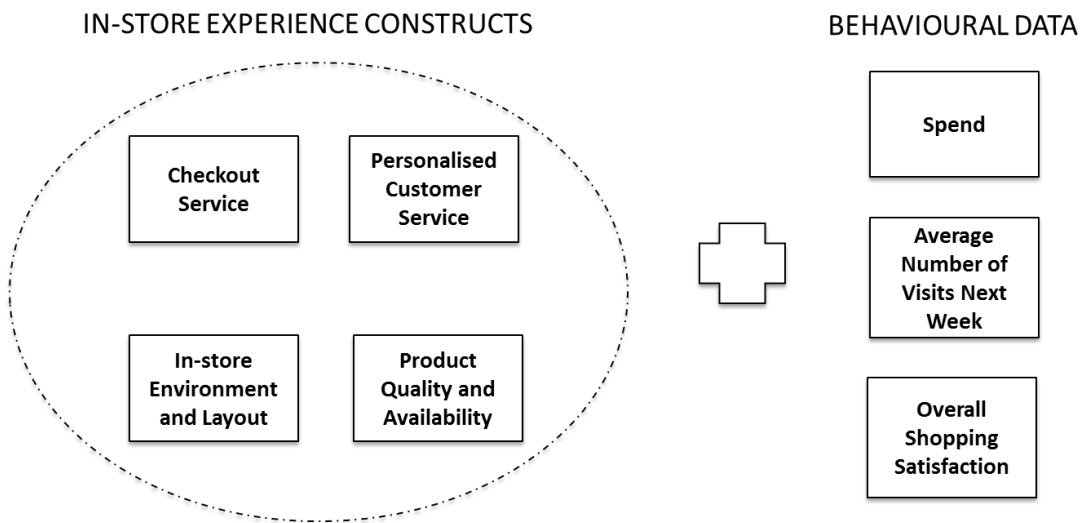
Figure 1.6 Narrowed research framework. Source: Author

It is important to note, that my four in-store experience final constructs are key aspects from an academic and retailer perspective. It was already identified in my literature review that assortment, customer service and retail atmosphere/layout have a significant impact on customers. They are also elements in which retailers invest extensively, in order to improve the customer shopping-trip and to become more competitive. That is why from a research perspective, contribution to existing knowledge and practice, it will be very interesting to observe what kind of impact the above constructs have on customer behaviour. Furthermore, knowing that retailers are investing significant amounts of money into these constructs, it will be able to observe and to rank them according to their impact size and gauge return from a one unit investment.

Having achieved my final, narrowed research framework (Figure 1.6), I constructed a series of hypotheses (Figure 1.7), which all together gave me a detailed view on the researched topic and, after testing, helped me answer my research question.

As a result of regression and correlation analyses, I could observe the following implications for my lists of hypotheses listed in Table 1.5. This table shows the summary of my hypothesis testing based on my research results.

Table 1.4 Final list of the items asked. Source: Author

Construct	Item Code	Item description
Social Environment		
	SRV3	The store staff were dressed smartly and appropriately.
Retail Atmosphere/ Layout		
	ACC2	I could get in and around the store easily.
	ENV1	The store was clean and tidy.
	ENV2	How would you rate the overall look and feel of this store.
	ACC1	I could get in and out of the car park easily.
	EASE	How easy did you find your shopping experience?
Assortment		
	QLT1	I was satisfied with the quality of fruit and vegetables I saw in the store.
	QLT2	The fruit and veg looked appealing and well cared for.
	STK1	The store has a good range of products (the selection of products that you had to choose from for the size of the store).
	STK2	I was satisfied with the level of stock (whether the products you wanted to buy had sold out).
	STK3	I was satisfied with the level of stock on fruit and veg.
	STK4	The store has a good range of fruit and veg.
In-Store Brand Communication		
	SR	How much do you agree with the statement 'This Tesco store has community initiatives that help the local area'?
Service Interface		
	SRV1	The store staff made me feel welcome.
	SRV2	The store staff were helpful.
	SRV6	The checkout staff greeted you.
	SRV7	The checkout staff offered to help you pack.
	SRV8	The checkout staff gave you full attention while serving you.
	SRV	How would you rate the overall customer service and staff helpfulness?
	SRV4	I was satisfied with the length of time I had to wait at the checkout.
	SRV5	Did you need any assistance whilst shopping today?
Critical Incidents		
	SRV11	Was there a member of staff who did something special on your recent visit?
Overall Shopping Satisfaction		
	SAT	How would you rate your overall satisfaction with this store on your recent visit?

Figure 1.7 Model of hypotheses. Source: Author

Table 1.5 Summary of the hypothesis testing results – key findings.

Source: Author

Hypothesis	Dependent variable	Supported?
	Overall shopping satisfaction	
H1a	Product qualiy and availability has impact on overall shopping satisfaction	✓
H1b	In-store environment and layout have impact on overall shopping satisfaction	✓
H1c	Personalised customer service has impact on overall shopping satisfaction	✓
H1d	Checkout customer service has impact on overall shopping satisfaction	✓
	Average number of visits next week	
H2a	Product quality and availability has impact on average number of visits next week	✓
H2b	In-store environment and layout have impact on average number of visits next week	✓
H2c	Personalised customer service has impact on average number of visits next week	✓
H2d	Checkout customer service has impact on average number of visits next week	✗
H8c	Overall shopping satisfaction has impact on average number of visits next week	✓
H9b	In-store experience has impact on average number of visits next week	✓
	Overall spend during visit date	
H3a	Product quality and availability has impact on overall spend during visit day	✓
H3b	In-store environment and layout have impact on overall spend during visit day	✓
H3c	Personalised customer service has impact on overall spend during visit day	✓
H3d	Checkout customer service has impact on overall spend during visit day	✓
H8a	Overall shopping satisfaction has impact on overall spend during visit day	✓
H9a	In-store experience has impact on overall spend during visit day	✓
	Basic own-label products spend	
H4a	Product quality and availability has impact on basic own-label products spend	✓
H4b	In-store environment and layout have impact on basic own-label products spend	✗
H4c	Personalised customer service has impact on basic own-label products spend	✗
H4d	Checkout customer service has impact on basic own-label products spend	✗
	Premium own-label products spend	
H5a	Product quality and availability has impact on premium own-label products spend	✓
H5b	In-store environment and layout have impact on premium own-label products spend	✗
H5c	Personalised customer service has impact on premium own-label products spend	✗
H5d	Checkout customer service has impact on premium own-label products spend	✓
	Regular own-label products spend	
H6a	Product quality and availability has impact on regular own-label products spend	✓
H6b	In-store environment and layout have impact on regular own-label products spend	✓
H6c	Personalised customer service has impact on regular own-label products spend	✓
H6d	Checkout customer service has impact on regular own-label products spend	✓
	Customers' promotional spend	
H7a	Product quality and availability has impact on customers' promotional spend	✓
H7b	In-store environment and layout have impact on customers' promotional spend	✓
H7c	Personalised customer service has impact on customers' promotional spend	✓
H7d	Checkout customer service has impact on customers' promotional spend	✓
	Overall spend week after	
H8b	Overall shopping satisfaction has impact on total spend week after	✓

1.4 Research methods

1.4.1 Philosophical positioning

In my ontology, which are philosophical assumptions regarding the nature of reality, I took the realism approach (described also in Chapter 3.2.1). This approach, a traditional position, emphasises that the world is concrete and external and that science can progress only through observations that have a direct correspondence to the phenomena being investigated (Mehrabian & Russell, 1974). This is an extreme position, which was modified, pointing out that the difference between the laws of physics and nature, and the knowledge or theories that scientists have above this law. It assumes that the ultimate objects of scientific inquiry exist and act quite independently of scientists and their activity. This is contrary to the debate concerning relativism. In this approach, we assume that scientific laws are not just there to be discovered, but they are created by people (Mehrabian & Russell, 1974). This means that the 'truth' of a particular theory or idea is led through discussion and agreement between the main protagonists. In the retail research field there are much evidence available for all protagonists but none of them is actually accepted as definitive by all, supporting different views at the same time. The relativist position assumes that there may never be a definitive answer to the debate, which is not the case of my approach.

Epistemology, is mainly about different ways of inquiring into the nature of the physical and social worlds (Mehrabian & Russell, 1974). It has formed the ground for debate among many scientists as to how social science should be conducted: positivism and social constructivism. Interestingly, there are no scientists holding only one sole position. Positivism, in general, refers to philosophical positions that emphasise empirical data and scientific methods. This tradition holds that the world consists of regularities, that these regularities are detectable, and that the researcher can, therefore, infer knowledge about the real world by observing it. Positivism provides the best way of investigating human and social behaviour and I've taken this approach in my research study. Furthermore, a positivist approach provides a hierarchy of methods.

Experiments are considered ideal because of their ability to determine causality. Although, this method is often difficult to employ in the social sciences due to practical and ethical issues, for my research objectives this approach suits well. Statistics is a second-best approach, well-suited for making generalisations. Comparative methods, as well as case studies, are primarily used for theory testing/building. Social constructivism was developed in reaction to the application of positivism to the social sciences and while taking this approach one takes the view that 'reality' is not objective and exterior but socially constructed and given meaning by people (Mehrabian & Russell, 1974). One can assume that this means that 'reality' is determined by people rather than by objective and external factors. The focus is on what people individually and collectively are thinking and feeling. Attention is focussed on the ways people communicate with each other, both verbally or non-verbally. That is why, while taking this approach researchers attempt to understand and appreciate the different experiences that people have, rather than looking for external causes and fundamental laws to explain a behaviour. As in my research, I assume that the in-store experience exists, it has an impact on customers and I formulate measures to evaluate this. That is why a positivist approach is taken in my research.

The methodology used in the research is connected to the position taken. Knowing that from the perspective of ontologies, realism is accepted as an approach and the epistemology is positivism, this defines the methodological approach for this particular study. In my position though, I assume that there is a reality, which exists independently of myself, and it is the job of research to discover it. In my particular case, it is the impact of the in-store experience on customer behaviour. I designed my research in order to create key factors to be measured precisely in order to verify or falsify the hypotheses. In my approach, I knew that reality could be accessed directly, that is why conducting surveys of large samples of individuals helps to intersect with the reality indirectly. My data here is expressed in quantified form, which helps to create propositions which were tested and from which new ideas develop. My research objective is to provide accurate indications of the underlying situation, which I am researching.

1.4.2 Theoretical positioning

In order to develop my research framework, I needed to review the theoretical background of the customer-experience construct. This knowledge helps to better understand the overall structure of the conceptual model and the detailed role of its elements (i.e., creating and influencing the customers' shopping experiences).

Some of the first work concerning the impact of the store environment on customer behaviour dates back to 1950 and 1960 (Cox, 1964; Kotzan & Evanson, 1969; Martineau, 1958; Smith & Curnow, 1996). The term 'store atmosphere' was used and defined for the first time by Kotler (1973). It was used to describe the planning of the environment to create certain effects on buyers. Kotler (1973) affirms that a product goes beyond the tangible aspects normally associated with it and that a planned environment has an impact on it. Based on this one can conclude that shopping trips can be very complex, considering the number of stimuli shoppers encounter both inside and outside the store (Esbjerg *et al.*, 2012). However, the empirical studies examined for this literature review, are mostly based on studying customer behaviour within the store. The techniques identified in the research papers include (1) analysis of records; (2) observations; (3) interviewing; (4) controlled experimentation.

Most of the reviewed papers focus on customers' perceptions of the in-store shopping experience, which is a holistic construct in nature and involves the customer's cognitive, affective, emotional, social and physical responses to the retailer (Bell *et al.*, 2011). That is why the majority of in-store studies are based on the PAD Emotional State model (Mehrabian & Russell, 1974) concerning the impact of the environment on behaviour. This theory proposes three basic emotional states which mediate approach-avoidance behaviours in any environment: Pleasure-displeasure; Arousal-non arousal and Dominance-submissiveness (PAD). Based on this theory, store environment could affect customer behaviour in several ways. Certain response of human beings to the environment may be conditioned or hard-wired into the human brain. For example, for a racetrack store layout, shoppers may follow the path defined by the layout with little thought or emotion aroused by the layout

(Levy & Weitz, 1998). In the work of Mehrabian & Russell (1974) one can observe, that in a variety of settings (schools, hospitals, homes, etc.), emotions affected by the environment can be fully described by three states, pleasure, arousal and dominance (PAD). Interestingly, for many years the majority of studies on emotional response to store environment have adopted this paradigm, providing evidence that shoppers' emotional states can be largely represented by the PAD dimensions (Babin & Darden, 1996; Bellizzi *et al.*, 1983; Donovan & Rossiter, 1994). These studies also show that emotional responses lead to a variety of behaviours and outcomes, such as how long shoppers stay and how much money they spend inside a store. Other studies use different scales that include some emotion measures (Bellizzi *et al.*, 1983). However, many of these measures are similar to those found in the PAD dimensions, which is why I keep it as the dominant, theoretical positioning in my research thesis (described also in Chapter 3.2.2).

1.4.3 Data collection and methodological choice

The research framework was crucial for my data collection and methodological choice process. It was developed alongside the narrowing of my research study. First, based on a theoretical approach and the results of my literature review, I developed a 'complete customers' shopping path framework' (Figure 1.3). Then, I identified the most important, from my research point of view, elements impacting customer behaviour, as well as customers' behavioural responses. This helped me understand which elements constitute delightful and unpleasant shopping experiences, having the biggest impact on customers and their behaviour. Based on this, a new model was developed with the major factors influencing customers' shopping trips. These are identified and their key elements are highlighted (Figure 1.4). As I was attempting to narrow my study, I have not addressed other determinants, which were the part of the customers' complete shopping path (described in my literature review). My framework includes dependent variables (spend, shopping satisfaction and number of visits) in order to check how they are impacted by in-store experience constructs. I used this framework as the basis for collecting data.

These data were then analysed and a final research framework was achieved (Figure 1.6), which helped me build my research hypotheses.

The choice of methods, which I used, was also influenced by the data collection strategy, the type of variable, the accuracy required, the collection point and also my skills. The most important aspect in this process is the identification of which method will best help answer the research question. While looking at this process through the perspective of my research project, it is very important to mention that in order to study the variables of interest, researchers may also use existing data, collected for an entirely different purpose. This was the case in my research. I used secondary data in order to answer my research question. As a member of the Tesco senior leadership team, for my research, I attempted to collect primary data for more than 12 months. This was very difficult to achieve and in the end due to significant changes in the business, I was unable to do so. However, I was able to access two valuable sources of secondary data: survey and Tesco Clubcard data, which, in my case, represented customers' behavioural data. This would constitute an important contribution to both knowledge and practice, as not many studies have investigated the direct effects of store environment and the mediating role of physiological states in the relationship between store environment and shopping behaviours. There are also very few studies where academics are granted access to those kind of data, as well as the experiments performed in a real, in-store environment context. However, before making the decision regarding secondary data collection, I needed to make sure that I would have solutions for the following challenges (Vartanian, 2010):

- have full access to all the necessary data;
- be able retrieve the data necessary;
- ensure that the available data meets all research quality and methodological criteria;
- remain fully aware of the original context of collecting the data.

Knowing the above challenges, I went through them one by one in order to ensure that the data could be used in my research process.

The survey data were based on recruited customers, who were asked to self-complete the questionnaire (Appendix C) designed to reflect the conceptual framework (Figure 1.4). As discussed earlier, this helped me measure the key elements of the in-store experience and therefore helped to understand the relationship with customer satisfaction and spend. The data were collected over a period from April 2014 to June 2014, and the survey was administered on-line. I gained responses from 69,695 customers. This provided me with a large sample size whose overview is presented in Table 1.1. I also divided the sample based on the type of shopping mission. This gave me a better understanding regarding the purpose of the surveyed customers' shopping trips (Table 1.1). The sample achieved is perfectly representative of the target population, particularly when taking into account the fact that data pertaining to Tesco Clubcard holders is included. As the survey data presented a large amount of data, I needed to work on the quality of it. There were a variety of scales used and not all the questions were posed to all respondents. Furthermore, there was a need to spend a substantial amount of time preparing the data and making sure that it fully reflected my research framework (Figure 1.4).

In order to answer the research question I needed behavioural data, which I could match with the survey data. It is important to highlight here, that behavioural data of Tesco customers is managed by Dunnhumby, which is Tesco's Clubcard provider. Dunnhumby is the world's leading customer science company, gathering till data of Tesco customers. Based on those data, the company provides insights concerning the customer shopping-experience, in-store merchandising strategies, category development strategies and all other actions helping to build customer loyalty while developing sustainable business performance at the same time. Dunnhumby UK receives a daily data feed from Tesco UK IT that the customers' unique ID (not their Clubcard number, but a masked ID linked to the Clubcard number) as well as their product number-level purchase behaviour (i.e., items, spend, quantity). The purpose of this data feed is to be able to perform in-depth customer analysis based on the individual's unique shopping behaviour to better understand the

drivers behind business performance. Examples of analysis include, but are not limited to: customer segmentations, customer category engagement, promotions performance and attractiveness, product substitutability and targeted communications. A large part of the transactional information includes information concerning private label (home brand) spend. Segmentation in Tesco's private home-brand label starts from the cheapest (basic), then the most popular products at competitive prices (regular), and finishes with premium products for upmarket customers (premium). I also added the 'Tesco loves baby' private label, which covers all food and non-food products for babies. The spend for items being in the store's promotional offer were data concerning all the products currently being in special offers, all showing price cuts in comparison to the last price level. All the listed variables were reported weekly (when the customers' visits took place) and if the customer went shopping more than once during the week, the average was used. All the above data represented a huge base of different information along my journey of looking for the relations between in-store experience and customer behaviour.

In summary, my secondary data came from the online survey (data set-1) and customers' behavioural data from the Clubcard data base (data set-2). All my secondary data presented a large amount of data, i.e., big data. There are many challenges, which I faced while trying to create value from the big data which I had access to. Mainly, this involved gaining access to the data first, and then information extraction and cleaning, data integration, modelling and analysis, interpretation and deployment. In the literature, many discussions of big data focus on only one or two steps, ignoring the rest (Chen *et al.*, 2012; Chen *et al.*, 2015; Jagadish *et al.*, 2014). Fortunately, in the case of my research project, I overcame the following challenges: data access, heterogeneity of data, inconsistency and incompleteness, timeliness, privacy, visualisation and collaboration as well as tools ecosystem around big data (Huang & Huang, 2015). The data also required special treatment concerning information extraction, cleaning, data integration and aggregation as well as modelling and analysis. Furthermore, as the data were secondary data, I needed to run data validation checks, which is described in Chapter 3.4.

Having ensured that the two data sets are of high quality and can be used in my research, I applied a data cleaning process. The process was aimed to remove errors in the data as well as identify inaccurate and incomplete entries. There were some challenges in the field of heterogeneity and incompleteness. That is why the sampling activity was very important for my research process and helped identify 22 samples from which, I chose the final one. In order to make more sense of the final chosen sample, I first conducted exploratory factor analysis. This helped me observe the relations between the data, which resulted in a framework of dimensions of customer experience (Figure 1.6). Based on this framework I could join two sets of my data to achieve one final data set combining customers' survey answers and their individual behaviour. After applying a series of statistical analyses (correlation, regression, moderation, mediation and one-way ANOVA), I could observe which in-store experience elements have the highest impact on customer behaviour. This helped with validating or rejecting hypotheses, at the same time answering my research question. There are more details concerning the process in Chapter 3.

1.5 Summary of findings

It is possible to group my findings into two areas: findings from the extensive literature review and findings from the statistical analysis of my two data sets (survey data and behavioural data). As part of my literature review, I studied the findings on different levels of aggregation which helped me better understand the individual environmental in-store elements, which include music, noise, colour, scent and furnishing. In addition, I applied a more aggregated level in order to create groups and study them: ambience, design and social factors. While analysing these findings, I could observe that the store environment affects emotions, behaviours and cognition, which was a significant conclusion and provided direction for my further research process. I could also observe that different enduring aspects of the store environment influence customers' shopping trips and that by improving it, retailers could encourage customer loyalty. Furthermore, based on studies analysed, I could conclude that shopping trips can be very complex, considering the number of

stimuli shoppers encounter both inside and outside the store (Esbjerg *et al.*, 2012). This was a very important insight for the creation of my final research framework. It helped me understand which elements constitute delightful and unpleasant shopping experiences, having the biggest impact on customers and their behaviour responses. Furthermore, my literature review helped identify, that through achieving the answer to my research question, I would be able to provide clear indication for retailers in terms of which elements of the in-store experience cues impact customers' behaviour most and which ones provide the highest return from one unit of investment. I identified that it is very important for the industry, as retailers can control many in-store experience factors and it can be seen that different markets in different formats, different retailers invest in different in-store experience determinants, without really understanding their detailed impact on customers. In my research, I addressed all the factors and attempted to see which factor has the biggest value for customers and at the same time for retailers; which creates loyalty from an increased shopping experience and which one drives retailers' sales from increased customer spend. Even identifying the factors which have a very small impact on spend could be extremely important to retailers. As mentioned at the beginning of my thesis (Chapter 1.1) – in such a competitive retail environment, even finding a way to increase sales in like for like terms of about 1% may decide about a retailer's success or failure.

With the final research framework a result of EFA, I conducted a series of correlation and regression activities. Looking at the correlation matrix (Table 1.6) , I could observe, significant relations between overall shopping satisfaction and my key in-store experience constructs. Also, considering the size of the sample, I could expect several correlations to 'total spend on a visit day' as well as impact on average number of visits next week. In order to make more sense of this information and to verify which construct has the biggest impact on satisfaction, I decided to perform a regression analysis, combining all proposed and researched models (Table 1.7).

Table 1.6 Correlation matrix. Source: Author

	In-store experience key constructs				Shopping basket data						
	Product quality and availability	In-store environment and layout	Checkout service	Personalised Customer Service	Spend on basic own-label products on a visit day	Spend on regular own-label products on a visit day	Spend on premium own-label products on a visit day	Spend on promotions on a visit day	Overall shopping satisfaction	Average N. of visits week after	Total spend on a visit day
Product quality and availability	1	,000	,000	,000	**.025**	-,026	-,029	-,022	**.438**	.016	-,016
In-store environment and layout	,000	1	,000	,000	-,011	-,058	-,014	-,043	**.523**	.043	-,053
Checkout service	,000	,000	1	,000	,002	**.064**	,019	**.024**	**.239**	-,012	**.042**
Personalised Customer service	,000	,000	,000	1	,006	**.075**	**.035**	**.062**	**.269**	.017	**.090**
Spend on basic own-label products on a visit day	**.025**	-,011	,002	,006	1	**.160**	-,057	**.065**	**.020**	-,001	**.196**
Spend on regular own-label products on a visit day	-,026	-,058	**.064**	**.075**	**.160**	1	**.213**	**.574**	-,008	-,113	**.741**
Spend on premium own-label products on a visit day	-,029	-,014	,019	**.035**	-,057	**.213**	1	**.312**	-,026	-,053	**.348**
Spend on promotions on a visit day	-,022	-,043	**.024**	**.062**	**.065**	**.574**	**.312**	1	-,006	-,086	**.787**
Overall shopping satisfaction	**.438**	**.523**	**.239**	**.269**	**.020**	-,008	-,026	-,006	1	.055	,004
Average N. of visits week after	.016	.043	-,012	.017	-,001	-,113	-,053	-,086	.055	1	-,115
Total spend on a visit day	-,016	-,053	**.042**	**.090**	**.196**	**.741**	**.348**	**.787**	,004	-,115	1

Significant parameters are in bold (p<.01)

50

Table 1.7 Impact of in-store shopping experience on overall shopping satisfaction, total spend on a visit day, and average number of visits week after.

Source: Author

Model	A: Overall shopping satisfaction				B: Total spend on a visit day				C: Average N. of visits week after				D: Total spend on a visit day				E: Average N. of visits week after			
	β	R	R2	SE	β	R	R2	SE	β	R	R2	SE	β	R	R2	SE	β	R	R2	SE
In-store experience constructs		**0,772**	**0,595**			**0,114**	**0,130**			**0,05**	**0,002**									
Product quality and availability	**0,354**			0,003	**-0,781**			0,334	0,024 ★			0,011								
In-store environment and layout	**0,423**			0,003	**-2,597**			0,332	**0,064**			0,011								
Checkout service	**0,193**			0,003	**2,042**			0,334	-0,017			0,012								
Personalised customer service	**0,218**			0,003	**4,471**			0,336	0,026 ★			0,011								
Overall shopping satisfaction													**0,217**	**0,004**	**0,000**	0,374	**0,1**	**0,055**	**0,003**	0,013

Significant parameters are in bold (p<.01)

★ Significant parameters (p<.05)

Model A in Table 1.7 (in-store experience impacts on overall satisfaction) shows that the adjusted R2 of my model is 0.595. This means that the linear regression explains 59.5% of the variance in the data. This is a clear indication that the key four in-store experience constructs explain a substantial amount of overall shopping satisfaction. As beta expresses the relative importance of each independent variable in standardised terms, I could observe which of the key factors from my model are significant predictors of overall shopping satisfaction. Following an analysis of coefficients, I observed that the variable with the largest impact on overall shopping satisfaction is in-store environment and layout (beta=0.423), together with product quality and availability (beta=0.354). However, I could see that all four factors have a significant impact on overall shopping satisfaction. I could conclude therefore, that these 4 aspects of the in-store experience significantly impact satisfaction. While analysing results for model D, I could observe a very small relationship between spend and overall satisfaction which does not, however, fully explain variance in the data (R2 approx. 0) but the coefficients are significant. I could also observe some level of correlation between the two constructs (Table 1.9).

As an alternative to regression, I decided to investigate the data using scatter plots and conducting one-way ANOVA tests, in order to see if even without having the linear regression, I would be able to observe some patterns, particularly with the highest values for spend and satisfaction (Figure 1.8).

While analysing the graph, I could observe many variations on an individual level (explaining why the regression's R2 was so low). I could also see that the highest values are assigned to the highest overall level of shopping satisfaction. That is why, I could assume, that the overall level of satisfaction influences overall spend. The linear regression is not strongly visible, but its relationship to the average spend size is visible. In the same way I decided to check, if overall satisfaction has an impact on the frequency of visits – model E (in Table 1.7). I could also see that the average number of visits week after increases with a higher overall satisfaction rating and the results are significant, which is also supported by my model E (Table 1.7) Furthermore, I could

52

			Dependent variable			
			Total spend on a visit day		Average N. of visits week after	
	Model	Mean	Scatter plot		Mean	Scatter plot
	Overall shopping satisfaction					
Low	1	**43.5**			**2.2**	
	2	**44.5**			**2.1**	
	3	**42.2**			**2.2**	
	4	**45.4**			**2.2**	
High	5	**48.5**			**2.4**	

Significant parameters are in bold
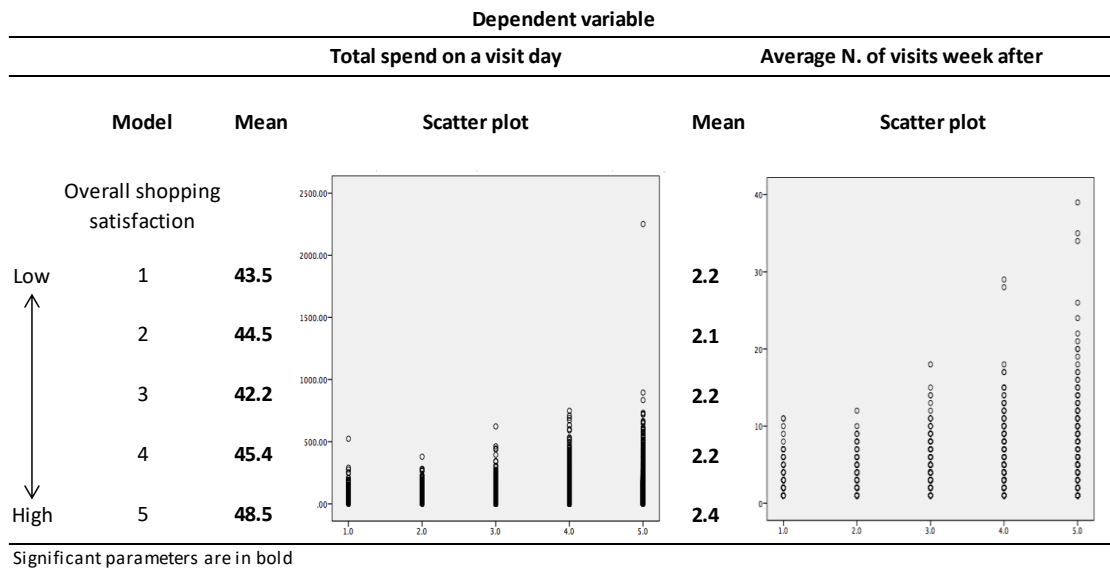
Figure 1.8 Individual-level variations for total spend and average number of visits week after. Source: Author

observe that for the highest level of satisfaction there are more frequent visits. That is why, I can conclude that when you have a positive experience, the number of visits increases. I also wanted to observe the impact of the four key in-store experience constructs being researched, on the number of visits the week after. Looking at model C (Table 1.7), I could observe that product quality and availability together with personalised customer service have a positive impact, but at a significance level of 0.05. In-store environment and layout impacts the average number of visits week after with a p value at a level of 0.01. Checkout service negatively impacts the average number of visits the week after but the results are not significant. This makes sense as we can observe that already personalised customer service has positive impact. That is why I can conclude that in-store experience influences the average number of visits the week after, with in-store environment and layout playing the biggest role in it.

Being aware that I could observe the impact of satisfaction on spend and the frequency of the visits, I researched the impact of my key customer experience framework constructs on spend itself (model B). The four factors from the research framework were independent variables. Analysing the

regression results (Table 1.7), as expected, I could see small R2 values. Keeping in mind that the sample size is very large, even small R2 values are likely to represent real relationships in the data (not occurring by chance). This could also be rationalised by thinking about how big an impact we expect the environment to be in grocery shopping. It may provide incremental benefit but I don't expect it to be the main driver compared to more important ones from the customers' perspective, like for example the need to eat or proximity of the store. Therefore, I expect the experience to only contribute a little (small R2) but if identifying the factors which have even a very small impact on spend, this could be extremely important to retailers.

My findings are significant, however there are different characteristics concerning satisfaction and its impact on spend at an individual level. Having limited information regarding the variability among individuals, makes it difficult to explain. Only in-store experience factors are included in the present research, and it is not possible to explain in any great details why person 1 might spend more than person 2 (other factors may include disposable income, household size, psychology, communication activities, competitors' actions, store proximity, promotions etc.). Therefore, much of the variability in spend and visits is likely to be explained by other aspects, not just shopping experience. This explains the low R2. If I managed to measure and include all those other factors, then I might be able to explain why person 1 spends more than person 2 much more accurately, achieving a higher R2. Nevertheless, the coefficients are significant, that is why I can assume that there is a linear relationship between the variables. Keeping this in mind, there is negative correlation between spend on a visit day and Factor 1 (product quality and availability) together with Factor 2 (in store environment and lay out). There is also positive correlation between Factor 3 (checkout customer service) and Factor 4 (personalised customer service). That is why, knowing, that the results are significant, I can conclude, that in-store experience elements from my framework do, indeed, impact spend during the visit day. Those findings are very interesting as they show the relative impact of various in-store experience constructs on overall spend.

Having established my research model, I analysed how the in-store experience constructs are impacting different kinds of spend on a visit day. I created a shorter version of my correlation matrix focusing only on shopping basket data (Table 1.8) to see if there is any correlation between in-store experience elements and different kinds of spend. Looking at my linear correlation data, I can assume that there is a causality between in-store experience, spend during the visit day and week after, some specific food categories and the number of visits the week after. Better assortment (in my case, product quality and availability) means people are more likely to increase spending on basic categories, and reduce spending on regular and premium categories, thus reducing their spending size overall. This is very interesting, as it may mean that good availability means customers do not upgrade items as they cannot find all they want (so they spend less). However, this factor positively influences the amount of money customers spend the week after. This makes sense, as product quality and availability positively impacts overall shopping satisfaction which is reflected in the amount of money spent the week after, when customers can plan their shopping trip based on the experience they had previously. It also positively influences the number of visits the week after. A better in-store environment and layout means that customers seem to spend less, in general, across the categories as they have fewer options for ad-hoc buying. Nevertheless, they are more satisfied, which may be also due to a less crowded store and higher ease in shopping. A worse layout could mean that people come across items they did not plan to buy (e.g., additional product stands). Both customer service factors seem to have an overall positive effect on sales across all measured categories and also during the visit the week after. Very interesting is also the fact, that overall shopping satisfaction has a positive impact on customers' behaviour the week after (spend and number of visits).

Table 1.8 Shopping basket data correlation matrix. Source: Author

	Shopping basket and behavioural data						
	Spend on basic own-label products on a visit day	Spend on regular own-label products on a visit day	Spend on premium own-label products on a visit day	Spend on promotions on a visit day	Total spend on a visit day	Number of visits week after	Total spend week after
Product quality and availability	**.025**	**-.026**	**-.029**	**-.022**	**-.016**	**0.016**	**0.032**
In-store environment and layout	-,011	**-.058**	-,014	**-.043**	**-.053**	**0.043**	0.009
Checkout service	,002	**.064**	,019	**.024**	**.042**	-0.12	0.006
Personalised Customer Service	,006	**.075**	**.035**	**.062**	**.090**	**0.017**	0.018
Overall shopping satisfaction	**.020**	-,008	**-.026**	-,006	**.004**	**0.055**	**0.040**

Significant parameters are in bold (p<.05)

While doing the mediation analyses, I could observe that my Factors 3 and 4 (checkout service and personalised customer service) are mediated by satisfaction, whereas the impacts of Factor 1 (product quality and availability) and Factor 2 (in-store environment and layout) are suppressed by overall

56

shopping satisfaction. By this I can conclude, that the positive impact of Factors 1 and 2 on satisfaction is lessening their total impact on next week's spend. I can also conclude, that F1 (product quality and availability) and F2 (In-store environment and lay-out) increase satisfaction, which in turn increases spend next week. This relationship is significant at a level of 10% (Table 3.15). However, we cannot forget that F1 and F2 also have negative direct impact on spend next week. Nevertheless, the increase in visit satisfaction which comes from high levels of F1 and F2 helps to reduce their negative direct impact. The indirect impact (the impact through satisfaction), however, is relatively small once compared to total impact, which means that there is still a large effect remaining unexplained by satisfaction.

In order to better understand what kind of investment in the researched constructs will result in a specific outcome in terms of the measured variable, I conducted a sensitivity analysis. This helped me better understand and predict the value of the dependent variables based on the change in independent variables. I could observe the impact on spend of a one unit increase in my researched factors. From a practitioner's perspective, the findings regarding sensitivity analysis are of importance. They clearly show retailers in which in-store experience constructs they should invest. It is visible, where the highest return from one unit investment in the researched factors can be expected. Interestingly, my sensitivity analysis indicates, that a better and more clinical layout improves satisfaction most (by 0.4 points), positively impacts the average number of visits next week, however decreases spend by £2.59. Considering the fact, that this figure is the spend during the visit per customer, it represents a large amount of money for the retailers being visited by several millions of customers, daily. On the other hand, it represents a large opportunity for retailers with a clinical layout, to make it more congested, less satisfying for customers but generating higher spend on a visit day. While looking at customer service constructs, I could see that investing one unit in personalised customer service will increase a customer's spend by £4.40. This is the highest value to come from my sensitive analysis, which helps to prioritise the retailers' investments. Improving checkout service and individualised customer service,

all together can increase the spend by more than £6.00. Considering that the average basket size for the big format retailer in UK is £30.00, the £6.00 represents a significant amount of additional sales and gives clear direction where the biggest opportunities to sell more are. It is high enough to compensate on a possible sales miss coming from increased shopping satisfaction due to better layout. Customer service constructs not only have the highest return from an investment, in terms of spend but also improve satisfaction and the average number of visits week after. This provides clear indication for practitioners as to where to invest in order to increase sales and customer satisfaction, as well as the detailed implications this has in terms of customer behaviour.

Based on my conceptualisation and initial research results, I developed a series of hypotheses. Table 1.5 shows which of these hypotheses can be supported and which were not supported. My findings indicate which constructs have the biggest impact on customer behaviour and are beneficial and hold a high contribution value for practice and for academia.

The above findings are summarised in the form of a graph (Figure 1.9) This high level summary shows that in-store experience impacts overall shopping satisfaction, spend, average number of visits week after, as well as spend week after. What is very interesting, is the fact that different constructs are impacting dependant variables differently. The key observation is that overall shopping satisfaction positively impacts spend on a visit day, spend next week together with the average number of visits week after. Knowing that overall shopping satisfaction is positively and strongly influenced by customer service constructs, provides clear indication which in-store experience cues have the most impact on customers and can bring biggest benefits for retailers. Very important is also the finding which indicates that two of the researched factors (product quality and availability, together with in-store environment and layout) have a positive impact on overall shopping satisfaction but a negative impact on spend during the visit day. This provides retailers with direction with regards to how to increase basket size but also indicates the limitations and

negative impacts on customers. These also need to be taken into account when creating retailing strategies.

All this provides a significant contribution to the knowledge and practice, described in the next section.

	Overall shopping satisfaction	Spend	Average spend week after	Average number of visits week after
In-store environment and layout	Positive (strongest)	Negative (strongest)	N/A	Positive
Product quality and availability	Positive (strongest)	Negative	Positive	Positive
Checkout service	Positive	Positive	N/A	N/A
Personalised customer service	Positive	Positive (strongest)	N/A	Positive
Overall shopping satisfaction	N/A	Positive	Positive	Positive (strongest)

Positive impact   Negative impact   Strongest impact

Figure 1.9 Research project findings overview. Source: Author

1.6 Discussion of research findings and contribution to knowledge

With the exception of Donovan and Rossiter (1994), no study has investigated the multiple effects of the store environment simultaneously. Some environmental elements may have multiple impacts on shopping behaviours. In my research project, my aim was to observe what kinds of key elements of the in-store environment impact overall shopping satisfaction the most. I also wanted to analyse what kind of impact these have on spending (during the visit day and next week), different kinds of spending and customer behaviour.

I aimed to determine how impactful I expect the in-store experience and its constructs to be in terms of grocery shopping.

My study reaches the general conclusion that in-store experience constructs (product, service and in-store environment perceptions) do impact overall shopping satisfaction, spend, spend week after and number of store visits week after. Furthermore, I could observe the impact of specific in-store experience constructs on spend. Consistent with previous research, the positive effect of a pleasant store atmosphere on customers' reactions could be clearly demonstrated (Donovan & Rossiter, 1994; Spies *et al.*, 1997), however, unlike previous research, I also observed a detrimental impact of a pleasant experience on spend. The overview of my researched model based on which I arrived at the following findings, is presented in Figure 1.10.
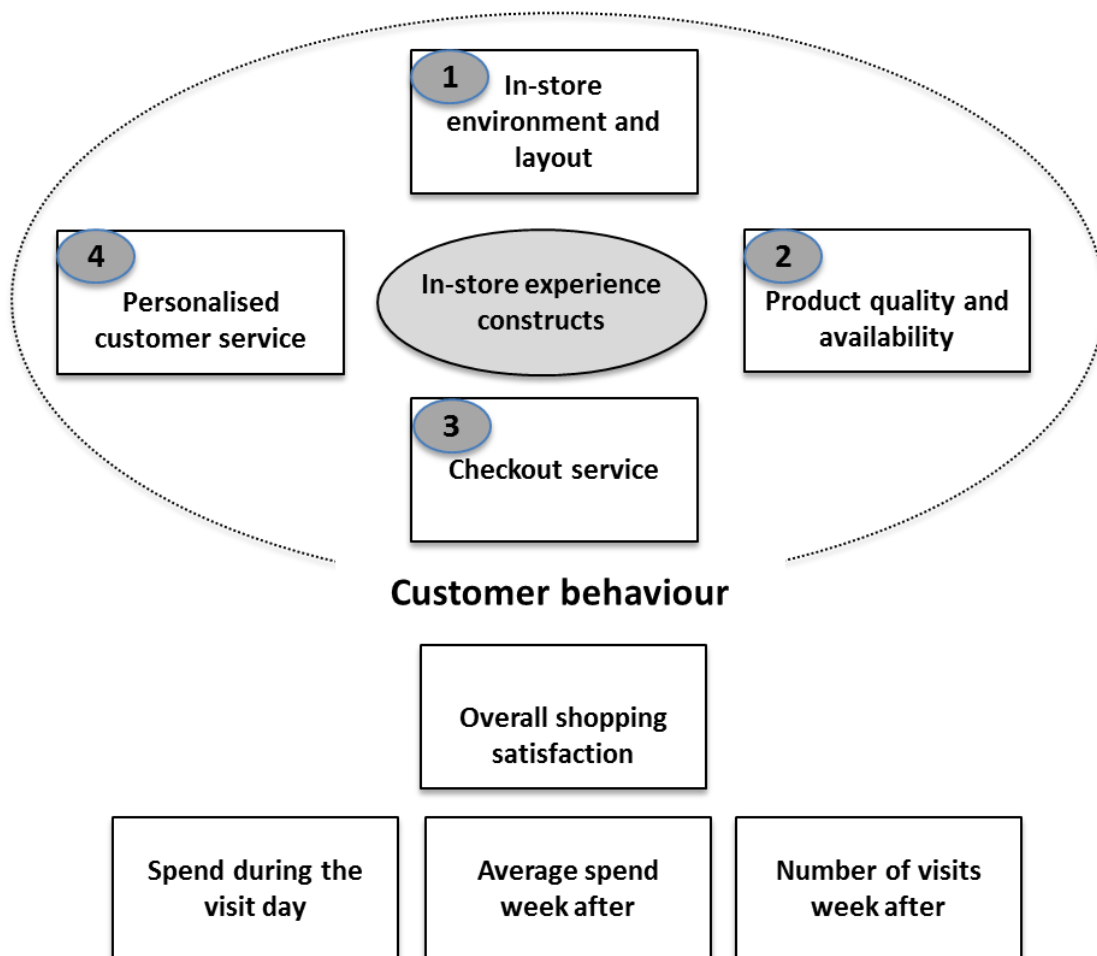
Figure 1.10 Overview of the researched model. Source: Author

I created a contribution matrix (Table 1.9) which clearly shows the impact of the in-store environment constructs on customers and their relevance.

Table 1.9 Study contributions. Source: Author

IN-STORE EXPERIENCE CONSTRUCTS	CUSTOMER BEHAVIOUR			
	Spend during the visit day	Average spend week after	Number of visits week after	Overall shopping satisfaction
1 In-store environment and layout	--		+	++
2 Product quality and availability	-	+	+	++
3 Checkout service	+			+
4 Personalised customer service	++	+	+	+
Overall shopping satisfaction	+	+	++	

+ Positive impact
++ High positive impact
- Negative impact
-- High negative impact

61

1.6.1 In-store environment and layout

From this research it is evident that in-store environment and layout have the most impact in terms of in-store experience constructs. They significantly impact customers' overall shopping satisfaction and also have a positive effect on the number of visits week after. Nevertheless, these constructs have a negative impact on spending. This is a very interesting insight as it means that customers may not be extending their shopping lists when in-store due to fewer opportunities of ad hoc and impulse buying. This is a clear contribution to store layout management and provides insight for retailers. Clear aisles and fewer additional displays improve overall shopping satisfaction but at the same time decrease the overall spend. This is also connected with a crowded environment negatively impacting shopping satisfaction. In-store environment and layout is also suppressed by overall shopping satisfaction, meaning that their positive impact on satisfaction is lessening their total impact on next week's spend. It increases shopping satisfaction, which in turn also increases spend next week (reducing its direct negative impact on this variable). Overall, those are important insights for practitioners, meaning that retailers need to find the right balance between achieving an appropriate level of shopping satisfaction and spending through using the in-store environment as the regulatory variable.

1.6.2 Product quality and availability

Product quality and availability also highly impacts the overall shopping satisfaction. Together with in-store environment and layout, those two constructs have the biggest impact on customers' shopping satisfaction. However, it also has a negative impact on spend during the visit day, which is very interesting from a retailer's point of view. My research clearly shows, that the better product quality and availability, the less customers spend. With lower availability, customers spend more due to a lack of options of buying the products they are looking for. Customers come to the stores with a shopping list and the logic here is that if they cannot find the item they are looking for it means that they may need to buy a more expensive substitute. Interestingly, this relates to all the food categories researched. This factor also has an

interesting impact on customers' spend week after. Good availability means that customers do not spend more during the visit day as they do not need to upgrade their items (they can find everything) however they spend more week after, which is also connected with this construct's positive impact on overall shopping satisfaction. I also found that this factor is mediated by satisfaction, which means that it increases shopping satisfaction. This, in turn, increases next week spend (reducing its direct negative impact on this factor). It also positively influences the number of visits the week after.

1.6.3 Checkout customer service

Checkout customer service positively impacts overall shopping satisfaction as well as spend on a visit day. It also has a significant impact on driving promotional sales. This construct is also mediated by shopping satisfaction in what concerns next week's spend. This is a clear indication for retailers with regards to where to invest in order to improve shopping satisfaction, as well as basket spend.

1.6.4 Personalised customer service

This construct has the highest impact on customer behaviour of all measured constructs. It has the strongest and most positive impact on spend on a visit day. Although it also has a positive impact on overall shopping satisfaction, this is not as strong as with the first two constructs (in-store environment and layout, product quality and availability). It is also mediated by shopping satisfaction in what concerns the spend next week. Its biggest impact however is on spend during the visit day and it is visible from my sensitivity analysis that it also gives the highest return from one unit of investment. It also positively impacts the number of visits next week.

1.6.5 Overall shopping satisfaction

All the above in-store experience constructs positively impact overall shopping satisfaction. However, in-store environment and layout, together with product quality and availability have the biggest impact. Furthermore, shopping

satisfaction has a very positive impact on all other customer behaviour measures: spend during the visit day, spend week after as well as average number of visits week after. This is a very important directive for retailers as it's necessary to remember that for example, a more congested in-store environment and layout increases average spend on a visit day, but negatively impacts shopping satisfaction. This, in turn, negatively impacts future customer behaviour (spend and number of visits). This research proves how important the implications of shopping satisfaction are on overall customer behaviour. It is also important to note that my research model, with access to the responses of 30,696 customers, identified what impacts shopping satisfaction most, as described above.

To achieve my research goals, I used big data for analytical purposes. Using large datasets promises to give new insights into questions that have been difficult or impossible to answer in the past. Furthermore, the strength and contribution of this study is not only the large sample size of the survey but also the ability to match this sample to the behavioural, not declarative, data which was not addressed in the case of former research. In addition, I observed from my systematic literature review (Appendix A) that no previous published research studies focused on so many in-store experience constructs and their impact on customers, as did mine. Summarising my contribution, my analysis showed, that the overall satisfaction is mostly impacted by the in-store environment and layout, together with product quality and availability. This confirms former findings, that these two constructs have significant impact on overall customer satisfaction and behaviour (Babin *et al.*, 1994; Eroglu & Machleit, 1990; Kaltcheva & Weitz, 2006; Shankar *et al.*, 2011; Theodoridis & Chatzipanagiotou, 2009; Verhoef *et al.*, 2009). However, none of the analysed papers or research simultaneously evaluated the impact of those constructs on spend. I also did not find any study, which analysed these four constructs using such a big sample combined with actual, behavioural data (not declarative data). There were always separate studies concerning the impact of in-store environment physical elements on customers, or only the service construct, itself. Therefore, from this perspective, my research concerning the overall

64

shopping satisfaction makes a contribution to existing knowledge helping to rank my researched constructs based on their importance for customers. Furthermore, it shows, that in-store environment and layout have the biggest impact on creating overall satisfaction from the shopping trip. It is more important than personalised customer service or even checkout customer service. It substantially helps to rank these key constructs, based on their proven importance for customers' overall shopping satisfaction. It also contributes to the discussion concerning the importance of customer service versus other in-store experience constructs (Arnold *et al.*, 2005; Bitner, 1992; Esbjerg & Bech-Larsen, 2009).

The objective of the research project was also to verify if there is any impact of in-store experience on customers' spend and its different kinds. After a detailed analysis of my data, I provided evidence that there is a relationship between money spent during a shopping trip and the level of impact of the in-store experience. This is in line with all reviewed research streams confirming that there is a link between in-store experience, and how much customers spend (Babin & Darden, 1996; Kukar-Kinney *et al.*, 2012; Nath, 2009; Spies *et al.*, 1997). However, as my contribution, I observed that in-store environment and layout has a negative impact on spend. This means that a very neat, clinical, and tidy in-store environment decreases customer spend. This makes sense, as a very easy to follow layout and decongested in-store environment provides fewer opportunities for ad-hoc buying. Some practitioners consider creating roadblocks so when a customer walks in, they're forced to stop. They suggest that when you touch something, you're more likely to buy it (Wolf *et al.*, 2008; Underhill, 2003). Therefore, a clinical layout positively impacts customer satisfaction (customers appreciate space in the store) but negatively impacts spend size. Essentially, the more time an item spends in your hand, the more likely you are to purchase it. That means stores should be structured so the customers are continually picking things up. This is an important contribution, indicating that there is a need to find the right balance between achieving shopping satisfaction and spend using in-store environment as a regulatory variable.

There is also a level of product quality and availability, which has a negative impact on spending. This means that the better the availability, the less customers spend. It suggests, that with lower availability, customers may spend more due not being able to buy the products they are looking for. No option could mean the need to buy a more expensive substitute. This study also generated interesting findings concerning the contribution of customer service on increasing overall spend. It is important to note, that the original service factor was not measured completely as expected, with data suggesting it should be split into two factors: checkout service and personalised service factor. As an experienced retailer, I was not surprised that the service interface factor was split, as personalised customer service is stronger in the shoppers' perception than the checkout's one. Furthermore, it impacts customers' behaviour more strongly because it happens more rarely (Arnold *et al.*, 2005; Bitner, 1992; Verhoef *et al.*, 2009). This was also confirmed in my study. I also observed a very strong positive impact of personalised customer service on spend which means that the better customer service is, the more customers spend. In addition there was also a strong and positive impact observed on spend of checkout customer service. This fact brings very interesting insights to the discussion of the role of customer service in-store versus other in-store experience constructs. It also contributes to the discussion as to whether the current trend of replacing traditional checkouts with self-serviced ones is a good direction and how it may impact customers. Seeing how strong and positive the impact is of customer service constructs, retailers should exercise caution with regards to developing self-service checkouts lines in order not lose the personalised customer service approach to their customers.

I also found many relations concerning the impact of the in-store experience constructs on different kinds of spend. Interestingly, price-sensitive customers are not influenced by the in-store experience, as shown by my analysis concerning sales of basic own-label products.

My findings also contribute to methodology in the academic literature. I identified that traditional in-store measurement techniques miss critical factors that go into shaping customer service and perceived customer value. They fail

to provide a complete picture of what is required to succeed in today's competitive retail environment. It is necessary to remember that many previous studies where experimental, empirical or declarative in nature. These methods used small sample sizes, which means that the results may not be fully statistically significant. Because they are based on a single instance rather than continuous and objective measures, the results are not reliable benchmarks and should not serve as meaningful measurements of change. For my research project, I used a robust model using detailed shopping spending data provided by Dunnhumby. The data were directly linked to each of 30,696 customers participating in the on-line survey. The details of spend up to different category level helped me form conclusions on the impact of in-store experience on the performance of given categories. Having till data, not declarative data, helped me ensure that my findings were not impacted by mistakes in what the customers were declaring they bought. Furthermore, in my literature review, I did not find any studies focusing on more than two in-store experience constructs impacting customers' behaviour (Appendix A). All of this solidly contributes to the knowledge and practice of how product, service and in-store environment impact customers' behaviour and satisfaction in a supermarket-shopping context.

1.7 Implications for practice

1.7.1 Managerial implications

My research not only provides a contribution to existing knowledge but also includes many managerial implications, an overview of which is presented in Figure 1.11. Furthermore, the findings of this research project were used by my workplace in order to strengthen its competitiveness, which I describe below.

In recent years, competition on the retail market has intensified significantly and it is more and more difficult for retailers to differentiate based only on price, promotions, or location. Retailers are aware that an in-store environment can create a uniqueness that forms the basis for competitive advantage. Despite numerous studies regarding in-store environment, their

findings are not detailed enough to provide retailers with clear indication in which constructs they should invest, in order to achieve the highest customer satisfaction and spend. Managers continually build, change, or plan in-store physical surroundings in order to improve their impact on customers, without really knowing or understanding which constructs are most important for customers (Bitner, 1992). This is why there is a need for additional research in context, in order to understand how the physical and social environment impacts customer satisfaction and shopping spend, in a retailing environment (Lam, 2001). There is a need to provide retailers with clear guidelines, as to which in-store experience constructs are worth investing in, in order to achieve higher customer loyalty and spend. My study addresses most of these challenges.

In terms of high-level managerial teams, understanding that in-store environment impacts overall shopping satisfaction and customer behaviour, is of paramount importance. The present research checked the manner in which particular in-store experience constructs impact customers. This is also an important managerial contribution of this research – the knowledge that not only in-store experience impacts on spend and satisfaction but also what elements of the in-store experience most influence customer behaviour. Through this research, I provide clear indication where retailers should invest their resources, in order to increase both sales and customer satisfaction.

In making business decisions, based on my findings, retailers should focus on increasing customer satisfaction by finding an appropriate level of ease of shopping experience, providing customers with a high level of availability and quality of products, while at the same time delivering the highest customer service. This will increase the overall shopping satisfaction and spend during the visit day and next week. I also provide some useful insights in terms of spend and the different kinds of spend. It is clear that if retailers want to drive promotional spend, they should prioritise investments into customer service constructs. Creating a less clinical-looking in-store environment with many additional displays is also helpful in increasing this type of spend. Interestingly, my key in-store experience constructs have almost no influence on basic own-

label products spend. This is a clear indication that different strategies should be used to impact price-sensitive customers and spend in this category. On the other hand, product quality and availability has a negative impact on spend on promotions, regular and premium own-label products, however a positive impact on basic own-label products. This means that the better the range and the availability retailers have, the more price-sensitive customers spend on basic own-label products – they are not forced to buy substitutes due to issues concerning gaps in products.

Different retailers use different layout strategies to generate higher sales. There are retailers who focus on a neat and clinical in-store environment and there are also some which focus on congested layouts in order to generate more sales. My research also delivered important insights in this field, which are crucial, but also a challenge for practitioners, indicating that retailers need to find the right balance between achieving an optimum level of shopping satisfaction and spend using in-store environment as a regulatory variable.

I also identified areas in the researched factors where retailers can expect the highest return from one unit investments. The largest benefits can be found in terms of customer service constructs. I can see that investing one unit in personalised customer service (improving it by one point on its scale) will increase customer spend by £4.40. This is the highest value coming from my sensitive analysis, which helps to prioritise retailers' investments. Improving checkout service and individualised customer service, all together can increase the spend by more than £6.00. Considering that the average basket size for the big format retailer in the UK is £30.00, this represents a significant amount of additional sales and gives clear direction as to where the biggest opportunities to sell more are. That is why, knowing that a more clinical lay-out decreases spend but improves overall shopping satisfaction, service factors are significant enough to compensate on a possible sales miss coming from having a decongested and more clinical lay-out. Customer service constructs not only have the highest return from investments in terms of spend but also improve satisfaction and the average number of visits week after. My sensitivity analysis (Table 1.10) provides clear indication for practitioners as to where to invest to

increase sales and customer satisfaction and also what detailed implications this has in terms of customer behaviour.

My study clearly shows that customer experience matters and giving customers what they want does not need to be expensive. However, it does need to be relevant. Through my research I identified what customers want. In order to make use of this information, retailers now need to adapt and readjust their investment plans and strategies. Furthermore, the practical value of my study is that retailers may be better able to explain and predict the effects of in-store experience on customer shopping behaviour. Through this study, I offer an overall framework which is appropriate for exploring environmental variables in a retail setting. All these findings are very important from a managerial perspective, as increasing sales by even a few percentage points in a competitive retail market with low margins may decide about a retailer's success, or failure. Therefore, retailers should prioritise good customer service (both checkout, and personalised) above assortment and retail atmosphere, in order to increase sales, however there should be a balance between these constructs in order to keep a high level of overall shopping satisfaction. It is also very clear that the strongest factor most positively impacting customer behaviour is overall shopping satisfaction. My study supports the evidence that there is positive impact in all measured variables, providing clear direction for practitioners as to where and how to invest in order to be more competitive.

Table 1.10 Change in dependent variables given one-unit increase in each factor.

Source: Author

	Overall shopping satisfaction: (scale: 1-5)	Total spend on a visit date: (£)	Number of visits next week: (N)
Product quality and availability	**0.354**	**-0.78**	**0.02**
In-store environment and layout	**0.423**	**-2.59**	**0.06**
Checkout service	0.193	**2.04**	-0.017
Personalised customer service	**0.218**	4.4	**0.026**

Significant parameters are in bold (p<.05)

Clinical and easy to follow layout/ product quality and availability has negative impact on spend, however positive on overall shopping satisfaction. Customer service construct also significantly impacts overall shopping satisfaction.

Customer service constructs have the highest impact in terms of spend. The most impactful is personalised customer service. Investing one unit in this construct can increase the basket by 4.4GBP during one visit.

2. How to increase customer shopping satisfaction

3. How to increase customer spend

Implications for retailers

1. Where to invest

4. What should be the priority

Focus on increasing customer satisfaction by finding the right level of ease of shopping experience, providing customers with high level of product availability and quality, while delivering the highest customer service at the same time. This will increase the overall shopping satisfaction and spend during the visit day and next week.

Retailers should prioritise good customer service (both checkout and personalised) above assortment and retail atmosphere, in order to increase sales. However, there should be a balance between these constructs in order to maintain high level of overall shopping satisfaction, positively impacting spend and number of visits next week.

Customer in-store experience matters and giving the customers what they want, does not need to be expensive. It needs to be relevant.

Figure 1.11 Managerial implications, overview. Source: Author

72

1.7.2 Practical application of the research project outcomes

Based on the above findings and armed with the knowledge that personalised customer service impacts customer behaviour in a most positive and strongest manner, my workplace (Tesco) introduced a special project focusing on improving customer service across all its businesses in Central Europe. In order to improve personalised customer service, the objective of the project was to create an empathy-lead service culture, helping to achieve customer service with a personal touch. Once achieved, Tesco customers would see the following:

- Efficient service;
- Friendly attitude;
- Responsiveness;
- Staff armed with appropriate skills;
- A human and personalised connection.

Based on internal expertise, I identified the key needs of strategic customers. Of these, a personalised approach was found to be the most important. This formed the basis for creating an up-skilling program for all 60 000 staff-members, and spanning 1 000 stores across Central Europe:

- Friendly attitudes with politeness and empathy;
- Positive surprises during the shopping trip;
- In-store facilities taking the burden off shopping;
- Product expertise, active and personal recommendation;
- Personal approach.

Understanding how important personalised customer service is, and how beneficial this is for business results, Tesco management needed the following, in order to implement this step change:

- Tools to help teams to work better together;
- Up-skilling of store staff with regards to technical knowledge;
- Rewards for great service based on company values;
- On-going development in order to have confident staff;
- Creating a 'fun' environment at work;

- Human interactions, face-to-face training in order to create higher staff engagement;
- Working environment based on trust;
- Development with regards to how to feel safer in a fast-changing retail environment.

Tesco management focused on implementing the change to its corporate service culture and also focus on specific, detailed trainings for cashiers and self-service assistants. The aim is to gain greater clarity with regards to their role and also a better understanding of customers' needs. Other aspects also included working on the staff's ability to receive feedback, manage conflict and what is most important, on the small things and behaviours that can make a difference to customers. Tesco management provided staff with the appropriate tools for serving customers differently at self-service checkouts, as well as practical measures to manage problems.

Understanding the gravity of this in-store experience construct, Tesco management decided to implement this project in a different manner in comparison to other customer service programs. This is why instead of only ad hoc training, the focus was changed to capability development and face-to-face meetings with qualified trainers rather than cascaded or written communication. It was also decided to make soft skills of customer service equally important as hard skills, which also resulted in the change of key KPIs based on which teams are evaluated. The key aspect of the implementation stage was a sustainability plan together with inspiring service activities. In order to ensure that the project was deployed in a sustainable manner, with no mistakes, initial changes focused on stores of excellence. This is where validated thoughts, and concepts were validated, and feedback received with regards to what was working/ not working and also checked to what extent it was possible able to change company culture and be as customer-centric as possible.

One of the biggest challenges facing all companies is sustainable change. In the case of this project the focus was on a special action plan spanning four key areas: operations (regular meetings with leaders, aligned with recruitment, booklets, local support office focused on customer service),

engagement (regular award program, talent planning, listen and fix for staff satisfaction), feedback & analysis (feedback platform, tracking validation results, what matters to you survey, questionnaires) and great place to work (same language on service everywhere within the company, keeping the focus on service and team leadership, up-skilling program for trainers to keep up momentum). This helped to ensure that changes were not only implemented but sustained from an end to end perspective, making the company not only more competitive with more satisfied customers but also more profitable, which was also proved by my research project.

There is also a large project being launched based on my research findings and which is connected with planning the layout in the stores. It focuses on the number of displays on the shopping floor: power alley (this where the customers enter the store) and action alley (this is the key thoroughfare of customer flow). The challenge is to find the right balance between sales generated from displays and customer satisfaction. It also impacts how trade plans are constructed. All these activities have huge potential for additional sales without losing customer satisfaction.

1.8 Limitations of the study and areas for further research

1.8.1 Limitations of the study

My study has several limitations of note. In my research, I decided to use secondary data coming from Tesco customers' on-line questionnaire feedback and Dunnhumby data. I was aware however, that the on-line questionnaire data were originally collected for a similar purpose as my own, in which Tesco was attempting to gauge customer satisfaction from their shopping trip. Although convenient and helpful, I could not influence the construction of the questionnaire, nor the manner in which data was collected. The fact that I had access to an original fieldwork context, helped me gain an adequate understanding of the data, thus ensuring that from the perspective of methodology and my research framework, it was correct. Furthermore, I was also aware that there were better tools available to collect customer data, such

as realtime experience tracking (Macdonald *et al.*, 2012), which could then be considered as an avenue for further research.

The final research framework, focusing on key in-store experience constructs (Figure 1.6) does not include all the constructs, which could be measured. It shows limitations and further research opportunities. My analysis showed that even having a strong correlation between identified key in-store experience constructs and satisfaction, there are others, not analysed here but impacting overall satisfaction (linear regression explains 59.2% of the variance in the data). This means, that further focus is necessary with regards to analysing the detailed impact of other constructs on overall shopping satisfaction.

I did not analyse price and promotions due to the data not being available. In the literature, price and promotions constitute an important factor influencing customer behaviour (Ailawadi *et al.*, 2009; Bell & Lattin, 1998; Cox, 1964; Dhar & Hoch, 1996; Grewal *et al.*, 2011; Martos-Partal & González-Benito, 2010). This area could also provide important insights after the analysis of its impact on spend. The same methodology, which I used in the thesis, could be followed.

Furthermore, I provided evidence that the key analysed constructs have an impact on overall spend and some of the food categories (Table 1.5) on the visit day. However, having limited information regarding individuals, makes it difficult to explain the variability between them. As I was only including in-store experience factors, I was not able to explain very well why person 1 might spend more than person 2 (e.g., disposable income, household size, psychology, communication activities, competitors' actions, etc.). That is where the low R2 stems from, thus creating some limitations. If I managed to measure and include all those other factors, then I would be able to explain why person 1 spends more than person 2 much more accurately, and achieving a higher R2. This research direction is particularly interesting.

I also focused on food categories but as I can assume based on findings, different elements of the in-store experience are impacting customers buying food, and customers buying non-food, in different ways. This is mainly owing to

the shopping mission being different, as well as the in-store environment of stores focusing on non-food products being different. That is why it would be worth addressing the impact of other in-store experience constructs on non-food spending. I already know that in-store promotions, and pricing strategies are likely to play a key role here.

There are also some limitations concerning the manner in which my researched constructs are built. My product quality and availability construct focuses mostly on: availability, quality and fitness to the customers' needs. Those are important assortment aspects, but there are others which were not addressed, such as range and merchandising strategies. The same limitations concern in-store environment and layout construct, where the focus was on store cleanliness, congestion, look, and feel. The missing aspects of this construct such as music, scent or lighting, and their impact on customers, also need to be addressed.

1.8.2 Areas for further research

My study provided many interesting managerial and academic implications (Figure 1.11 and Table 1.9). Through narrowing my study, I focused on key in-store experience constructs. This means that there are others worth researching, which are also important and impacting customer behaviour. The literature concerning the subject is very broad and there are many different research directions which could be taken further. I identified several key aspects (Table 1.11), described below.

All the measured factors in the study explain 60% of the overall shopping satisfaction (Table 1.7), which is also related to how much customers spend. Retailers, in such a competitive environment are looking for different strategies in order to become first in terms of shopping choice for their customers. This is why 40% of the in-store experience constructs not measured as part of the present study, and impacting customer shopping satisfaction, are not only a limitation in this study but are also indicate further research opportunities. My literature review showed that one of those elements might be the pricing and promotional constructs. Pricing strategies are very important for retailers. When

the price is too high and promotion too weak, customers simply do not buy the product and will, therefore, spend less. This shows, that setting the right price is one of the most important tasks in retailing. Nevertheless, it is often treated too mechanically and the reason for this is that retailers do not fully understand its impact on customer behaviour, nor the margin and overall retailer performance, following on from that. Also, different pricing and promotional strategies have a different contribution for creating the in-store experience. Unfortunately, my research does not cover those aspects. That is why, knowing the importance of those constructs it would be highly beneficial to research it more extensively; particularly in the context of overall shopping satisfaction, and customer spending.

While analysing my high level research framework and knowing that it explains 60% of the shopping satisfaction (Table 1.7) I could suppose that the branding experience might also be researched further and could be part of the unexplained 40%. It would be interesting to know how strong retailer brands compensate poor layout, weak range or bad customer service, for example. What impacts a brand's strength and how it contributes to customers' shopping experiences could be researched further. This leads to my high-level research framework (Figure 1.4) which ideally should be researched analysing all its elements and combining them with till data. Then, I could achieve a full view of in-store experience constructs with clear information as to which of them impacts customer satisfaction and which constructs are mostly connected to increasing spend. This would help to achieve a full picture regarding what in-store experience really is for customers and for retailers.

My four key in-store experience factors could also be researched in more depth. Considering the assortment construct, I observed that the biggest focus is on assortment quality and availability. It also covers the aspect of the range size and the way in which it fits to the customers' needs. These are very important aspects for retailers. However, merchandising strategies could be researched in more depth. Especially knowing that this is a key factor, which decides a retailer's competitiveness.

The big challenge now for retailers is how to manage existing space. Particularly for hypermarket operators, finding the right balance between available space and merchandising, which impacts sales and stock holding, is of great benefit. My in-store environment and layout construct focuses primarily on store cleanliness, layout congestion, look and feel of the store, as well as ease of shopping. I am aware I could research more aspects connected to other in-store environmental cues such: music, scent, colour, and different types of layout. Connecting this with my detailed till data could be a particularly useful contribution connected to what elements controlled by retailers are the most effective ones.

It is also worth looking closer at the impact of product and quality factor on spend. My study shows a negative correlation to spend, which is connected with encouraging customers to reach for more expensive substitutes (explained in detail in section 4.1.2). Nevertheless, further research could be conducted in order to identify what the optimum level is with regard to product availability and quality with no negative impact on spend but still positive in overall shopping satisfaction. The layout aspect may be of particular interest here. Retailers are trying different layout types in order to drive more sales. The challenge here is that there is no answer, as yet, as to which particular change is creating the right balance between overall shopping satisfaction and a higher spend. I also did not see any relations between spending and the shopping mission, which could be analysed further.

In terms of checkout service, my research focused on customer service aspects like offering help to customers, greeting them and giving them full attention while serving them. What is very important for customers and not measured in this research is waiting time. It would be highly beneficial to measure this aspect and to see what kind of impact this may have on satisfaction, as well as next store visits. I know that the longer the waiting time is, the more negatively it impacts customers' in-store experiences but there is no research indicating the impact it may have on spend. The researched factor of personalised customer service is highly connected to this construct. Here I focused on how store colleagues made the customers feel welcome and if

they did something special for them. Personalised customer service in this context means offering special help in finding a product, proactively asking customers if they need help or even clarifying all price integrity problems (Esbjerg *et al.*, 2012). With regards to this factor, the loading connected to personalised customer service was very important. That is why it would be beneficial to know what detailed impact it has on customer behaviour, especially satisfaction and spend. I observed from my research that, in general, all customer service constructs impact overall shopping satisfaction, and spend. Knowing that factor of personalised service is so important, further research should be conducted as to which elements of this impact the customers most. Overall, all four in-store experience constructs (product quality and availability, in-store environment and layout, checkout service, personalised customer service) provided a solid contribution concerning their impact on customers. However each of them could be researched further and in more detail which could help me observe which of their sub-elements are the most essential for creating a great in-store experience.

It would also be interesting to observe the behaviour of the customers and their perception of the shopping experience, over time. The detailed statistical analysis, using the data I have, would help observe what kind of in-store experience elements has the biggest influence on the customers' behaviour over time. It may be the case that key constructs have little impact on spend during the visit day but impact it during the next visit and longer in time. By understanding what a customer is likely to do in the next point in time, means that I could estimate what they are likely to spend at time 't'. It would help to identify whether a customer has spent more or less than expected at that time. Collecting data over a period of time, would also help to build a model which would provide an answer concerning customers' future behaviour, based on retailers' activities in the store. This approach would allow for behavioural prediction adding the experience factor on top of it. What is also interesting and which I did not analyse is the effect of overconfidence and underconfidence (in the dimensions of consumer value) which trigger different consumption

consequences (Razmdoost *et al.*, 2015) and which could be of significant value for creating the right assortment strategies by retailers.

All those additional research opportunities would help to understand better what drives higher customer spending and satisfaction in different formats with different food categories, and by measuring different constructs. It would help retailers manage in-store investments better, resulting in higher profitability and increased customer loyalty. We could, therefore, rank all the in-store experience constructs, helping retailers to make proper strategic decisions concerning their investment plans and achieving high customer satisfaction, driving higher spending and becoming more competitive at the same time.

Table 1.11 Future research directions. Source: Author

RESEARCH DIRECTIONS	
Domain	**Key research directions**
In-store environment and layout	What is the impact of music, scent, colours on customer behaviour in different store formats?
	How does crowdedness and social environment influnce customers' overall shopping satisfaction?
	How does layout in different store formats impact customers' spend and satisfaction?
Product quality and availability	How do different kinds of layout impact customer spend vs product quality and availability?
	What should the proportions be between space and the quantity of products on store shelves?
	What are the best merchandising strategies positively influencing customer spend and shopping satisfaction?
	What is the role of private labels in creating customer shopping experience?
	What is the impact of non-food categories on spend, number of visits and shopping satisfaction?
	What is the optimum level of product quality and availability creating balance between shopping satisfaction and spend size?
Checkout service	How does waiting time impact shopping satisfaction and number of visits week after?
	Customer service and checkout line - what is the key element impacting customer satisfaction and spend?
	What is the role of self-service checkouts in creating customer shopping experience?
	How does cashier scanning speed influence customer shopping satisfaction?
Personalised customer service	Which element of personalised customer service has the biggest impact on customer behaviour?
	What is the impact of self-service checkouts on customer satisfaction and behaviour?
	What is the optimal proportion of self-service vs serviced checkouts in a supermarket shopping context?
Overall shopping satisfaction	What kind of layout increases customer spend?
In-store experience	What is the impact of the remaining 40% in-store experience constructs on customers?
	How do price and promotions impact customer behaviour in terms of spend vs overall shopping satisfaction?
	How is in-store experience changing over time based on the impact of its constructs over time?
	What is the role of retailer's brand strength in creating customers' in-store experience?
Spend	What are the relations between spend size and shopping mission?
	How can retailers impact spend size through their communication activities?
Methodology	What in-store experience relations can be observed between different store formats?
	Are there any country-specific differences impacting in-store experience?
	What other factors influence spend through which higher R2 can be achieved?

2 LITERATURE REVIEW

2.1 Introduction

Grocery shopping is a frequently recurring shopping activity that provides both utilitarian and hedonic value (Babin *et al.*, 1994). There is a growing number of publications concerning atmospherics and the effects of store environment in customer decision-making models (Eroglu & Machleit, 1990; Kaltcheva & Weitz, 2006; Shankar *et al.*, 2011). Customer experience was earlier considered as a separate construct (Grewal *et al.*, 2004). However, its individual components have been examined in recent works (Verhoef *et al.*, 2009) claiming that it is holistic, which is why it should be considered as one construct – holistically.

In practice, many retailers provide customers with a unique and gratifying shopping experience. Starbucks, Victoria's Secret, Abercrombie & Fitch, Trader Joe's, and Whole Foods are known for their store environment, which create their competitive advantage. Recently, it has been difficult for retailers to individuate using price, promotion or location as the differentiating points. Nevertheless, the store itself can create a unique environment and atmosphere impacting customer behaviour (Lam, 2001). According to Mason (1996) retailers cannot be characterised only as 'merchant intermediaries' that buy from suppliers and sell to customers. Retailers create stores, which are groups of cues, messages and other communication tools to customers. Retailers also shape the store's space which, in turn, affects and influences customer behaviour (Martineau, 2014). In order to differentiate and to compete more effectively, retailers must be more customer-oriented, which means that they must focus on the customer's shopping experience as a holistic construct. In this case, it should provide a win-win value exchange between retailers and their customers (Grewal *et al.*, 2009).

According to Verhoef *et al.* (2009, p. 21), the customer experience construct "…is holistic in nature and involves the customer's cognitive, affective, emotional, social and physical responses to the retailer". This is not only created by the elements controlled by the retailers (e.g., customer service,

in-store environment, range of products, price), but also by constructs, which the retailers cannot influence directly.

This chapter is structured as follows:

Section 1: briefly summarises the rationale for the research;

Section 2: presents the theoretical approach regarding customer experience;

Section 3: discusses the customer journey from a conceptual model overview;

Section 4: provides details regarding the conceptual model and focuses on the social environment, retail atmosphere/ layout, assortment, price, promotions, in-store brand communications, service interface and critical incidents; this section also provides details about important determinants of the shopping experience (i.e., goals and customers' emotional responses);

Section 5: discusses the findings from the literature;

Section 6: provides conclusions drawn from my thesis; includes implications for theory, practice and future research directions.

The approach that is adopted is from the perspective of a retailer and focuses on the in-store experience. This approach should help answer the following question:

What is the impact of the in-store environment
on consumer behaviour ?

This literature review aims to understand the impact of the in-store environment on consumer goals and behaviours. In addition, existing knowledge about in-store environment will be linked to knowledge regarding shopping goals and shoppers' motives. It will help to create an overview, which forms the basis for the researched topic and direction for the research framework presented below. Furthermore, it will help design the empirical work which will show what kind of in-store elements have the biggest impact on a customer's shopping path. The analysed gaps and unexplored fields will help identify new research opportunities.

2.2 Customer experience – theoretical approach

Before developing the conceptual model and discussing its main components, the theoretical background of the customer experience construct will be discussed. Having this knowledge will help to better understand the overall structure of the conceptual model and the detailed role of its elements (i.e., creating and influencing the customers' shopping experience).

Some of the first work concerning the impact of the store environment on customer behaviour dates back to the 1950s and 1960s (Cox, 1964; Kotzan & Evanson, 1969; Martineau, 1958; Smith & Curnow, 1996). The term 'store atmosphere' was used and defined for the first time by Kotler (1973). It was part of the environment planning description, creating certain effects on buyers. Kotler (1973) affirms that a product goes beyond the tangible aspects normally associated with it and that it is impacted by a planned environment. Based on this, one can conclude that shopping trips can be very complex, considering the number of stimuli shoppers encounter both inside and outside the store (Esbjerg *et al.*, 2012). However, the empirical studies, which were reviewed for this literature review, are based on studying customer behaviour in the store. The techniques identified in the research papers include (1) analysis of records; (2) observations; (3) interviewing; (4) controlled experimentation.

Most of the reviewed papers focus on the customer perception of the in-store shopping experience which is a holistic construct in nature and involves the customer's cognitive, affective, emotional, social and physical responses to the retailer (Bell *et al.*, 2011). That is why the majority of in-store studies are based on the seminal conceptualisation of Mehrabian & Russell (1974) and their theory concerning the impact of environment on behaviour. These authors identified three basic emotional states that mediate approach-avoidance behaviours in any environment: Pleasure-displeasure; Arousal-non arousal and Dominance-submissiveness (PAD).

The Mehrabian & Russell (1974) (M-R) model, is based on the Stimulus-Organism-Response (S-O-R) paradigm, relating features of the environment (S) to approach-avoidance behaviours (R) within the environment, mediated by the individual's emotional states (0) aroused by the environment. The M-R model

proposes, that sensory variables within the environment together with the size of information in the environment, as well as individual differences in affective response, will influence people's affective responses to the environment. The model (Figure 2.1) is highly influential and has been validated in many research studies. However, in the current retail environment it is not fully up to date. The model helps to understand the emotional responses of the customers in a store but it does not refer to the multiple touch points creating the customers' responses. That is why the model needs to be adapted to reflect this and to create a new, broader, theoretical framework (Figure 2.2). The framework below proposes that a customer's arousal is affected by environmental characteristics, which, in turn, affects the consumer's sense of pleasure and also influences customer shopping-behaviour.

ENVIRONMENTAL STIMULI $\Rightarrow$ EMOTIONAL STATES: PLEASURE, AROUSAL $\Rightarrow$ APPROACH OR AVOIDANCE RESPONSES
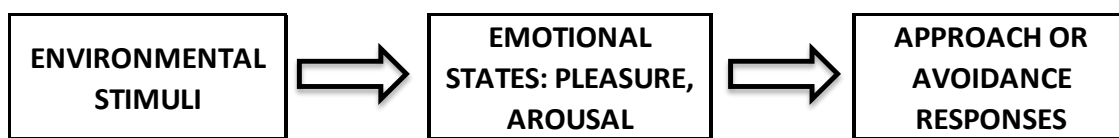
Figure 2.1 Modified Mehrabian-Russell Model. Source: Donovan & Rossiter, 1994, p. 284

Verhoef *et al.* (2009) emphasise the need to see customers' experience in-store alongside the experience in other channels (Figure 2.3). Important here is the evolution of the total experience with the brand over time. Verhoef *et al.* (2009) furthermore suggests that there is a need for longitudinal research in order to observe if the drivers of the in-store experience are stable. Throughout the stages of the customer journey, in what concerns the decision-making process, it is visible that different retail drivers are of different impact and importance for customers and the level of their experience and satisfaction (Puccinelli *et al.*, 2009). Taking this into consideration, research should focus on seven consumer behaviour research domains that influence the customer experience (Verhoef, 2009): (1) goals, schemas, and information processing; (2) memory; (3) involvement; (4) attitudes; (5) affect; (6) atmospherics; and (7) consumer attributions and choices. As an example, customer goals play

a big role in creating the perception of the in-store environment together with different store marketing mix elements (Arnold *et al.*, 2005). Furthermore, according to Meyer and Schwager (2007) customer experience is an internal and subjective response.
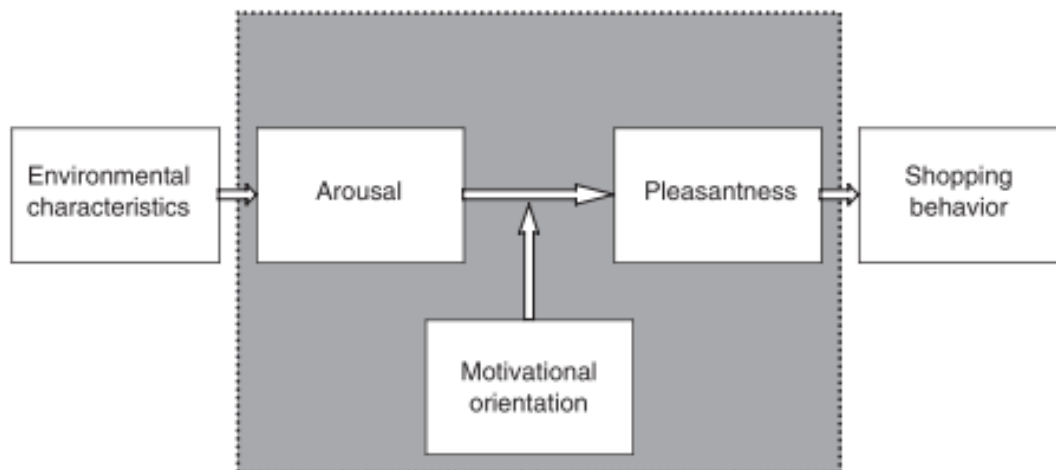
Figure 2.2 Environmental characteristics impact on shopping behaviour. Source: Kaltcheva & Weitz, 2006, p.109

In order to have a holistic view on the theoretical background concerning customer experience, there is a need to take into consideration phases such as search, purchase and consumption. This approach differs from many studies in the reviewed literature concerning retail, which focus mainly on selected aspects of the shopping experience. However, for this research project, shopping encounters should not be examined in isolation and thus there is a need to adopt a holistic view on the customer shopping experience in order to identify the elements, which have the highest impact on the customer shopping trip. Adding to the above, recent literature has identified that the customer experience construct is holistic in nature. It includes the customer's cognitive, affective, emotional, social and physical responses to the retailer (Bell *et al.*, 2011).
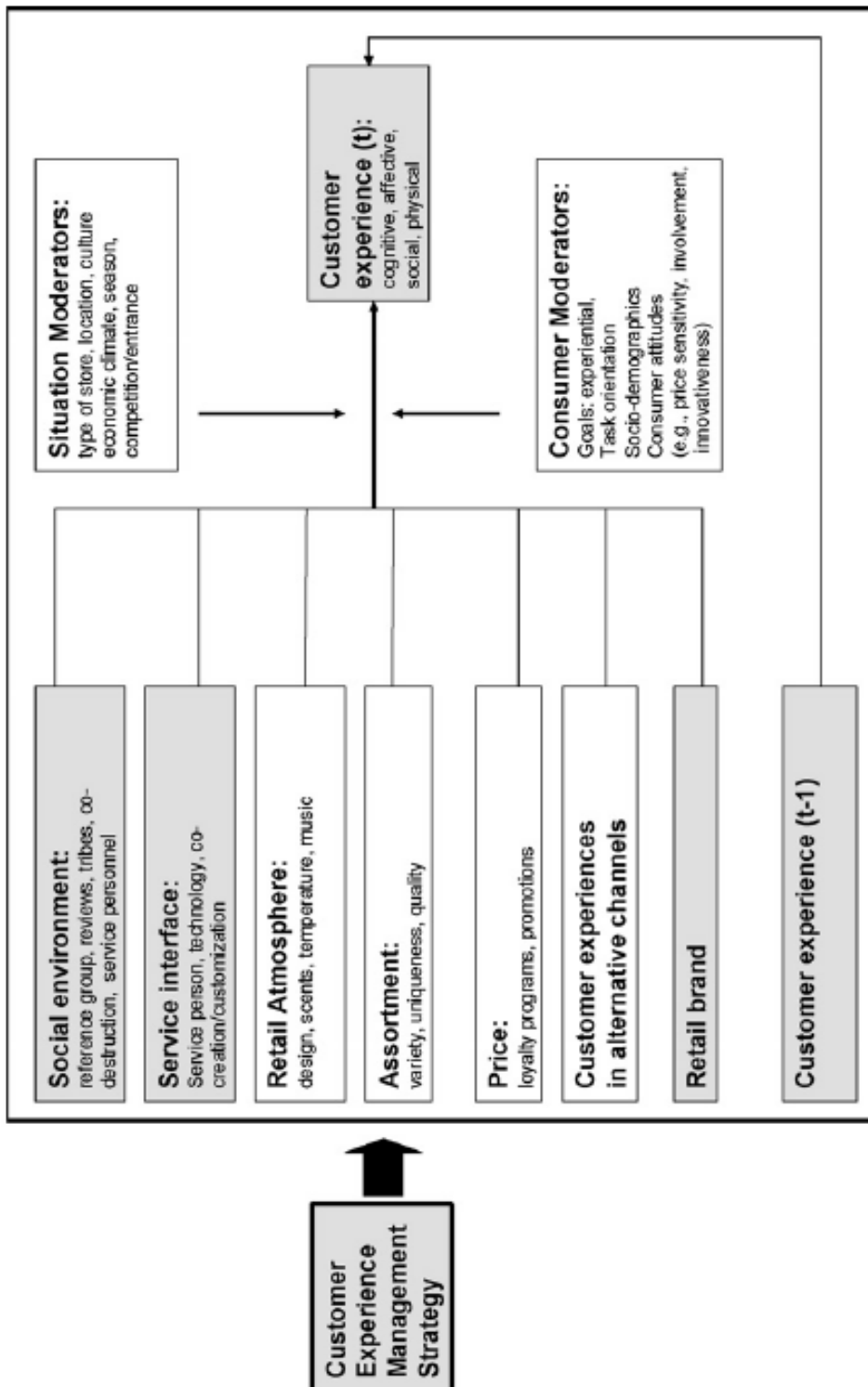
Figure 2.3 Conceptual model of customer experience creation. Source: Verhoef, P. *et al.*, 2009, p.32

2.3 Customer journey – conceptual model overview

A review of existing literature has identified that the focus of research is mainly on elements such as lighting, layout, colour, music, in-store visualisation, etc. Those are the constructs over which retailers have direct control. Although a substantial body of literature describes how retailers can influence observable customer behaviours by manipulating enduring and transient aspects of their store environments, very little research has investigated how consumers experience these different aspects, particularly in a grocery retailing environment. Related research should recognise that the store environment and store images work on different levels. However, where store environment literature focuses on particular details of the experience, store image literature takes a more general approach.

The aim is to achieve greater coherence, as well as perhaps even finding a new way to combine these two research streams. Studies that investigate how customers experience grocery shopping trips will be reviewed. In this context, one issue deserving attention is defining what constitutes delightful and disappointing shopping experiences (Arnold *et al.*, 2005) and how these experiences may influence the customers' shopping plans. The effects of ' pre-shopping' factors (e.g., customers' overall shopping goals, store-specific shopping objectives), are generally unexplored. With an overreaching review question focusing on the impact of the in-store environment on consumer goals and behaviours, several areas of interest can be distinguished (Figure 2.4). However, with this more holistic approach, a new model is developed, which covers a complete shopping path of the customer. In the model, the major factors influencing customers' shopping trip are identified and its key elements are highlighted.

- **Social environment:** the impact customers' friends, colleagues, and family have on each other during a shopping trip. The focus is on the interpersonal influence of customers and how the interactions among them can have a profound effect on the customer shopping experience as well as their responses in store (McGrath & Otnes, 1989; Otnes *et al.*,

1993; Martin & Pranter, 1989; Lam, 2001; Eroglu & Machleit, 1990; Martin, 1996; Ajzen, 1991).

- **Retail atmosphere/layout:** what kind of shopping environment cues have the biggest impact on customers, influencing their emotional effects in order to increase purchases. The focus here is on ambient and design factors such as lighting, scent, colour, music etc., in order to verify what kind of direct effect they have on the shopping experience (Mitchell *et al.*, 1995; Spangenberg *et al.*, 1996; Eroglu & Malcheit, 1990; Hart *et al.*, 2007; Baker *et al.*, 1994; Donovan & Rossiter, 1982).

- **Assortment:** customers' perceptions of the breadth of different products and services offered by a retailer influences customer shopping experience and their behaviour. Different assortment strategies are important constructs and they have impact on the customers (Ailawadi *et al.*, 2009; Keller, 2003; Broniarczyk *et al.*, 1998; Steenkamp & Dekimpe, 1997; Baker *et al.*, 2002; Kopalle *et al.*, 2009).

- **Price:** this is an important construct controlled by retailers and it influences the perceived shopping experience. Different pricing strategies have an impact on the customers' shopping goals (Bell *et al.*, 1998; Bolton & Shankar, 2003; Hoch *et al.*, 1994; Esbjerg *et al.*, 2012; Kalwani & Kin-Yim, 1992).

- **Promotions/ special offer communications:** they are important part of the marketing mix and retailers aim to build store-brand image with the intention of influencing consumer attitude and behaviour. Different kinds of promotions play a different role in retailing, influencing customers' shopping goals and behaviour (Kaltcheva *et al.*, 2013; Mulhern & Padgett, 1995; Kalwani & Kin-Yim, 1992; Sigue, 2008; Ailawadi *et al.*, 2006).

- **Branding:** retailers make a big effort to improve their brand management to influence their customers' behaviour. Brand and brand-related information cues will be reviewed regarding how those influence customer evaluation as well as any advantages offered for the retailers

by having strong brands (Porter & Claycomb, 1997; Baker *et al.*, 1994; Wu *et al.,* 2011).

- **Service interface and critical incidents:** i.e., specific events during a shopping trip which make a positive or negative contribution to the shopping experience (Arnold *et al.*, 2005). Shopping satisfaction is influenced in this way. The impact they have will be analysed depending on the customers' shopping trip motivations and expectations (Arnold *et al.*, 2005; Esbjerg *et al.*, 2012; Westbrook & Oliver, 1981).

After analysing the implications from previous studies (Baker *et al.*, 1994; Baker *et al.*, 2002; Grewal *et al.*, 2004; Kaltcheva & Weitz, 2006; Sirohi *et al.*, 1998; Verhoef *et al.*, 2009) key determinants were developed creating the customer experience (Figure 2.4).

Knowing that motivational orientation impacts the effect of arousal on pleasantness, it is important to acknowledge that customers' goals influence the way in which consumers recognise the retail environment and its different marketing mix elements. Customers' goals, such as entertainment, recreation, social interaction, and intellectual stimulation (Arnold & Reynolds, 2003), influence the way customers go through different levels of the decision-making process. Goals help customers formulate their shopping decisions, which is why a better understanding of those goals, should help retail operators develop new and innovative retail formats.

The conceptual model includes customers' goals and emotional responses, as research has shown that emotions experienced in the store have an impact on how customers perceive retailers (Eroglu & Machleit, 1990; Turley & Milliam, 1992). Thus, customers' emotional responses play an important role in creating an impact on the shopping experience. The existence of potential situational moderators are acknowledged in the model (e.g., social environment or critical incidents).

The model helps to understand how the customer's experience is created, what kind of impact it may potentially have, and its different components. In the sections below, the main components of the model are
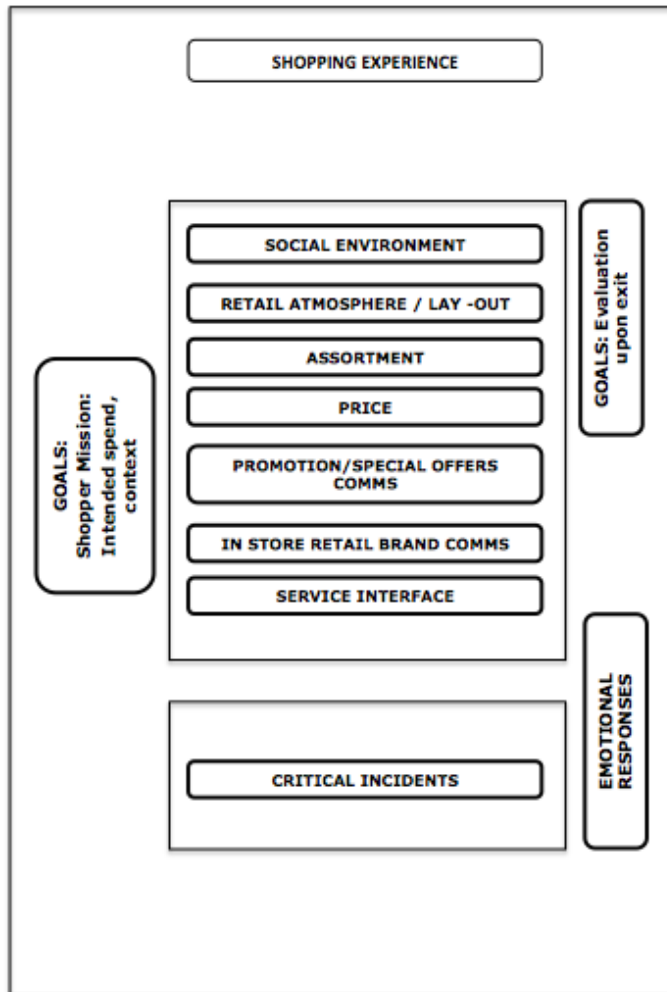
Figure 2.4 Key determinants creating customer experience – conceptual model.
Source: Author

explored (Figure 2.4) – the ones which have direct impact on creating the shopping experience, at the same time influencing customers' behaviour. In an attempt to narrow the study, other determinants, which are the part of the customers' complete shopping path (Figure 2.5), will not be discussed. Using the holistic approach to customer experiences, it is very important to understand that a customer's shopping experience is not limited only to the customer's interaction in the store. It is rather created and implicated by a combination of different factors, which also occur before and after sales. That is why, even in narrowing the study (Figure 2.4), these different dynamics influencing and impacting the customer experience from a holistic point of view need to be considered.
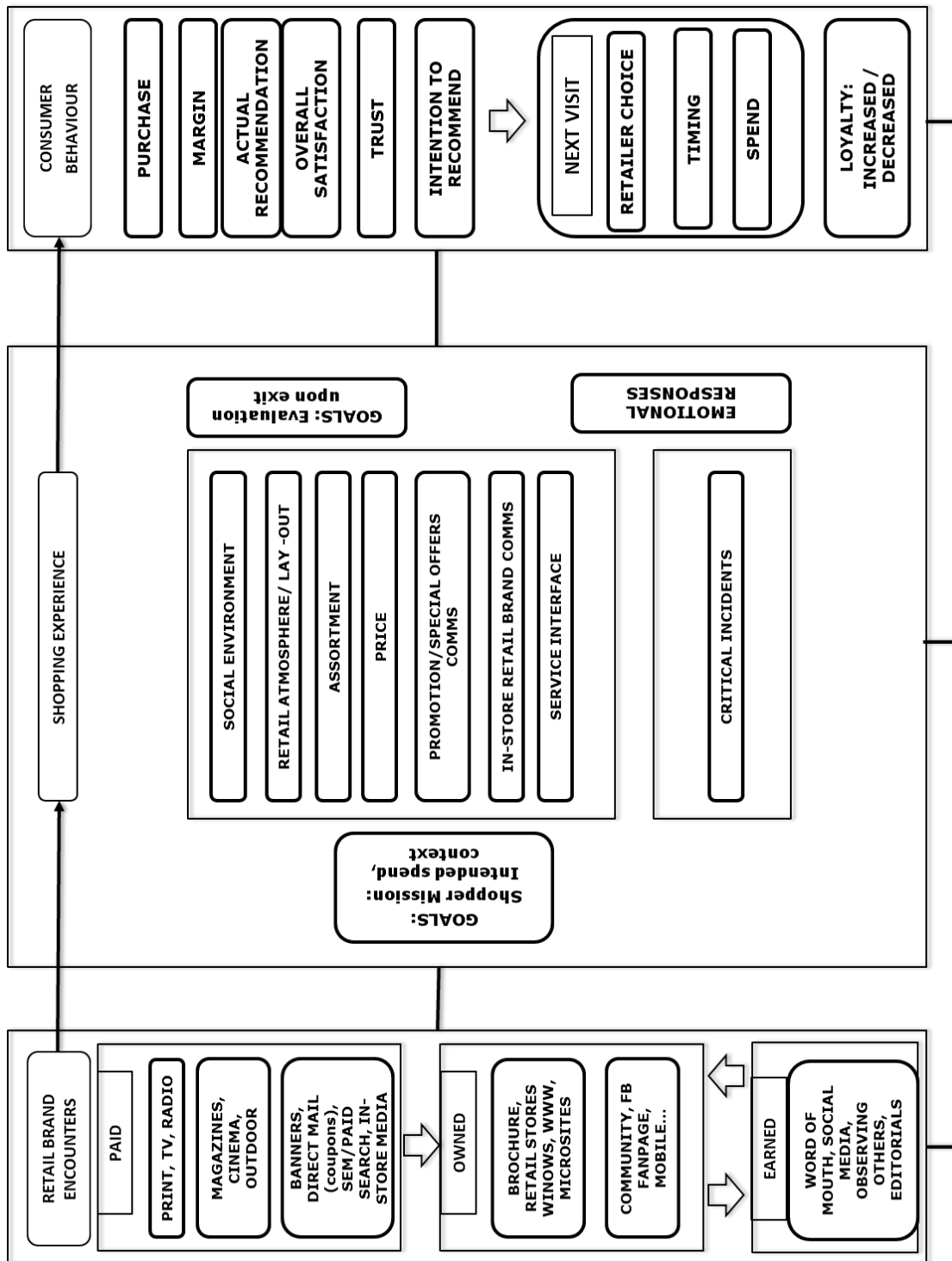
Figure 2.5 Customers' complete shopping path determinants. Source: Author

2.4 Conceptual model – shopping experience and its main components

2.4.1 Customers' goals and in-store environment

Beyond buying particular goods, customers also might enjoy the benefits of the activity of shopping as such. So, do consumers' view shopping for groceries as a means to an end, which has functional or utilitarian value, or as a desirable recreational activity that is worthwhile in itself? Theoretical frameworks (Turley & Milliam, 1992), recognise the importance of expanding the research to include other important moderators for customers, such as shopping motives or goals.

Shopping is a complex consumer behaviour which is related to purchase or non-purchase behaviour (Davis & Hodges, 2012). Customers compare their expectations with their experience. That is why an experience which disconfirms their expectations positively or negatively, determines their satisfaction (Esbjerg *et al.*, 2012). Furthermore, as noted earlier, motivational orientation of the shoppers impacts arousal and pleasantness. The retail environment and different marketing mix elements can be perceived differently, depending on customers' goals. Goals such as entertainment, recreation, social interaction, and intellectual stimulation (Arnold & Reynolds, 2003), impact the manner in which consumers follow the stages of the Consumer Decision Process (CDP).

Customers' shopping goals held before entering the store play a critical role in their behaviour in-store, and the extent to which the in-store environment influences the shopping trip. Therefore, it can be assumed that the specific goal connected to a specific store influences not only the customer's initial store choice but also ad-hoc buying in the store. There are also very few studies focusing on pre-shopping factors from which shopping plans may emerge, which is a big opportunity for further research. Out-of-store drivers influencing customers' shopping plans are very interesting as they are the complement to the in-store environment. Knowing to what extent they influence shoppers may help retailers to better manage the in-store environment in order to increase sales and basket values (Bell *et al.*, 2011).

There is also another aspect of the impact of the store environment on shopping behaviour which is not supported by a significant body of research. It is the customers' motivation for being in the store, which is connected to the kind of the shopping experience that the customers are looking for, not only with relation to the goods or services expected by consumers (Roy & Tai, 2003). Customers' expectations are key determinants of their consumption experiences, satisfaction, and loyalty (Ofir & Simonson, 2007). That is why, identifying it in advance is very important for the success of retail strategies. Therefore, it is critical for marketers to attempt to learn in advance what their customers' goals are, as the inability to meet or exceed these expectations may result in dissatisfaction and a decrease in loyalty. The above, together with related topics have been researched in the context of studies on the effects of measuring intentions, judgments, and satisfaction (Dhalokia & Morwitz, 2002; Fitzsimons & Williams, 2000; Kardes & Allen, 1993).

The motivational orientation of customers is very much aligned with shop layout styles. According to established retailing theory, two basic store layouts can be distinguished (Levy & Weitz, 2001), and those are the grid and free form. Therefore, the level of excitement retailers should create in their stores (with layout and store atmospherics) depends on the shopping motivation of their customers. The motives of customers, in terms of hedonic and utilitarian values, have been widely researched, but seldom considered in the context of store environment effects. According to the new approach, it is evident that the more specific the task of the customer is, the less tolerant shoppers are regarding discrepancies between expected and experienced arousal and dominance (Massara *et al.*, 2010). What is missing is empirical research on satisfaction regarding individual shopping trips. Although a substantial body of literature describes how retailers can influence observable customer behaviours by manipulating enduring and transient aspects of their store environments, very little research has investigated how consumers experience these different aspects, particularly in a grocery retailing environment. Related research should recognise that the store environment and store images work on different levels. Whereas store environment literature focuses on particular details of the

experience, store image literature takes a more general approach. It would be beneficial to pursue greater coherence and perhaps even find a way to combine these two research streams. One way to cover this research gap would be to apply a within-subjects survey design in which a number of shoppers are intercepted before entering a particular store and then again after having finished their grocery shopping in that store. By comparing expectations and experiences on a number of similar dimensions it would be possible to deduce confirmation/disconfirmation of expectations to measure shopping trip satisfaction. Attributions related to negative or positive disconfirmation of expectations should be measured as they may modify the effect of the disconfirmation on shopping trip satisfaction. A summary of the findings in this field is presented in Table 2.1.

Table 2.1 Customers' goals and in-store environment – research key findings.
Source: Author

Research Paper	Context	Theme	Analysis of records	Observations	Interviewing	Controlled experimentation	Conceptual paper	Main findings
Davis & Hodges 2012	Department stores/ mass merchandisers	Behaviour			x			Shopping is a complex consumer behaviour which is related to purchase or non-purchase.
Esbjerg et al. 2012	Grocery retailers	Expectations					x	Customers compare their expectations with their experience. Experience which disconfirms their expectations positively or negatively, determines their satisfaction.
Arnold & Reynolds 2003	Multiformats	Goals			x			Goals such as entertainment, recreation, social interaction, and intellectual stimulation – influence the way consumers proceed through the stages of the consumer decision process.
Roy & Tai 2003	Furniture store outlets	Expectations			x			Evaluations of shopping trips depend on the kind of experience shoppers are looking for.
Ofir & Simonson 2007	Supermarket format	Expectations			x			Customers' expectations are the key determinants of their consumption experiences, satisfaction, and loyalty.
Levy & Weitz 2001	Grocery retailers	Expectations		x				The motivational orientation of the customers is very much aligned with types of layout.
Massara et al. 2010	Simulated grocery store	Goals				x		The more specific the task of the customer is, the less tolerant about discrepancies between expected and experienced arousal and dominance.

2.4.2 In-store environment and customers' emotional responses

Grocery shopping is a frequently reoccurring shopping activity that provides both utilitarian and hedonic experience value (Babin *et al.*, 1994). The utilitarian value is achieved by customers by accomplishing the task that

stimulated a particular shopping trip, whereas hedonic value reflects the potential entertainment and emotional worth associated with the shopping process (Babin *et al.*, 1994). Retailers realise that they need to help customers satisfy both types of needs. That is why, they increasingly try to offer pleasurable or even entertaining shopping experiences (Arnold *et al.*, 2005; Wakefield & Baker, 1997). Moreover, knowing that customers are ready to purchase more things and to spend more money when they are in a positive rather than in a negative mood state (Spies *et al.*, 1997), may change significant interactions between store characteristics, customers' mood and purchasing behaviour. This, in turn, puts the focus on the impact of the in-store environment on the emotional responses of the customers. Since the systematisation of this theory, consumer perception has already been investigated in the research literature many times (Solomon, 2008). It has been considered as a set of information around individuals as they perceive the world around them. There are senses like hearing, olfaction, vision and touch which allow each of us to understand the world. The feelings which these senses create (positive or negative) impact the experiences of individual customers. That is why the retail environment consists of many sensory tools helping to create special experiences for customers, resulting in a competitive advantage for the retailer (Farias *et al.*, 2014).

Properties of the environment affect emotions, however mood is formed by cues abouavlenat the state of the self (Theodoridis & Chatzipanagiotou, 2009). Recent studies suggest that emotion and mood can be treated interchangeably (Sherman *et al.*, 1997). In-store environment elements are rather determining how pleasing and arousing the environment is (Spangenberg *et al.*, 1996). An arousing and pleasant in-store environment is expected to create approach behaviours. On the other hand, high-load unpleasant environments can create avoidance behaviours. A poor in-store environment is not activating enough to create any significant approach/ avoidance behaviour. Very interesting is the research conducted by Mehrabian & Russell (1974) who described a three-dimensional model of pleasure, arousal and dominance in order to measure the emotional state of the customer. This approach is

considered to be most suited for use in marketing contexts (Havlena & Holbrook, 1986). The study identified that pleasure resulting from exposure to store atmosphere impacts in-store behaviours. It was measured at the same time by different lengths of time spent in the store, as well as motivation to visit it again (Donovan & Rossiter, 1982; Sherman *et al.*, 1997; Swinyard, 1993; Yoo *et al.*, 1998). It proved that customers' emotional states within the store correlate to actual purchase behaviour – not just attitudes or intentions. This means that pleasure created by the in-store environment seems to be a strong reason for customers spending more time in the store as well as purchasing more than initially planned. This reinforces the notion researched (Roy & Tai, 2003) that emotion also has a significant impact on spending behaviour. However, cognitive factors may influence most planned purchases, affective responses created by the store environment could account for what the customers spend 'beyond his or her original expectations.' The emotional state, influenced by the store environment, does not directly impact shopper behaviour.

As seen above, there are many studies within consumer research measuring the effects of either store atmosphere or mood on customers' behaviour. Nevertheless, only several investigate the impact of in-store environment on customers' behaviour taking mood as an intervening variable.

The store environment has a significant influence on the consumers' store choice processes. However, store environment studies to date do not provide an answer with regards to how different store environment cues, together, shape consumers' merchandise value perceptions, and how those perceptions, in turn, influence store patronage intentions (Baker *et al.*, 2002). There is also little information concerning shopping experience costs, which include customers' time and effort in obtaining the products as well as psychological costs of shopping. In all cases, however, the positive effect of a pleasant store atmosphere on customers' reactions and increasingly important role of the customers' goal in their shopping trip experience will be developed in the next chapter. A summary of the findings in this field is presented in Table 2.2.

99

Table 2.2 In-store environment and customers' emotional responses – research key findings. Source: Author

Research Paper	Context	Theme	Analysis of records	Observations	Interviewing	Controlled experimentation	Conceptual paper	Main findings
Babin et al. 1994	Grocery stores	Emotional responses				x		Utilitarian value is achieved by customers especially by accomplishing the task that stimulated a particular shopping trip, whereas hedonic value reflects the potential entertainment and emotional worth associated with a shopping process.
Spies et al. 1997	Furniture stores	Emotional responses		x				Customers tend to buy more things and spend more money when they are in a positive, rather than in a negative, mood state.
Eroglu & Machleit 1990; Turley & Milliam 1992	Grocery stores	Emotional responses					x	Emotions experienced in the store atmosphere can affect outcome variables of interest to retailers.
Sherman et al. 1997	Fashion stores	Emotional responses			x			The response to store atmosphere stimuli, is the consumer's emotional reaction within the store.
Theodoridis & Chatzipanagiotou 2009	Supermarket formats	Emotional responses			x			Emotion and affect are cued by properties of the environment. Mood is produced by cues about the state of the self.
Sherman et al. 1997	Fashion stores in shopping malls	Emotional responses			x			Emotion and mood can be treated interchangeably.

Research Paper	Context	Theme	Method					Main findings
			Analysis of records	Observations	Interviewing	Controlled experimentation	Conceptual paper	
Spangenberg et al. 1996	Clothing store	Emotional responses				x		The characteristics of the environment determine how pleasing and arousing the environment is.
Donovan & Rossiter 1982; Sherman et al. 1997; Swinyard 1993; Yoo et al. 1998	Retail environment	Emotional responses			x			Pleasure resulting from exposure to store atmosphere influenced in-store behaviours measured at the same time by levels of amount of time spent in the store, and willingness to visit it again.
Babin & Darden 1996; Wakefield & Baker 1997	Mall environment	Emotional responses			x			There is a significant positive influence of a store environment on consumer patronage.
Wakefield & Baker 1997	Retail shopping setting	Emotional responses			x			Improving the impact of the in-store environment on the customers' emotions will affect the time and money which customers spend in the store.
Spies et al. 1997	Furniture stores	Emotional responses		x				Poorly designed store environments may reduce shopping pleasure and lead to a deterioration of the customer's mood.

2.4.3 Social environment

Customer satisfaction plays a critical role in creating long-term customer – business relationships. Moreover, the social environment has an impact on the customer experience and its behaviour in-store. Usually, there are a number of customers in the store at the same time and the experience of each customer may impact that of others. Furthermore, this influence seems not to be limited to individuals who know each other (McGrath & Otnes, 1995; Otnes *et al.*, 1993). Those interactions are very important as they can influence the customer experience and customer satisfaction from the shopping trip (Martin & Pratner, 1989). We need to remember that in retail stores, customers usually do not know each other which is why first impressions and feelings are so important. That is why this is also seen as a factor influencing the customers' shopping trips (Lam, 2001).

Existing literature focuses on researching the relations between customer satisfaction with a business entity, business personnel and business products and services. The literature also focuses heavily on the interaction between the organisation, or its employees, with the customer (Parasuraman & Valerie, 1988). '*Interpersonal influence*' is a construct that is well-established within the literature of sociology, psychology, and consumer behaviour. However, within the discipline of marketing, the topics of group influences (Agrawal *et al.*, 1993; Bearden & Etzel, 1982; Childers & Rao, 1992; Fisher & Price, 1992; Park & Lessing, 1977), salesperson influence (Crosby *et al.*, 1990; Krapfel, 1988; Williams & Spiro, 1985), and family influences (Davis, 1976; Moschis, 1985; Ward & Wackman, 1972) are well-established.

There are instances in which customers may destroy the experience of other customers in order to sabotage the company by shoplifting, vandalism or even resistance via boycott (Harris & Reynolds, 2004). This kind of behaviour has been framed in various research studies as '*jay customer behaviour*' (Lovelock, 1994) '*deviant customer behaviour*' (Moschis, 1989), and '*aberrant customer behaviour*' (Fullerton & Girish, 1993). Those kinds of behaviours, apart from ruining the company, are also destroying customers' shopping

experiences, which is why this construct is important for this study's shopping experience framework analysis.

Other studies indicate that interactions among customers may have important effects on the service experience (Baron *et al.*, 1996; Martin, 1996). However, studies have almost ignored the need for creating relationships between customers and have focused mainly on creating relationships with customers. There are only a few studies analysing the manner in which customers affect one another either directly or indirectly (Baker *et al.*, 2002; Bitner, 1992). That is why, the social environment is one of the most important elements of customer experience to consider. In addition, most of the social elements (e.g., too many people in a small space) can influence the perception of crowding (Eroglu & Machleit, 1990). Interestingly, no empirical research identified the relationship between store-employee cues and customers' perceptions of time and effort costs in a retail environment (Verhoef *et al.*, 2009).

Baker's theory of Behavioural Ecology (Baker, 1965), illustrates that when the number of people in a facility is less than it should be to function properly, a condition identified in sociology as 'understaffing' occurs. Research regarding understaffing by Wicker (1973), provides evidence that the number of employees in a store influences customers' perceptions and responses. That is why when there are fewer people on the shopping floor than required, customers can become frustrated and annoyed. This is mainly due to the fact that there is nobody to ask for help or, in the case of oversized stores, the store seeming empty (Baker *et al.*, 2002). This framework also suggests that store employee cues are likely to influence interpersonal service quality perceptions (Baker, 1986). Recent research also suggests that employee-customer interactions affect consumers' assessments of service quality (Hartline & Ferrell, 1996). This is why the service quality image may be created by the cues of positive interaction between customers and employees. As customers' perceptions of store employee cues become more favourable, customers will perceive psychological costs to be lower. However, there are limited studies,

which suggest that the number of salespeople on the shopping floor influences customers' perception in what concerns time vs. effort.

To sum, it should be noted that the evaluation of product and service quality mediate the relationship between store environmental factors and the overall image of the store (Baker *et al.*, 1992). Furthermore, in a high social environment compared to a low social environment, customers consider that higher price is more acceptable. This means that price acceptability is positively related to the ambience factor in a high design environment but unrelated to the ambient factor in a low design environment (Lam, 2001). Consumer density also affects the consumers' perceived control. The relationship between consumer density and perceived control depends on the situational goals of customers. Goals play an important role as under a high-density condition; task-oriented customers experience more crowding and less satisfaction with the store environment. That is why, depending on the shopping tasks, strangers are usually a source of frustration connected to the obstacles perceived by task oriented customers in completing their tasks. This has a direct application for retail sales training, especially for that of part-time employees who work over the holiday season. Sales staff should be skilled in knowing how to interact with all manner of customers that they may witness, especially during times of peak holiday shopping activity (McGrath & Otnes, 1995). The researchers did not find this kind of difference under a low-density condition. The level of density also influences perceived purchase risk and time pressure intensifying perceived crowding.

Another area which is not much researched relates to customers' public behaviours and how those behaviours affect the satisfaction of other patrons (Martin, 1996). Although much has been researched regarding the social environment, there is a need to better understand how the social environment impacts on the customer experience, especially in a retail context. In order to do so, there is a need to understand how customers act in groups and how these groups influence the shopping experiences of fellow customers. Moreover, there are no clear guidelines concerning the design of the social environment and managing these social environments in order to assess its performance.

The impact of customers spoiling the shopping experience for others may also be significant. It would be good to research then, if customer compatibility management is the solution to improving the shopping experience. This should be crosschecked with the influence of employees affecting the customer experience. A summary of the findings in this field is presented in Table 2.3.

Table 2.3 Social environment – research key findings. Source: Author

Research Paper	Context	Theme	Method					Main findings
			Analysis of records	Observations	Interviewing	Controlled experimentation	Conceptual paper	
McGrath 1989; Sherry & McGrath 1989; Otnes et al. 1993; McGrath et al. 1993	Retail setting	Social Environment		x				Experiences of each customer may impact those of others.
Martin & Pranter 1989	Retail formats	Social Environment		x				Experiences between customers can influence the customer experience, as well as customer satisfaction from the shopping trip.
Lam 2001	Retail stores	Social Environment					x	The experiences between the customers influence the customers' shopping trip.
Baron et al. 1996; Martin 1996; Martin & Pranter 1989	Public business environment	Social Environment	x					Interactions among customers can have a profound effect on the service experience.
Eroglu & Machleit 1990	Retail setting	Social Environment		x				Most social elements (for example too many people in too little a space) can influence the perception of crowding.
Baker et al. 2002	Store environment	Social Environment				x		When we have too few people on the shop floor than required, customers can become frustrated and annoyed.
Baker 1987	Store environment	Social Environment		x				Store employee cues are likely to influence interpersonal service quality perceptions.
Hartline & Ferrell 1996	Retail setting	Social Environment			x			Employee-customer interactions affect consumers' assessments of service quality.

Research Paper	Context	Theme	Analysis of records	Observations	Interviewing	Controlled experimentation	Conceptual paper	Main findings
Grewal & Sharma 1991	Retail formats	Social Environment		x				Salespeople are an important factor influencing customers' mood and satisfaction.
Lam 2001	Retail stores	Social Environment					x	Under a low social condition, customers experience higher pleasure when the environment projects a high ambient image.
Baker 1987; Bitner 1992	Store environment	Social Environment				x		Consumers may affect one another indirectly by being the part of the environment or even more directly through specific interpersonal encounters.
McGrath & Otnes 1995	Retail setting	Social Environment		x				People respond to others when they face an unsolved problem (help-seeker, proactive helper, follower, observer), they presume to have a value or experience to contribute to another (reactive helper, judge, accused, spoiler), there is sensory stimulation that catches their attention (admirer, complainer), or there is a perceived shortage (competitor).
Baker et al. 1992	Simulated store environment	Social Environment		x				The evaluation of product and service quality mediates the relationship between store environment factors and the overall image of the store.
Lam 2001	Retail stores	Social Environment					x	In a high social environment compared to a low social environment customers consider the higher price more acceptable.
McGrath & Otnes 1995	Retail setting	Social Environment		x				Salespeople must be sensitised to the nature of stranger interactions they may witness, especially during times of peak holiday-shopping activity.
Martin 1996	Public business environment	Social Environment	x					Consumers who do not tolerate other consumers well, may avoid retailers in favour of this kind of behaviour.

2.4.4 Retail atmosphere and layout

Nowadays, it is very difficult for retailers to differentiate only based on price, promotion or even service. This is why, store operators are going the extra mile in making the in-store environment a key differentiator. There are

many studies, identifying the significance with which in-store environment impacts the amount of money spent, store perception, store liking and the amount of time spent within the store (Sherman *et al.*, 1997). The in-store environment also strongly influences the perception of quality and evaluation of merchandise (Baker *et al.*, 1994), sales (Milliman, 1982), product evaluation (Wheatley & Chiu, 1977), satisfaction (Bitner, 1992) and store choice (Babin & Darden, 1996). Therefore, many retailers are aware and admit the importance of the store environment as a tool for creating competitive advantage (Levy & Weitz, 2001). Although many studies focus on the store environment, their findings do not fully explain how it influences customers. This section reviews those studies, which aim to identify the overall influence of the store atmospherics on consumer behaviour.

The link between retail atmosphere, layout and customer experience will shed light on how the customer experience is created. One of the most important roles of the store is its ability to facilitate the goals of its occupants according to environmental psychology (Canter, 1983). The most common goal for many shoppers is usually convenience which includes getting in and out of the store quickly and finding the merchandise they seek, easily. The layout might be an example of a design cue, influencing the customers' expectations of their efficient movement through a store (Titus & Everett, 1995).

The store environment is composed of ambient (e.g., lighting, scent, and music), design (e.g., layout[1], product assortment[2]) and social factors[3] (e.g., presence and effectiveness of sales staff) (Baker *et al.*, 2002). Many of those elements directly influence the customer shopping experience. It has an impact on customer behaviour, such as emotions, cognition and physiological state. Some of these elements may have a different impact on different behaviours (Lam, 2001).

---

[1] Layout refers to the way in which products, shopping carts, and aisles are arranged, the size and shape of items, as well as the spatial relationships between them. Layout also includes space design and allocation, grouping, and placement of the merchandise (Mohan *et al.*, 2012)
[2] Product assortment is the total set of items a retailer offers reflecting the breadth and depth of product lines
[3] Social factors refer to other shoppers and sales staff (Baker *et al.*, 2002)

Based on previous research, an integrative framework is proposed which takes into consideration multiple effects which the store environment could have on shopping behaviours. Figure 2.6 below illustrates this and indicates what kind of influence store environment has on the shopping outcome. The research concludes that store environment can be studied at different levels of aggregation (Lam, 2001). There are several methods which are used to test the effects of store environment including using a prototype store, asking participants to respond to verbal descriptions of the store or creating a simulated store environment (Wakefield & Baker, 1997). Those methods are also used by many practitioners to test and check the customers' acceptance for new in-store environment solutions. Nevertheless, as is discussed in the following section, all these methods have some disadvantages which provide opportunities for further research.
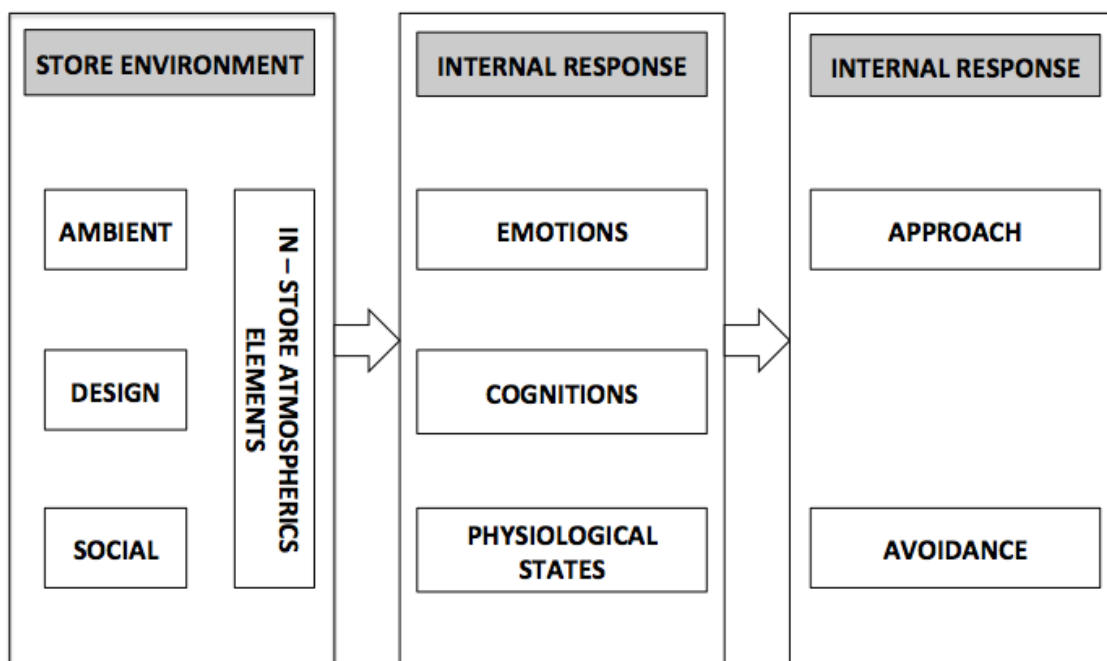
Figure 2.6 An integrative framework of store environmental effect. Source: Adapted from (Lam, 2001)

The main previous findings can be grouped in three main topics (Verhoef *et al.*, 2009):

1. **Elementary level:** Effects of music, colour, ambient, lightning, visual information rate and consumer density.

2. **Factor level:** Main effect and interaction effect of ambient, social and design factors.

3. **Global level:** Identification of emotions and how they relate to shopping behaviours.

Elementary level factors

- **Music**

Previous research has revealed that the shopping behaviours and outcomes, including time of stay, speed of movement and store sales (even consumption of beverages in restaurants) are related to the volume and tempo of in-store music (Milliman, 1982). According to Yalch and Spangenberg (1990), customers respond psychologically and behaviourally to music. These responses occur predominantly at a subconscious level. Music is an important, frequent and common variable that influences mood (Bruner *et al.*, 1990).

The evaluation of a store and shopping behaviour, including the probability of making a purchase and amount of money spent depends on the type of in-store music (i.e., background music vs. foreground music). Those variations change depending on the store department (Smith & Ross, 1966). The presence of classical music makes consumers feel more positive towards the environment. Compared with music disliked by consumers, music liked by customers increased perceived shopping duration in the setting (Yalch & Spangenberg, 1990). That is why, in order to develop an atmosphere attractive for customers, at the same time contributing to the store image and consumer choice, retailers should consider the usage of appropriate background music (Farias *et al.*, 2014). There are many studies, which have proved that appropriate music can increase sales (Matilla & Wirtz, 2001), influence purchase intentions (Baker *et al.*, 2002), increase the time to buy and hold (Milliman, 1982). Additionally, those studies also proved that music can decrease the perception of buying and waiting time (Chebat *et al.*, 1993),

influence the rate of consumption of a meal in restaurants (Milliman, 1986) or even influence consumer perception of a store (Hui *et al.*, 1997); and facilitate official consumer interaction (Dube *et al.*, 1995).

- **Colours**

Cool colours (i.e., violet or blue) in the background are generally reported by respondents to be more pleasant (Bellizzi *et al.*, 1983). Bellizzi *et al.* (1983) also claim, that desired meaning is obtained through symbols. Colours may cause different reactions in individuals (e.g., biological or emotional) and even draw attention to a particular object. This is why retailers use colours to encourage customers' moods with the aim of leading to increased sales. Babin *et al.* (2003) examined the relations between colours and shopping intentions and found that there are several customer reactions relating to stores' environmental cues, customers' cognitive categories representing known store types, and salient situational shopping motivations.

- **Scent and odour**

Music and colour are not the only aspects influencing customer shopping behaviour. Ambient scent and odour also play a significant role. For some researchers (Donovan & Rossiter, 1982; Mitchell *et al.*, 1995), olfactory effects are an important element of the in-store experience. The influence of this sense on customers usually goes far beyond the communication of attributes or quality of products. When odour in the air is congruent with the product class, consumers spend more time analysing product information. They are more holistic in their processing and seek greater variety in comparison to when scent is not connected with the product class (Mitchell *et al.,* 1995). Scent is relevant to customer behaviour through the smell of a specific object and the smell of the environment itself (Gulas & Bloch, 1995). Smells connected to things or products often play an important part in consumers' evaluation of attributes and quality. Scents mostly concern items where the scent is a key attribute: food, beverages, cosmetics and cleaning products (Milotic, 2003).

- **Lighting**

Well-designed lighting systems can create a better shopping experience and can help to guide customers better, creating an atmosphere of excitement,

inducing positive affect (Park *et al.*, 1989). A study by Areni and Kim (1993) shows that customers examine and handle more merchandise in a wine cellar inside a restaurant when the lighting is brighter.

- **Consumer density**

The density of people inside a store or a shopping area directly increases consumers' perceived crowding, which reduces pleasure for retail behaviours (Eroglu & Machleit, 1990). Consumer density also affects consumers' perceived control. Higher consumer density decreases perceived control.

- **Store layout**

The layout of the store itself is also of great importance for the shopping experience. Positive experience is enhanced if it is easy for shoppers to find the product they are looking for. From this perspective, it is important when the store layout is logical and with appropriate signage (Bitner, 1992). Parasuraman *et al.* (1991) indicate the importance of the in-store environment as a service quality dimension. Using the SERVQUAL scale, they indicate that its tangible dimension, which reflects store environment, is considered by consumers as the least important one. However, the tangible dimension does not affect several criterion variables, such as overall service quality rating and whether a customer would recommend a service firm, or store, to a friend. Customers' attitudes toward a store are not only created by the in-store environment but also by the external environment which strongly affects their attitudes towards the store and their decision regarding whether to visit the store (Bitner, 1992).

In summary, studies suggest that different enduring aspects of the store environment influence customers' shopping trips. However, their effects on shopping trip experiences have not been central to prior conceptualisations, which focus instead on how retailers manipulate store environments to influence outcomes such as money spent or time in stores (Esbjerg *et al.*, 2012). A summary of the findings in this field is presented in Table 2.4.

Table 2.4 Retail atmosphere and layout – research key findings. Source: Author

Research Paper	Context	Theme	Analysis of records	Observations	Interviewing	Controlled experimentation	Conceptual paper	Main findings
			Method					
Sherman et al. 1997	Fashion stores	Store atmospherics			x			A store's environment influences the quantity of purchase, store liking, time and money.
Baker et al. 1994	Retail environment	Store atmospherics			x			A store's environment influences the quality and evaluation of merchandise.
Milliman 1982	Retail environment	Store atmospherics			x			A store's environment influences sales.
Wheatley & Chiu 1977	Retail environment	Store atmospherics			x			A store's environment influences product evaluation.
Bitner 1992	Retail environment	Store atmospherics					x	A store's environment influences satisfaction.
Babin & Darden 1996	Mall environment	Store atmospherics			x			A store's environment influences store choice.
Turley & William 1992	Retail environment	Store atmospherics					x	Different store atmospheric components influence a wide variety of customers' evaluations and behaviours.
Milliman 1982	Supermarket format	Music		x				Shopping behaviours and outcomes, including time of stay, speed of movement, and store sales, are related to volume and tempo of in-store music.
Yalch & Spangenberg 1990	Clothing Store	Music			x			Shoppers respond psychologically and behaviourally to music.
Bruner 1990	Retail store environment	Music			x			Music is an important, frequent and common variable that influences mood.

Research Paper	Context	Theme	Method					Main findings
			Analysis of records	Observations	Interviewing	Controlled experimentation	Conceptual paper	
Matilla & Wirtz 2001	Retail gift shop	Music				x		Appropriate music which is part of the store atmospherics can increase sales.
Baker et al. 2002	Retail store environment	Music				x		Appropriate music which is part of the store atmospherics can influence purchase intentions.
Milliman 1982	Supermarket format	Music		x				Appropriate music which is a part of the store atmospherics can increase the time to buy and hold.
Chebat et al. 1993	Retail environment	Music			x			Appropriate music which is a part of the store atmospherics can decrease the perception of buying time and waiting.
Milliman 1986	Restaurant environment	Music				x		Appropriate music which is a part of the store atmospherics can influence the rate of consumption of a meal in restaurants.
Hui et al. 1997	Retail simulated environment	Music				x		Appropriate music which is a part of the store atmospherics can influence consumer perception of a store.
Dube et al. 1995	Retail labolatory environment	Music				x		Appropriate music which is a part of the store atmospherics can facilitate consumer official interaction.
Bellizzi et al. 1983	Simulated store environment	Colour				x		Compared with warm-colour (red or yellow) backgrounds, cool-colour (violet or blue) backgrounds are generally reported by respondents to be more pleasant.
Bellizzi & Hite 2009	Retail store environment	Colour				x		Colours at both ends of the visible spectrum, that is, red and violet, seem to be more stimulating than colours at the middle of the spectrum (yellow or green).
Bellizi et al. 2009	Retail store environment	Colour				x		Warm-colour backgrounds are more capable of eliciting attention and attracting people to approach a store.
Donovan & Rossiter 1982; Mitchell 1994; Bosmans 2006	Retail store environment	Scent				x		Smell is primarily an environmental stimulus, whose influence on the consumer goes far beyond the communication of attributes or qualities of products.

113

Research Paper	Context	Theme	Method					Main findings
			Analysis of records	Observations	Interviewing	Controlled experimentation	Conceptual paper	
Mitchell et al. 1995	Retail store labolatory environment	Scent				x		When scent in the air is congruent with the product class being examined, consumers spend more time on processing product information and they are more holistic in their processing and more variety seeking compared to when the odour is incongruent with the product class.
Spangenberg et al. 1996	Retail store environment	Scent		x				When an inoffensive scent is present in a store environment, shoppers evaluate the store and its merchandise more positively, perceive less time spent inside the store, and are more inclined to visit the store, compared to when no smell is present.
Spangenberg et al. 1996	Retail store environment	Scent		x				There are differences in customer behaviour depending on the atmosphere with and without scent, which highlights the benefits of using scents in the store ambiance.
Park et al. 1989	Retail store environment	Light		x				Well-designed lighting systems can enhance a store's interior, guide the customer's eyes to key sales points, create an atmosphere of excitement and induce positive affect.
Eroglu & Machleit 1990	Retail store labolatory environment	Social Environment				x		The density of people inside a store or a shopping area directly increases consumers' perceived crowding, which in turn reduces pleasure and is unfavourable for retailers.
Hart et al. 2007	Shopping center environment	Social Environment			x			With higher perceptions of crowdedness, customers consider the purchase risky and experience more time pressure for realising purchases.
Hui & Bateson 1991	Retail service environment	Social Environment				x		Under a high-density condition, perceived purchase risk and time pressure intensifies perceived crowding. No such relationship is found under a low-density condition.
Baker et al. 1994	Retail environment	Ambience			x			The effect of the ambient and social factors on shoppers' willingness to buy is mediated by the pleasure and arousal variables.
Baker et al. 1992	Simulated store environment	Ambience				x		A prestige image in the ambient and social dimensions leads to better evaluations of product and service quality compared to a discount image.
Baker et al. 1994	Retail environment	Ambience			x			Price acceptability is positively related to the ambience factor in a high-design environment but unrelated to the ambient factor in a low-design environment.

2.4.5 Assortment

One of the most important functions of any retailer is providing its customers with the right mix of assortment (Levy & Weitz, 2008). Consumers' perception of range of products sold and services offered by store operators influences store image (Ailawadi *et al.*, 2009) and customer experience. That is why this important construct is part of the study's framework. Regardless of any strategic or operational challenges, customers expect that retailers will be offering the right mix of products, at the right price, with the right promotions, at the right time, at the right place (Gruen & Shah, 2000). What remains unclear for most retailers is what constitutes 'the right mix of products' or a 'good assortment' (Bauer *et al.*, 2012).

Brand assortment

A key aspect of the retailer's assortment strategy influencing customers' behaviour is brand assortment, which has become a very important tool in the last decade for retailers to influence their image and develop their own private label. Consumers' perception of the breadth of different products and services offered by retailers influences store image (Ailawadi *et al.*, 2006). There are three main benefits of carrying a wide assortment, in terms of customer behaviour:

- There is a correlation between the breadth of product assortment, and the range of different situations in which a retailer is recalled and considered by consumers, (Ailawadi & Keller, 2004);
- One-stop shopping convenience is becoming much more important than ever (Messinger & Narasimhan, 1997);
- Customers regularly shop at more than one store, and may purchase a category based on the assortment availability.

In addition, unplanned purchases continue to be a significant part of the customers' basket, and are therefore an advantage to retailers with a broader assortment. Furthermore, customers with uncertain preferences believe they have more flexibility in their choices with a retailer who has a broader assortment (Kahn & Raju, 1991).

A greater assortment does not necessarily need to mean better perception (Ailawadi & Keller, 2004). Brand assortment is so important that many retailers invest a lot into private label products, which will allow them to achieve a competitive advantage and create differentiation between their brands and those of competitors. In many cases those are the premium private labels exceeding their national brand counterparts in quality ratings (e.g., Tesco's Finest, Marks & Spencer's St. Michael, Woolworth Select or Albert Heijin's AH Select (Kumar & Steenkamp, 2007). Nevertheless, empirical evidence of the relationship between private label use and store loyalty is mixed. Corstjens and Corstjens (2000) assert that there is a positive correlation between private label use and store loyalty using scanner data for one product category; while Ailawadi *et al.* (2001) show a positive association using survey data. Interestingly, Ailawadi and Keller (2004) find that heavy private label users buy significantly less from a retailer than do medium private-label users. Furthermore, customers who highly value the location dimension are less likely to value assortment, and vice versa (Kopalle *et al.*, 2009).

With in-store environment-controlled elements, retailers are in an ideal position to create experiences for their customers. One of those experiences is assortment management using appropriate strategies. There is still no answer to the question:

**What is the ideal assortment mix for the customers,
which is fully aligned with the store format and other in-store
environmental cues?**

Not many studies focus on how the assortment can be integrated to the retailers' brand and how retailers develop their communication strategies as a whole. Furthermore, there are many research opportunities concerning the usage of store merchandising, signage, displays and other activities leveraging the equity of the brands sold be the retailers (Ailawadi & Keller, 2004). A summary of the findings in this field is presented in Table 2.5.

Table 2.5 Assortment – research key findings. Source: Author

Research Paper	Context	Theme	Method					Main findings
			Analysis of records	Observations	Interviewing	Controlled experimentation	Conceptual paper	
Ailawadi et al. 2009	Retail environment	Assortment		x				Consumers' perception of the breadth of different products and services offered by a retailer under one roof significantly influence store image.
Keller 2003	Retail environment	Assortment		x				The greater the breadth of product assortment, the greater the range of different situations in which the retailer is recalled and considered by the consumer, and therefore the stronger its salience.
Kahn & Lehmann 1991	Retail environment	Assortment			x			Customers with uncertain future preferences will believe they have more flexibility in their choices with the retailer with broader assortment.
Broniarczyk et al. 1998; Hoch et al. 1994	Supermarket format	Assortment	x					The reduction of SKUs does not lower customers' perception of assortment much as long as they can still find their favourite items.
Steenkamp & Dekimpe 1997	Retail environment	Assortment		x				The store image and loyalty may improve as consumers become familiar with the private label and their shopping is facilitated by the ability to buy a single brand across a wide range of product categories.

117

Research Paper	Context	Theme	Method					Main findings
			Analysis of records	Observations	Interviewing	Controlled experimentation	Conceptual paper	
Corstjens & Lal 2000	Retail environment	Assortment			x			There is empirical evidence of a positive correlation between private label use and store loyalty.
Ailawadi & Keller 2004	Retail environment	Assortment					x	Heavy private label users buy significantly less from a retailer than do medium private label users.
Mantrala et al. 2009	Supermarket format	Assortment		x				It is difficult to predict what customers will want because they enjoy flexibility.
Baker et al. 2002	Store environment	Assortment				x		Task-oriented customers may consider the assortment as more important driver of customer experience than the customers, who are experientially oriented.
Bell et al. 1998	Store environment	Assortment		x				Demand is most sensitive to location and generally more sensitive to assortment than to price.
Kopalle et al. 2009	Online retail setting	Assortment					x	The customers who highly value the location dimension are more likely to value assortments less, and vice versa.

118

2.4.6 Price

Customer experience is created by those elements which retailers can control, as well as by elements that are outside the retailer's control. Price is one of the most important controlled elements influencing the perceived shopping experience and impacting customer behaviour. Pricing is the key aspect of the marketing mix and it plays a key role in determining the destination store chosen by customers (Kopalle *et al.*, 2009). The competition results in segmentation of the market into a variety of the store formats that provide many services in return for different margins (Ehrlich & Fisher, 1982).

It is very important to present the effect of pricing on the customer experience. Two key retail pricing strategies that have an impact on customers are Everyday Low Pricing (EDLP) and Promotional Pricing (PROMO). It should be noted that most of the research about these strategies involves supermarkets. In particular, Rajiv and Rao (1997) developed a theoretical model of the strategies adopted by firms in a competitive game, and Bell and Lattin's (1998) study on consumer preferences for one strategy over the other. Other studies focus on identifying the impact of retail price on shopping behaviour and store choice. Those researchers have found that consumers' price expectations for the goods they buy influences store choice. Furthermore, Bolton and Shankar's (2003) research has found that:

- Customers with higher spend and lower demand-elasticity in individual product categories will be more sensitive to the expected cost of the overall portfolio (i.e., the market basket) when choosing a store;
- Every day low price stores usually have a higher share in sales of large-basket shoppers whereas stores which base their trade on promotions, get greater than expected share from small-basket shoppers;
- High spender shoppers are not usually price elastic in their category purchase incidence decisions. On the other hand, they are price elastic in their store choice decisions.

Baker *et al.* (2002) found that there is a correlation between customers' merchandise quality perceptions and their perceptions of overall product quality.

119

In other words, the higher the consumers' merchandise quality perceptions, the higher their perceptions of the assortment quality. Other papers provide evidence to the existence of a positive relationship between perceptions of product quality and value (Dodds *et al.*, 1991; Sirohi *et al.*, 1998). The negative linkage concerning the impact of monetary price on value was suggested by Dodds *et al.* (1991) and Sirohi *et al.* (1998). This means that the higher the price perception is, the lower the product value perception is for the customers. Those studies focused on the manipulated price level, and it is important to understand how store environment cues influence perceptions of the price level of products.

Functional dimensions of store image link easily to the expectations of the shopping experience. That is why if 'value for money' is part of the local supermarket's store image, customers are likely to expect to find products with reduced or permanently low prices on the shelves. That is why for major stock-up shopping trips, a 'value for money' image might create stronger and more pronounced expectations than it would when the aim is to buy a missing ingredient. It can be concluded, therefore, that customers usually use the last few shopping prices as a reference as well as readily available information from the environment which they experienced (Laroche *et al.*, 2003).

Bell *et al.* (1998) analysed the factors that affect store choice. A key conclusion is that consumer store choice should consist of choosing a store to minimise the sum of fixed and variable costs of shopping. Thus, in order to be competitive in a market segment, a store should avoid having high fixed and high variable costs of shopping at the same time (Kopalle *et al.*, 2009).

Studies confirm that merchandise value is a function of perceived merchandise price, merchandise quality, and shopping experience costs. However, the entire purchase situation, is an important determinant of consumers' responses to price (Nagle, 1987). This also includes the store environment. Kotler (1973) confirms that in-store atmospherics may generate price beliefs independent from the actual prices. It may be also used by the retailers to create price differences for actually undifferentiated products. Helson (1964) in his Adaptation Level Theory suggests that store environmental cues

will influence consumers' price expectations. Very interesting is the example of Thaler (1985), whose findings show that the price of beer may be higher if it is bought in a more upscale environment. Looking at prior studies, we can conclude, that price is the one of the most important factors influencing customer behaviour. A summary of the findings in this field is presented in Table 2.6.

Table 2.6 Price – research key findings. Source: Author

Research Paper	Context	Theme	Analysis of records	Observations	Interviewing	Controlled experimentation	Conceptual paper	Main findings
			Method					
Bell & Lattin 1998	Retail Environment	Price			x			Consumers' price expectations for the basket they buy influences store choice.
		Price	x					Large-basket shoppers with less ability to respond to prices in individual product categories will be more sensitive to the expected cost of the overall portfolio (the market basket) when choosing a store.
Bolton & Shankar 2003	Different store formats, different US markets	Price	x					EDLP stores get a greater than expected share of business from large-basket shoppers, while PROMO stores get a greater than expected share from small-basket shoppers.
		Price	x					Large-basket shoppers are relatively price inelastic in their category purchase incidence decisions and price elastic in their store choice decisions.
Hoch et al. 1994	Retailer environment	Price / Promotions		x				Analysis reveals that a 10% EDLP category price decrease leads to a 3% sales volume increase, while a 10% PROMO price increase leads to a 3% sales decrease. Furthermore, an EDLP policy reduces profits by 18%, and PROMO pricing increases profits by 15%.
Dodds et al. 1991; Grewal et al. 1998; Sirohi et al. 1998	Different store formats	Price				x		There is a positive relationship between perceptions of product quality and value.

Research Paper	Context	Theme	Method					Main findings
			Analysis of records	Observations	Interviewing	Controlled experimentation	Conceptual paper	
Dodds et al. 1991; Grewal et al. 1998; Sirohi et al. 1998	Different store formats	Price				x		The higher the price perception is, the lower product value perception for the customers is.
Esbjerg et al. 2012	Grocery retailer	Promotions					x	For major stock-up shopping trips, a "value for money" image might create stronger and more pronounced expectations than it would when the aim is to buy a missing ingredient.
Kalwani & Kin-Yim 1992	Simulated retail environment	Price				x		Consumers' reaction depend not only on the retail price, but also on the comparison they make with the reservation price.
Bell et al. 1998	Store environment	Price		x				Consumer's store choice should consist of choosing a store to minimise the sum of fixed and variable costs of shopping.
Messinger & Narasimhan 1997	Store environment	Price		x				Customers' time becomes more valuable and as improvements in consumer transport and inventory-holding (refrigeration) technology take place, the efficiency of shopping for a large basket at one-location increases.
Desai & Talukdar 2003; Bell & Lattin 1998	Store environment	Price			x			Some grocery categories are more influential than others in shaping a retailers' store price image.
Thaler 1985	Food retail Environment	Price		x				Price of products (eg. beer) may be higher if they are bought in a more upscale environment.

2.4.7 Promotions

In the retail environment, sales promotions play a key part of the marketing mix, having the strongest impact on short-term consumption behaviour, and on customer experience. Some posit that store promotions are a way of life for retailers (Volle, 2001).

Customers and store operators promotions can be described as activities controlled by manufacturers and retailers, targeting its final customer, aiming to boost sales in the short-term by providing extra purchase incentives to customers (Blattberg & Neslin, 1993).

One of the trends which characterises today's grocery retail business is increased multiple-store patronage (Kahn & McAlister, 1997). Consumers actively look for opportunities and deals offered by a differentiated retail environment. They usually do this by shopping at two or more stores on a regular basis, which decreases loyalty in the retail sector (Bauer *et al.*, 2012). Interestingly, the relationship between brand loyalty and different pricing strategies is not well-explained in the researched literature. When it comes to promotions, there are two key decisions defining the final strategy: size of the price reduction and frequency with which the product is promoted. These decisions depend on the level of brand loyalty; how many consumers can be convinced to switch to a brand by temporarily lowering its price, and how many are brand loyal instead (Allender & Richards, 2012). There is evidence to support the proposition that the majority of supermarket purchases are unplanned, and that unexpected situational factors have a major influence on food purchase decisions (Narhinen *et al.*, 2000). In an application of Helson's (1964) Adaptation Level Theory, Sawyer and Dickson (1984) argue that price promotions initially entice consumers to purchase because individuals use the product's regular price as a reference and perceive the discounted price as a net gain (Kaltcheva *et al.*, 2013). That is why retailers need to ensure that the impact of the promotions is strong. It reiterates the important moderating effect of in-store atmosphere. A pleasant atmosphere will increase the impact of promotions and positively influence the length of customers' stay in the store which in turn will result in higher chances of noticing the promotional offers and

buying more than planned (Sigue, 2008). It is widely accepted that promotions increase short-term sales. Some promotional activities may create stockpiling, increase sensitivity to prices, and reduce post promotional sales, while others may attract new customers or increase consumption (Sigue, 2008). Furthermore, there is an indication that a higher frequency of price discounts might lead to lesser stockpiling on the customers' part (Raju, 1995).

For the purpose of this thesis, the mechanisms through which promotions positively or negatively influence customer behaviour are of importance. Following the research of Raghubir *et al.* (2004), three main routes are distinguished:

- The economic route changing the utility derived from the purchase;
- The informational route influencing consumers' beliefs regarding the store, brand, or industry;
- The affective route, which is changing consumers' emotions.

According to Kaltcheva *et al.* (2013), there is another effect that promotions may have on customers' beliefs. It impacts customers' evaluations of the store's regular prices relative to competitors' prices. However, promotions are mainly used in order to grab customers' attention and also to offer direct inducement (Ailawadi *et al.*, 2006, 2009). Store level promotions on branded products cannot only act as triggers for impulse buying but also be attractive propositions to price-conscious consumers (Shukla, 2011). Furthermore, if the objective of the promotion is to generate revenue, retailers should be seeking promotions that increase overall spending in-store at the category level (Felgate *et al.*, 2012).

Purpose of shopping trip

The type or purpose of the shopping trip is important as it affects whether customers are likely to purchase due to a promotion because of the relationship between shopping trip behaviour and planned or unplanned purchasing (Mitchell *et al.*, 1995). Bucklin and Lattin (1991) found that promotions have almost no effect on planned purchases. The biggest impact promotions have is on unplanned or opportunistic purchase as those decisions are made in the store and are influenced by in-store marketing activities (Walters & Jamil, 2003).

Consumption behaviour

Within the retail marketing mix, sales promotions have among the strongest impacts on short-term consumption behaviour (Laroche *et al.*, 2003). Areas for further investigation:

- **Consumer choice**

  The long-term impact of sales promotions on consumer choice should be investigated further as most of the studies focus only on short-term impact.

- **Brand health**

  It would also be good to see what the impact is on the retailer's brand health.

- **Customer expectations**

  Customers' expectations concerning future promotions and after-effects of the price discounts are under researched. It would be also interesting to see why some brands are promoted more than others and why some offer greater discounts than their competitors.

- **Sales promotions/ advertising trade-off**

  Sales promotions and advertising trade-off should be understood more deeply.

- **Shopping trip types**

  The relationships between shopping trip types, retail promotions and purchases of specials and non-specials, and shopping basket profits also could be researched in more depth. This could be cross checked with behaviour of the customers from highly competitive markets to less competitive markets and from stores patronised by lower-income consumers to stores visited by more affluent consumers.

- **Individual characteristics**

  Future research could also examine the effects of individual characteristics of sales promotions on customers' evaluations of a store's regular prices. It would be interesting to verify how they influence pre-existing shopper involvement, familiarity with competitors' prices and also the degree to which promotional features engage shoppers.

- **Brand equity and usage**

  Little research has been done concerning the impact of promotions on brand equity and usage. What could be also investigated more are the assumptions that promotions are profitable as well as the view of purchase acceleration as a worry.

  A summary of the findings in this field is presented in Table 2.7.

Table 2.7 Promotions – research key findings. Source: Author

Research Paper	Context	Theme	Analysis of records	Observations	Interviewing	Controlled experimentation	Conceptual paper	Main findings
Narhinen et al. 2000	Store Environment	Promotions			x			Majority of supermarket purchases are unplanned; unexpected situational factors have a major influence on food purchase decisions.
Kaltcheva et al. 2013	Simulated store environment	Promotions				x		Price promotions initially entice consumers to purchase because individuals use the product's regular price as a reference and perceive the discounted price as a net gain.
Mulhern & Padgett 1995	Store Environment	Promotions	x					Sales promotions encourage consumers to purchase not promoted merchandise.
Walters & Rinne 1986	Retail store environment	Promotions			x			Sales promotions accelerate the number of shopping trips to the store.
Blattberg et al. 1981	Retail store environment	Promotions		x				Sales promotions encourage consumers to stockpile, leading to a reduction of the retailer's inventory costs.
Volle 2001	Grocery stores	Promotions	x					Promotion allows the store to maintain/ increase its turnover by achieving a higher penetration rate in the market area, an increase in the frequency of visits, and/or an increase in the average amount spent in the store.
Folkes & Wheat 1995	Grocery stores	Promotions			x			Type of sales promotion affect the customers' price perceptions.

Research Paper	Context	Theme	Method					Main findings
			Analysis of records	Observations	Interviewing	Controlled experimentation	Conceptual paper	
Kalwani & Kin-Yim 1992	Simulated retail environment	Promotions				x		Price promotions influence consumers' price expectations and price–quality inferences under certain conditions. Specifically, the recency and frequency.
Bucklin & Lattin 1992	Retail stores	Promotions					x	Shelf promotions in any of the categories do not directly influence a customer's store choice decision.
Sigue 2008	Retailer / Manufacturer	Promotions						The impact of the promotions will be higher in a pleasant atmosphere – the longer customers stay in a store, the more likely they notice promotions and buy more than planned.
Sigue 2008	Retailer / Manufacturer	Promotions	x					Some promotional activities may create stockpiling, increase sensitivity to prices, and reduce post promotional sales, while others may attract new customers or increase consumption.
Kaltcheva et al. 2013	Simulated store environment	Promotions				x		The more frequent the promotion is, the more diluted perceived brand value is, as well.
Felgate et al. 2012	Retail store environment	Promotions	x					There is considerable variability in the impact of different promotion mechanics between different groups of customers.
Ailawadi et al. 2006	Drug retailers	Promotions	x					Favourable price image when retailers offer frequent discounts on a large number of products than when they offer less frequent but steeper discounts.

129

2.4.8 Branding

The shopping environment is structured by different formats designing different shopping experiences, having at the same time different brand management strategies (Burt & Davies, 2010). Retailers aim to perform different activities and services, which provide 'added value' in the eyes of the customers (Burt & Davies, 2010). Thus, retail branding is much more than only referring to 'own labels' or 'private labels' (Burt & Davies, 2010). In order to manage retail brands successfully, managers need to understand what the customers are looking for (Outi, 2001). Retailers attempt to improve their brand management, however there is a challenge they face. The challenge is how best to integrate their stores and their various distributor brands (i.e., store brands, private labels, etc.) in order to strengthen their brand equity and become more differentiated in order to stimulate customer experience (Juan Beristain & Zorrilla, 2011).

Customers visit stores not only to buy products. That is why retailers must recognise the importance of the in-store environment and overall in-store shopping experience (Kozinets *et al.*, 2002). Grocery stores have meanings for customers and convey certain messages to them through the use of products, signs and symbols (Esbjerg & Bech-Larsen, 2009). A store's image is perceived as a way of managing store positioning (Birtwistle *et al.*, 1999). A thorough understanding of the in-store environment can help retailers in store differentiation and in creating a desired competitiveness for their brands. Many studies have revealed that brand and brand-related information cues impact customer's evaluations (Dawar & Parker, 1994; Dodds *et.al*, 1991; Miyazaki *et al.*; Rao & Monroe, 1989).

Many research papers have focused on retailer attributes influencing overall store image, such as the variety and quality of assortment, different services, and brands sold. Furthermore, in-store environment, employee behaviour and service quality together with price levels, breadth and frequency of promotions are important factors impacting customers behaviour. Lindquist (1974) as well as Mazursky and Jacoby (1986) classified these aspects into a smaller set of elements: merchandise, service, and store atmosphere related

dimensions (Ailawadi & Keller, 2004). All of these influence the customer experience and all are part of this study's research framework.

There are different ways in which retailers build their brand images. Usually, this is done by attributing unique connotations to the quality of their service, their product range and merchandising, pricing or credit policy (Ailawadi & Keller, 2004). Retail brand image includes five different sub-components: (1) perceived quality; (2) price image; (3) retail and retailer brand personality; (4) brand service; and (5) store service. Some of these components are directly connected to product-branding (i.e., creating no particular value to the brand). Others while not being related to product-branding, concern store dimensions (i.e., retail brand personality, retailer personality and managerial values/symbols) (Jara & Cliquet, 2012).

Very important for the retailer's brand image creation is to have the store's own brands, which are big opportunities for differentiation purposes. Those brands can be used to create uniqueness as long as they are considered by customers to be uniquely associated with store image (Collins-Dodd & Lindley, 2003). Based on studies by Outi (2001) it can be concluded that it is very difficult for stores to establish their own brand identity or differentiated store image. In order to manage it well, the most important thing is to understand the customers' current and future needs.

The following direction is proposed for future research based on this review of the literature:

1. Three critical facets that need to be examined including the role of national brands, the role of private labels and the role that the store itself plays as a brand (Grewal *et al.*, 2004);

2. Much has been researched regarding branding, especially on private labels and manufacturers' brands. However, there is a need for a deeper understanding concerning retailer brands, store brands and the manner in which their image impacts on the customer behaviour;

3. Understanding how a retailer should position its brand;

4. Exploring how brand assortment is related to its image.

A summary of the findings in this field is presented in Table 2.8.

Table 2.8 Branding – research key findings. Source: Author

Research Paper	Context	Theme	Method					Main findings
			Analysis of records	Observations	Interviewing	Controlled experimentation	Conceptual paper	
Dawar & Parker 1994; Dodds et al. 1991; Miyazaki et al. 2005; Rao & Monroe 1989	Different store formats	Brand				x		Brand and brand related information-cues influence customer evaluations.
Jara & Cliquet 2012	Supermarket format	Brand			x			Retail brand awareness and perceived quality systematically correlate to the performance of the retail brand.
Peter & Olson 1994	Retail setting	Brand				x		Images associated with the brands a store carries influences a store's image which influences customers' decision-making processes and behaviours.
Porter & Claycomb 1997	Apparel industry	Brand			x			Brand image and retail image are linked to each other.
Baker et al. 1994	Retail environment	Brand			x			Inferences buyers make about the merchandise quality of a store directly influences retail image.
Semeijn et al. 2004	Supermarket format	Brand			x			Store image can be considered to be an important prediction of attitude towards a store brand.
Wu 2011	Retail stores / drug stores	Brand			x			Store image directly influence the purchase intentions of the private label.
Vahie & Paswan 2006	Retail stores	Brand			x			Store atmosphere and store quality positively influences consumer perception of the store brand quality.

2.4.9 Service interface

Service quality can be defined as the overall evaluation attitude (Parasuraman, 1985), which is the degree and direction of discrepancy between customers' perceptions and their expectation of what is actually delivered. The main service quality dimensions include:

- **Interaction quality:** the interaction between customers and staff;
- **Service environment quality:** the overall atmosphere of the store and the service environment;
- **Outcome quality:** the actual service customers receive (Brady & Cornin, 2001) as well as how shopping experiences form.

Critical incidents

Critical incidents refer to specific events during a shopping trip, which make significant positive or negative contributions to the shopping experience (Arnold *et al.*, 2005), as they influence shopping trip satisfaction. Those events are difficult to characterise as they depend on the customers' shopping trip motivations and expectations. Contact employees play a major role here as they are responsible for satisfying customers' needs and expectations (Arnold *et al.*, 2005; Bitner, 1992). By better understanding this role, employees can enhance shopping-trip satisfaction. The literature classifies employee behaviours in critical service encounters in three primary groups (Bitner *et al.*, 1990; Esbjerg & Bech-Larsen, 2009):

1. **Recovery** when employees respond to service delivery system failures such as stockout;
2. **Adaptability** or when employee responses are prompted by customers' special needs and requests;
3. **Spontaneity** or unprompted and unsolicited behaviours.

One very interesting fact is that critical incidents may also arise from negative or positive experiences with other customers (Grove & Fisk, 1997). According to Westbrook (1981), compared with pure services, customer-to-customer experiences are less critical for grocery shopping trip satisfaction, since they have limited interactions and less close physical contact. This may

be important in smaller communities. Mainly where social and recreational shopping motives prevail.

A summary of the findings in this field is presented in Table 2.9.

Table 2.9 Service interface – research key findings. Compiled by: Author

Research Paper	Context	Theme	Analysis of records	Observations	Interviewing	Controlled experimentation	Conceptual paper	Main findings
					Method			
Arnold et al. 2005	Retail environment	Critical incidents			x			Specific events during a shopping trip with significant positive or negative contribution to the shopping experience influence overall shopping trip satisfaction.
Esbjerg et al. 2012	Grocery retailers	Critical incidents						There are three primary groups of employee behaviours in critical service encounters:
		Critical incidents					x	• recovery, when employees respond to service delivery system failures such as stockout;
		Critical incidents						• adaptability, or when employee responses are prompted by customers' special needs and/or requests;
		Critical incidents						• spontaneity, or unprompted and unsolicited, behaviours;
Westbrook & Oliver 1981	Grocery retailers	Critical incidents			x			Compared with pure services, customer-to-customer experiences are less critical for grocery shopping trip satisfaction. This is due to the fact that they have limited interactions and less close physical contact.

2.5 Implications for theory and future research directions

The conceptual model (Figure 2.4) includes key determinants that shape the customer's journey and influence their behaviour. The model's various components were analysed which allowed for the identification of the most important component with the biggest impact on customers' shopping trips. Furthermore, the literature review has identified that in order to differentiate and to compete more effectively, retailers must be more customer-oriented (i.e., they should concentrate on the customer's shopping experience as a holistic construct). In this case, it should provide a win-win value exchange between the retailer and its customers (Grewal *et al.*, 2009).

The key objective of the literature review was to understand what drives customer behaviour, loyalty, attitudes and feelings, as well as how shoppers are influenced through the shopping experience. The framework concerning customers' complete shopping path determinants helped to define what constitutes delightful and unpleasant shopping experiences. It also helped to review which elements have the biggest impact on these experiences. The review focused not only on what exists in the academic knowledge but also on identifying the gaps and future research opportunities. Once elements of the in-store environment and their impact on customers' behaviour are known, the most important ones will be selected to check how they can be controlled by retailers in order to increase sales and customer loyalty.

The literature review has revealed that the store atmosphere interacts with customers' perceptions and affects customer behaviour. The elements which are in the retailer's control are those related to the customers' senses. Various components were reviewed (e.g., colours, amount of light, odour, layout and music) and how they impact customers was examined. This may be perceived as a starting point for controlling the in-store environment. An appropriate mix of those elements influences store perception, purchase intentions, increases sales and also time spent in the store (Baker *et al.*, 2002; Hui *et al.*, 2009; Mattila & Wirtz, 2001; Milliman, 1982).

However, It is surprising how few of the reviewed papers have focused on customer satisfaction with individual shopping trips. On the contrary, most

studies have conceptualised satisfaction as an overall, cumulative evaluation of a retailer based on all relevant encounters (Anderson *et al.*, 1994). The analysed literature in retailing and marketing, has not considered customer experience as a separate construct (Grewal *et al.*, 2004). Its individual components examined however by recent works (Verhoef *et al.*, 2009) claim that it is holistic so it should be considered as one construct (i.e., holistically). Furthermore, not many studies have researched the direct effects of store environment and the mediating role of physiological states in the relationship between store environment and shopping behaviours. In this context, an issue deserving attention is also defining what constitutes delightful and unpleasant shopping experiences (Arnold *et al.*, 2005) and how it may influence customers' shopping plans and behaviour.

The effects of 'pre-shopping' factors, the shoppers' overall trip goals, store-specific shopping objectives are generally unexplored. Only a few studies have empirically examined the consequences of the meaning of transfer from store environment to a store's merchandise. That is why it can be concluded that it is worth investigating the multiple effects of the store environment simultaneously. Those studies could reveal which constructs are especially significant for a particular element or factor. It would help to differentiate them from each other (Roy & Tai, 2003). It is a known fact that by satisfying customers continuously, grocery retailers can encourage customer loyalty (Esbjerg *et al.*, 2012). It is therefore surprising how little research has focused on customer satisfaction with individual shopping trips. On the contrary, most studies have conceptualised satisfaction as an overall, cumulative evaluation of a retailer based on all relevant encounters (Anderson *et al.*, 1994). This constitutes an important gap in previous research. Cumulative satisfaction can be explained if we have a thorough understanding of what causes satisfaction/dissatisfaction with individual shopping trips and as a result – what most impacts customer behaviour.

Several leading studies, such as Baker *et al.* (1994) and Verhoef *et al.* (2009), focus on service quality and the impact of the in-store atmosphere on the satisfaction of the customers. This approach, however, is not fully aligned

with retail market trends. This constitutes an important gap in previous research, overall. Cumulative satisfaction can be explained through an understanding of what causes satisfaction/dissatisfaction with individual shopping trips. In retail environments characterised by intense competition at both the store level and between different retail chains, disappointed consumers can have negative consequences for satisfaction and loyalty because they have many alternative shopping opportunities. Thus, the multiple effects of store environment should be investigated simultaneously as it can indicate which routes are particularly important for a particular element or factor, and hence enable differentiation between the elements or factors (Roy & Tai, 2003).

The analysis of the research framework showed important gaps and research opportunities in all analysed elements of the model. While analysing the studies concerning the interactions between customers, we could observe that it may have significant impact on the service experience (Baron *et al.*, 1996; Martin, 1996; Martin & Pranter, 1989). However, studies almost ignored the need for creating relationships *between* customers and focused mainly on creating relationships *with* customers. There are only several studies analysing the manner in which customers can affect one another either directly, or indirectly (Baker *et al.*, 2002; Bitner, 1992). Furthermore, most of the social elements (e.g., too many people in small spaces) can influence the perception of crowding (Eroglu & Machleit, 1990). However, no empirical studies researched the relationship between store employee cues and consumers' perceptions of time/effort costs in a retail environment (Verhoef *et al.*, 2009). Furthermore, there has also been very little research conducted, specifically with regard to customers' public behaviours and how those behaviours affect the satisfaction of other patrons (Martin, 1996). On the other hand, there is a solid literature concerning the social environment, but there is a need to better understand how the social environment impacts customer experience, especially in a retail context. In order to do so, we need to understand how customers act in groups and how these groups influence the shopping experience of fellow customers. Moreover, there are no clear guidelines concerning the design of the social environment and managing it in a way to

assess its performance. There might be an impact of other customers spoiling the shopping experience of the other customers. It would be good to research then, whether customer compatibility management is the solution to it. This should be cross-checked with the influence of employees affecting the customer experience. All these gaps which should be considered, may have a significant impact on the customer shopping experience.

2.5.1 Sales promotions

Different issues concerning sales promotions were analysed using different theoretical models. Nevertheless, there are still some aspects needing to be researched further, and those are as follows:

- **The long term impact of sales promotions on consumer choice**

  Most studies focus only on the short term impact, but it would be interesting to explore what the impact is on the retailer brand health.

- **Customers' expectations concerning future promotions and the after-effects of price discounts**

  It would be interesting to understand why some brands are promoted more than others, and also why some offer bigger discounts than their competitors.

- **Sales promotions/ advertising trade-off**

  The link between sales promotions and advertising should be investigated further.

- **Shopping trip types, retail promotions and purchases**

  The relationship between shopping trip types, retail promotions and purchases of specials and non-specials merchandise, and shopping basket profits – is another fascinating area to explore.

- **Highly vs., less competitive markets**

  This could be also cross-checked with behaviour of customers from highly competitive markets versus those from less competitive markets; as well as from stores patronised by lower-income consumers to stores visited by more affluent consumers.

- **Individual characteristics of sales promotions**

  Future research could also examine the effects of individual characteristics of sales promotions on customers' evaluations of stores regular prices. It would be also interesting to verify how they influence the pre-existing shopper involvement, familiarity with competitors' prices and also the degree to which promotional features engage shoppers.

- **The impact of promotions on brand equity and usage**

  Furthermore, little research has been performed concerning the impact of promotions on the brand equity and usage.

- **Purchase acceleration resulting from promotions**

  Another gap that could be investigated is that regarding the assumptions that promotions are profitable as well as the view of purchase acceleration as a worry. Many research papers focus on everyday low price and promotions, however we can observe other strategies used by retailers such as exclusive pricing, moderately promotional pricing, and aggressive pricing (Bolton & Shankar, 2003). Prior research has not examined how the aspects of store environment influence general price level expectations for the entire store, nevertheless have shown, that price is the one of the most important factors influencing customers' behaviour.

2.5.2 Assortment management

With in-store environment controlled elements, retailers are in an ideal position to create experiences for their customers. One of those experiences is assortment management using proper strategies. However, the literature indicates that it is unclear for most retailers what constitutes the 'right mix of products' or a 'good assortment' (Bauer *et al.*, 2012). The following gaps were identified:

- **Assortment integration**

  Not many studies focused on how the assortment can be integrated into the retailers' brand and how they can develop their communication strategies as a whole.

- **Usage of store merchandising, signage, displays and so forth**

  There are many research opportunities concerning the usage of store merchandising, signage, displays and other activities leveraging the equity of the brands sold by the retailers (Ailawadi & Keller, 2004).

2.5.3 Private labels and manufacturers' brands

Many studies investigated branding, especially private labels and manufacturers' brands. However, there is a need for more specific research concerning retailer brands, store brands and the impact their image has on the customers' behaviour.

It is very important for retailers to understand how they should be positioned as well as what is the relation between their store image and the brands, which they sell. According to Semeijn *et al.*, 2004), store image can therefore be considered as an important prediction of attitude towards a store brand. Based on many research studies, it is possible to conclude that customer behaviour is based on information associated to store image. It influences consumer perception (Martineau, 1958; Bettman 1979; Bagozzi, 1998; Hayes 1998). There are many studies concerning the determinants of store image (Lindquist, 1974; Nevin & Houston, 1980; Bitner *et al.*, 1994; Erdem *et al.*, 1999), though most analysis is based on the relationship between the variables. Much of this research has helped my understanding of the critical influence of store image, however very little has been done to verify its impact on the outcome of the customer's decisions, which is reflected by their choice of store (Chez *et al.*, 2003). In addition, a conceptualisation and scale for measuring retail brand experiences has not yet been developed (Arnould *et al.*, 2002). While observing the impact of branding on customer behaviour, it is believed that future research should focus on the different elements of retail branding. There are three important areas which should be researched more deeply. Those are: the role of national brands, the role of private labels and the role that the store itself plays as a brand (Grewal *et al.*, 2004).

In summary, all reviewed studies concerning the conceptual model suggest that different enduring aspects of the store environment influence

customers' shopping trips. However, their effects on shopping trip experiences have not been central to prior conceptualisations, which focus instead on how retailers manipulate store environments to influence outcomes such as money spent or time spent in stores (Esbjerg *et al.*, 2012). This constitutes an important gap in previous research, overall. Cumulative satisfaction can be explained if we have a thorough understanding of what causes satisfaction/ dissatisfaction with individual shopping trips and how this influences the customers' shopping behaviour.

2.5.4 Methodology

The research techniques which have been used to investigate the relationship between the store environment and shoppers' behavioural responses centred in many cases on experiments conducted in the field and laboratory (Turley & Milliam, 1992). Some methodological flaws have been identified and those are discussed below.

In laboratory experiments, researchers used pictures, videos and written descriptions to adapt and operate the store environment. Those methods are effective for testing psychological reactions but they do not investigate the behavioural responses of the shopper during the shopping trip (Nath, 2009).

In addition, existing studies do not provide information for practitioners concerning guidelines for selecting the appropriate arousal level for a store environment with a specific layout (Kaltcheva & Weitz, 2006). There are very few studies focusing on pre-shopping factors from which the motivation and context for a shopping trip emerge. What is also new and not confirmed in prior research is that out-of-store marketing has no direct effect, it reinforces the lift in unplanned buying from shoppers who use marketing materials inside the store. Moreover, in order to know exactly what drives customer behaviour, in terms of attitudes and feelings, these cannot be based solely on customers' memories, which fade rapidly. There is a need for additional research in order to understand how the physical and social environment impacts the customer experience and shopping plans, in a retailing environment (Lam, 2001). The relationship between the store layout, in-store atmosphere and shopping list

data, as well as its impact on the consumers' shopping plans should be researched to a greater depth. There is a need for a study which links travel patterns, purchase behaviour and customer feedback concerning the shopping experience and brand exposure. All of this would help to design my research investigating the complete shopping path and the impact of the in-store environment on customer perceptions. The impact of the in-store environment on customers is not fully explored and there are many further research opportunities.

All identified gaps in the academic literature presented (Table 2.10) will help create a detailed research model which will contribute to the existing knowledge. A contribution could be made by providing a clear answer in what way the in-store environment cues influence the shopper through the focus on his/her shopping plans. The biggest value would be obtaining not only declarative findings but using the customer till-data, as well.

Table 2.10 Identified gaps and research further opportunities. Source: Author

Emotional responses of the customers	Consumer goals and expectations	Social Environment	Retail Atmosphere/ Layout	Assortment	Price	Promotions	Branding	Service Interface	General Shopping Trip	GAP/ RESEARCH OPPORTUNITY
x	x		x						x	Direct effect of store environment and mediating role of physiological states in relationship between store environment and shopping behaviours
			x						x	Aspects constituting delightful and terrible shopping experiences, and influences on customers' shopping plans and behaviour
	x									Effects of "pre-shopping" factors, shoppers' overall trip goals, store-specific shopping objectives
			x	x						Meaning transfer from store environment to store's merchandise. Multiple effects of store environment, simultaneously
									x	Customer satisfaction with individual shopping trips
									x	What causes satisfaction/ dissatisfaction with individual shopping trips and what most impacts customer behaviour
			x							Research on the multiple effects of store environment, simultaneously
		x								Relationships between customers rather than focusing mainly on creating relationships with customers
		x								How customers can affect one another directly, or indirectly
		x								Relationship between store employee cues and consumer perceptions of time/ effort costs in a retail setting
		x								How customers act in groups, and how these groups influence fellow customers' shopping experiences
		x	x							Design of social environment and its management to allow performance assessment
						x				Long-term impact of sales promotions on consumer choice
						x				Impact on the retailer's brand health
						x				Customer expectations concerning future promotions and after-effects of price discounts
						x				Why some brands are promoted more than others, and why some offer greater discounts than their competitors
						x				In-depth study on sales promotions/ advertising trade-off
						x				In-depth study of relationships among shopping-trip types, retail promotions and purchases of specials and non-specials, and shopping basket profits

Emotional responses of the customers	Consumer goals and expectations	Social Environment	Retail Atmosphere/ Layout	Assortment	Price	Promotions	Branding	Service Interface	General Shopping Trip	GAP/ RESEARCH OPPORTUNITY
						x				Effects of individual characteristics of sales promotions on customers' evaluations of regular store prices
						x				Impact of promotions on brand equity and its usage
						x				Assumptions that promotions are profitable, as well as the view of purchase acceleration as a worry
			x		x	x				Influence of store environment on general price-level expectations for the entire store
				x						What constitutes "the right mix" or "a good assortment" of products
				x			x			How assortment can be integrated into retailers' brand and how retailers develop their communication strategies, as a whole
			x				x			Usage of store merchandising, signage, displays and other activities leveraging the equity of the brands sold by the retailer
							x			Understanding how a retailer should be positioned and how brand assortment sold by the retailer is related to its image
							x			Conceptualisation and scale for measuring retail brand experiences
							x			Three critical factors: the role of national brands, the role of private labels, and the role the store itself plays, as a brand
									x	Cumulative customer satisfaction through what causes satisfaction/ dissatisfaction with individual shopping trips and how it influences customers' shopping behaviour
									x	Research techniques used to investigate relationship between store environment and shoppers' behavioural responses mostly centres on field and laboratory experiments
									x	Guidelines for selecting the appropriate arousal level for a store environment with a specific layout
									x	Focus on "pre-shopping" factors from which the motivation and context for a shopping trip emerge
							x			Out-of-store marketing has no direct effect, but reinforces increase in unplanned buying from shoppers using marketing materials inside the store
x	x		x	x					x	Relationship between store layout, in-store atmosphere and shopping list data, and impact on consumers' shopping plans
										Links between travel patterns, purchase behaviour and customer feedback concerning shopping experience and brand exposure

3 EMPIRICAL PROJECT

3.1 Introduction

3.1.1 Background and rationale for the project

A great deal of research focuses on how consumers shop, but the rationale behind their chosen behaviours remains unknown. This, in turn, makes it particularly difficult for retailers to establish an appropriate strategy to not only ensure customer loyalty, but also to lead and to increase business in a sustainable manner, within such a competitive environment. Retail exists as a result of consumer spending. Furthermore, in-store environment is a vital tool for differentiation on a market, and is recognised by many retail operators (Levy & Weitz, 2008). Nowadays, the ability to find a way to increase customer spending even by 1%, may determine a retailer's overall success, or failure. Today's retailers need to be able to balance a number of different critical components to create perceived value, which attracts customers and encourages them to spend more. Success depends on the optimal combination of elements creating the in-store experience. That is why promotional, merchandising and store design policies are all controlled by retailers in order to increase customer spend and their customer satisfaction, overall.

Many studies have been conducted concerning the effects of the in-store experience on customer decision-making models (Kumar & Kim, 2014). However, few have addressed customer spending at the level of the individual patron, or store level (Babin & Darden, 1996). Spending in general, and shopping in particular, carries considerable informative potential, as it illustrates an expression of people's preferences (Otto *et al.*, 2009). Customers are able to choose from many retailers selling similar products, driven by the desire to receive unique shopping experiences and products (Kumar & Kim, 2014). In such a competitive environment, retailers must define what is distinctive about their offer and what should be driving customer spending. Is it a particular product, service or perhaps specific perception of the in-store environment? From this perspective, all elements impacting customers' behaviour are of great importance for retailers. To sustain a customer's loyalty in the long term, retailers often find it valuable to focus on customer experience. But which experiences are most important for customers? And how likely are they to influence a change in behaviour? Which are the most profitable areas for retailers to focus on

and which are the least profitable? To answer these questions, there is a need to gain a deeper understanding of how the in-store experience impacts shoppers' behaviour.

For consumers, grocery shopping is a frequently recurring shopping activity that provides both utilitarian and hedonic value (Babin *et al.*, 1994). According to Verhoef *et al.* (2009, p. 21), the customer experience construct "…is holistic in nature and involves the customer's cognitive, affective, emotional, social and physical responses to the retailer." This experience is not only created by elements within the scope of control of retailers, such as: service interface, retail atmosphere, assortment, price. It is also composed of elements, which are usually outside the retailer's control, such as traffic in and outside the store or even weather conditions. In my literature review, I highlighted many publications concerning atmospherics and the effects of the store environment on customer decision-making models, including spending (Eroglu & Machleit, 1990; Hui & Bateson, 1991; Kaltcheva & Weitz, 2006; Milliman, 1986; Park *et al.*, 1989; Smith & Curnow, 1996). Many studies have been performed identifying key possible ways in which store atmosphere may influence customer satisfaction and shopping behaviour: directly, via goal-attainment and via mood-change. In all cases, the positive effect of a pleasant store atmosphere on customers' reactions has been clearly demonstrated (Donovan & Rossiter, 1994; Spies *et al.*, 1997). There are also studies proving that pleasure created by in-store environments can be an important reason for customers electing to spend extra time in a store and to spend more money than intended (Donovan & Rossiter, 1994). Some of the research also suggests that most the shoppers purchase on a portfolio basis, switching from store to store at will (Knox & Denison, 2000). There is also similar evidence to suggest that consumers mentally budget for shopping trips (Netemeyer *et al.*, 2012). From this perspective, in-store experience, creating customer experience is the main force impacting customer behaviour and satisfaction.

The literature with regards to the atmospheric effects on consumer behaviour has evolved, and marketing researchers have realised its importance in creating an influential atmosphere at the point of purchase (Turley & Milliam, 1992). This type of atmospherics planning can mean the difference between a business' success or failure (Bitner, 1992). In recent years, it has become increasingly difficult for retailers to create competitive advantage based on range, pricing strategies, promotions or

location. However, the store itself can create a unique in-store environment and atmosphere impacting customers' behaviour (Lam, 2001). Despite numerous studies on the in-store experience, research findings are not sufficient to provide a detailed understanding of a store's environmental effects. The rationale, which is frequently raised in justifying the decision not to invest in delivering a great in-store experience is that it comes at a high cost. However, we should remember that delivering great in-store experiences actually makes the cost of serving customers lower. Unsatisfied customers are expensive as they are more likely to return products, or more likely to require support. That is why, there is a need to connect the right data, and to assess the impact of the difference between delivering a great experience and delivering a poor one in order to demonstrate the magnitude of the impact (Kriss, 2014).

Nowadays, all retailers attempt to build or modify existing in-store environments in order to become more competitive. Usually, they do this using their experience, however without exactly knowing the detailed impact of a specific design or change of atmosphere, on its users. This is mostly due to the fact that there isn't much empirical research addressing the role of physical surroundings in consumption settings (Bitner, 1992). With an overarching question then, focusing on the roles of product, service and environment perceptions on customer satisfaction and behaviour, I designed my research project. Based on this, in my research thesis I described the final research model and key findings contributing to the identification the impact of product, service and in-store environment perceptions on customer satisfaction and behaviour, providing retailers with a clear indication as to which of the in-store experience constructs they should invest in, as a priority.

3.1.2 Specific purpose of the project

The effects of atmospherics have been measured on a wide variety of different dependent variables over the last 30 years of research. Sales, time spent in the environment and approach-avoidance behaviour have been the most widely studied dependent variables in experimental studies of retail atmosphere. Some leading studies, such as those by Baker *et al.* (1994) and Verhoef *et al.* (2009), are focused on service quality and the impact of in-store atmosphere on customers' satisfaction. This approach, however, is not fully aligned with retail market trends involving a complexity of elements of the in-store experience impacting customer satisfaction and spending. A review of the existing literature has identified that the focus of

research is mainly on elements of the retail environment that are under the retailer's control (e.g., lighting, layout, colour, music, in-store visualisation). Although a substantial body of literature describes how retailers can influence observable customer behaviours by manipulating enduring and transient aspects of their store environments, few researchers have investigated how consumers experience these different aspects, particularly in a grocery retailing environment. The impact of the in-store experience on customers is not fully explored and there are many further research opportunities (Appendix B). In addition, existing studies do not provide information for practitioners concerning the guidelines for selecting the appropriate arousal level for a store environment with a specific layout (Kaltcheva & Weitz, 2006). Furthermore, to know exactly what drives customer behaviour, in terms of attitudes and feelings, research cannot be based on customers' memories alone, as they fade rapidly. There is a need for an additional research context to understand how the physical and social environment impacts customer satisfaction and shopping spending in a real, not simulated retail environment (Lam, 2001). The relationship between the perceptions of the in-store environment, service, product, and customer behaviour, should also be researched in greater depth. There is a need for a study that links travel patterns, purchase behaviour and customer feedback concerning shopping satisfaction.

When examining the opportunities in the research domains concerning retail atmospherics more closely, I could observe that the field of retail atmospherics provides a framework from which to explore potential antecedents and consequences of consumer behaviour and spending. According to Kotler (1973), atmospherics, itself, represents an attempt to manipulate the physical retail environment to create specific emotional reactions among store patrons (Kotler, 1973). That is why, conceptual and empirical studies are attempting to prove, that there is systematic covariance between store environments and consumer behaviours (Babin & Darden, 1996). The data suggest that any change in the environment may be noticed and evaluated similarly by everyone, but responded to differently (Grossbart *et al.*, 1975). Furthermore, it is widely known that one tends to buy more things and to spend more money when one is in a positive rather than in a negative mood state (Spies *et al.*, 1997). In addition, I identified that traditional in-store measurement techniques overlook critical factors that go into shaping customer service and perceived customer value; they provide many interesting

insights, however they did not fully capture what is required to succeed in today's competitive retail environment. There is also a need to remember, that many previous studies were experimental, empirical or declarative in nature. Baker *et al.* (1992) described several methods of testing the effects of the store environment: using a prototype store, asking participants to respond to verbal descriptions of a store or creating a simulated store environment. These methods generally use small sample sizes and because they are based on a single instance rather than a continuous and objective measure, and the results serve as reliable benchmarks. However, with a bigger sample size and real in-store environment experiments, these results could serve as more meaningful measurements of change.

I could observe that the use of customer insight in marketing decisions could be better understood, partially due to difficulties in obtaining research access (Said *et al.*, 2015). All of this constitutes an important gap in previous research, overall. Few studies have investigated the direct effects of the in-store experience and the mediating role of physiological states in the relationship between the store environment and shopping behaviours concerning spending. In this context, an issue which deserves attention is defining what constitutes delightful and unpleasant shopping experiences (Arnold *et al.*, 2005) and how it may influence customers' shopping plans and behaviour, impacting their spending and satisfaction. All the gaps identified in academic literature I described and presented in my literature review and summarised in Appendix B helped me create the detailed research model that will contribute to the existing knowledge. The purpose of this study was also to provide a clear answer regarding the manner in which in-store experience cues influence shoppers through the focus on their shopping plans. The greatest value would be achieved by obtaining not only declarative findings, but also using customers' behavioural data.

Thus, the purpose of my research was to use a robust model in a real in-store environment, including detailed shopping spending data provided by Dunnhumby. The model was based on an extensive amount of data, which in my case represented big and secondary data. Big data usually are rich in trends and patterns but in order to identify them, the data require strong computational techniques. The insights received from this kind of extractions, can be of great value for official statistics, surveys and archival data sources. In my case, the data were directly linked to each of 30,696 customers who responded to the survey. The details of

spending on different category levels helped me reach conclusions on the impact of in-store experience on the performance of individual categories. Till data, not declarative data, helped to ensure that the findings were not impacted by mistakes regarding what customers were declaring they bought.

Based on the findings presented in Chapter 3, I created a simple table focusing on key studies concerning sales and customer spending (Appendix A). What is interesting is that nobody had previously researched the impact of key in-store experience constructs (e.g., assortment, service, in-store environment) on customers simultaneously. Knowing all the gaps and future research opportunities described in my literature review (Appendix B) helped me define the purpose of my research project. It aimed to identify which elements of the in-store experience have the greatest impact on customer satisfaction and which ones influence customer behaviour. It also aimed to more closely examine what might impact the number of visits of individual customers. My objective was to achieve a very large research sample and till data linked to individual customers. This approach had a significant advantage over prior studies, as it was neither declarative nor experimental, and provided a very high level of credibility. To achieve this, I needed to first create my conceptual model, which formed the basis for my research and data collection. It included key determinants that shaped customers' journeys and influenced their behaviour. The model's various components allowed the identification of the most important factors with the greatest impact on overall shopping satisfaction and behaviour of customers. I used spending data, which is an aspect that also substantially constitutes new information not captured by demographics (Otto *et al.*, 2009). Through my research I also aimed to assess whether the in-store experience is the main driver for changes in customer behaviour. Even finding factors that have a minor impact on behaviour or spending can be extremely important for retailers, considering the very high competitiveness of the retail sector. This led me to develop my detailed research question:

What is the impact of product, service and in-store environment perceptions on customer satisfaction and behaviour?

It is important for me to attend to the practical aim and professional implications of my project to the industry. By answering my research question, I could

also be able to give retailers a clear indication in terms of which elements of the in-store environment cues are impacting their customers' behaviour most and where they could expect the highest return from one unit investment in the researched factors. This is very important for the industry, as retailers can control many in-store experience factors, and in different markets in different formats, different retailers invest in different in-store experience determinants. As it was mentioned earlier, the greatest challenge is to measure which in-store experience construct is the most effective and which strategy brings about the highest and most sustainable benefits. There is ongoing debate in the industry regarding the importance of price, range, in-store environment and customer service. That is why, in my research, I addressed all those factors and I aimed to determine which particular one creates the greatest value for customers as well as retailers, which creates loyalty from increased shopping experience and which is driving retailers' sales from increased customer spending.

All this information together should help me indicate the right balance regarding the in-store experience factors in which retailers should invest. Considering the high capital spending by retailers to refit old stores, open new ones, create different store experiments and also investments into marketing, this work can lead to many financial benefits for operators. Finding even a small relationship between one of the researched elements and customers' spending, the benefits considering the scale of some of the retailers (Tesco: $91 billion in sales in 2015; Carrefour: $98 billion in sales in 2014 (Deloitte, 2016)) can be enormous. Significant financial benefits can stem from even the smallest correlation of even 1% between in-store experience elements and customer spending. Therefore, knowing the gravity of the challenge and the possible benefits, I approached my research project using a real in-store environment for the study and robust till data in order to create models that would answer my research question, contributing to existing knowledge, as well as helping retailers to grow and invest in what really matters to their customers and business.

3.2 Research project positioning

3.2.1 Philosophical positioning

In my ontology, which are philosophical assumptions regarding the nature of reality, I took the realism approach. This approach, a traditional position, emphasises that the world is concrete and external and that science can progress only through observations that have a direct correspondence to the phenomena being investigated (Mehrabian & Russell, 1974). This is an extreme position, which was modified, pointing out that the difference between the laws of physics and nature, and the knowledge or theories that scientists have above this law. It assumes that the ultimate objects of scientific inquiry exist and act quite independently of scientists and their activity. This is contrary to the debate concerning relativism. In this approach, we assume that scientific laws are not just there to be discovered, but they are created by people (Mehrabian & Russell, 1974). This means that the 'truth' of a particular theory or idea is led through discussion and agreement between the main protagonists. In the retail research field there is much evidence available for all protagonists but none of is actually accepted as definitive by all, supporting different views at the same time. The relativist position assumes that there may never be a definitive answer to the debate, which is not the case of my approach.

Epistemology, is mainly about different ways of inquiring into the nature of the physical and social worlds (Mehrabian & Russell, 1974). It has formed the ground for debate among many scientists as to how social science should be conducted: positivism and social constructivism. Interestingly, there are no scientists holding only one sole position. Positivism, in general, refers to philosophical positions that emphasise empirical data and scientific methods. This tradition holds that the world consists of regularities, that these regularities are detectable, and that the researcher can, therefore, infer knowledge about the real world by observing it. Positivism provides the best way of investigating human and social behaviour and I've taken this approach in my research study. Furthermore, a positivist approach provides a hierarchy of methods. Experiments are considered ideal because of their ability to determine causality. Although, this method is often difficult to employ in the social sciences due to practical and ethical issues, for my research objectives this approach suits well. Statistics is a second-best approach, well-suited for making generalisations. Comparative methods, as well as case studies, are primarily used

for theory testing/building. Social constructivism was developed in reaction to the application of positivism to the social sciences and while taking this approach one takes the view that 'reality' is not objective and exterior but socially constructed and given meaning by people (Mehrabian & Russell, 1974). One can assume that this means that 'reality' is determined by people rather than by objective and external factors. The focus is on what people individually and collectively are thinking and feeling. Attention is focussed on the ways people communicate with each other, both verbally or non-verbally. That is why, while taking this approach researchers attempt to understand and appreciate the different experiences that people have, rather than looking for external causes and fundamental laws to explain a behaviour. As in my research, I assume that the in-store experience exists, it has impact on customers and I formulate the measures to evaluate this. That is why a positivist approach is taken in my research.

The methodology used in the research is connected to the position I take. From an ontological perspective, I employ realism and my epistemology is positivism, which defines my methodological approach. In my position, however, I assume that there is a reality that exists independently of me and my work is to discover it. In my case, I examine the impact of the in-store experience on customer behaviour. I design my study to create key factors to be measured precisely to verify or falsify my hypothesis. While I recognise that reality cannot be accessed directly, I am using surveys of large samples of individuals to access it indirectly. My data here will be expressed in quantified form, which will help to create propositions that will be tested. Based on those results, new ideas may be developed.

3.2.2 Theoretical positioning

In order to develop my research framework, I needed to review the theoretical background of the customer-experience construct. This knowledge helps to better understand the overall structure of the conceptual model and the detailed role of its elements (i.e., creating and influencing the customers' shopping experiences).

Some of the first work concerning the impact of the store environment on customer behaviour dates back to the 1950s and 1960s (Cox, 1964; Kotzan & Evanson, 1969; Martineau, 1958; Smith & Curnow, 1996). The term 'store atmosphere' was used and defined for the first time by Kotler (1973). It was used to describe the planning of the environment to create certain effects on buyers.

153

Kotler (1973) affirms that a product goes beyond the tangible aspects normally associated with it and that a planned environment has an impact on it. Based on this one can conclude that shopping trips can be very complex, considering the number of stimuli shoppers encounter both inside and outside the store (Esbjerg *et al.*, 2012). However, all the empirical studies, which were examined for this literature review, are mostly based on studying customer behaviour within the store. The techniques identified in the research papers include (1) analysis of records; (2) observations; (3) interviewing; (4) controlled experimentation.

Most of the reviewed papers focus on customers' perceptions of the in-store shopping experience, which is a holistic construct in nature and involves the customer's cognitive, affective, emotional, social and physical responses to the retailer (Bell *et al.*, 2011). That is why the majority of in-store studies are based on the PAD Emotional State model (Mehrabian & Russell, 1974) concerning the impact of the environment on behaviour. This theory proposes three basic emotional states which mediate approach-avoidance behaviours in any environment: Pleasure-displeasure; Arousal-non arousal and Dominance-submissiveness (PAD). Based on this theory, store environment could affect customer behaviour in several ways. Certain response of human beings to the environment may be conditioned or hard-wired into the human brain. For example, for a store layout in a racetrack form, shoppers may follow the path defined by the layout with little thought or emotion aroused by the layout (Levy & Weitz, 1998). In the work of Mehrabian & Russell (1974) one can observe, that in a variety of settings (schools, hospitals, homes, etc.), emotions affected by the environment can be fully described by three states, pleasure, arousal and dominance (PAD). Interestingly, for many years the majority of studies on emotional response to store environment have adopted this paradigm, providing evidence that shoppers' emotional states can be largely represented by the PAD dimensions (Babin & Darden, 1996; Bellizzi *et al.*, 1983; Donovan & Rossiter, 1994). These studies also show that emotional responses lead to a variety of behaviours and outcomes, such as how long shoppers stay and how much money they spend inside a store. Other studies use different scales that include some emotion measures (Bellizzi *et al.*, 1983). However, many of these measures are similar to those found in the PAD dimensions, which is why I keep it as the dominant, theoretical positioning in my research thesis.

When I look at this model more closely I can see that the Mehrabian and Russell (M-R) (1974) model is based on the stimulus-organism-response (S-O-R) paradigm, relating features of the environment (S) to approach-avoidance behaviours (R) within the environment, mediated by the individual's emotional states (0) aroused by the environment. The M-R model proposes that sensory variables within the environment, the amount of information in the environment, and individual differences in affective response will influence people's affective responses to the environment. The model (Figure 3.1) is quite influential and has been validated in many prior studies. However, in the current retail environment it is not fully up-to-date. The model helps to understand the emotional responses of the customers in a store, but it does not refer to the multiple touch points impacting their responses. Thus, it needs to be adapted to have a new, richer, theoretical framework (Figure 3.2). In this modified framework, environmental characteristics are proposed to affect consumer arousal, which in turn affects pleasantness and (through pleasantness) consumer shopping behaviours.

ENVIRONMENTAL STIMULI	⟹	EMOTIONAL STATES: PLEASURE, AROUSAL	⟹	APPROACH OR AVOIDANCE RESPONSES
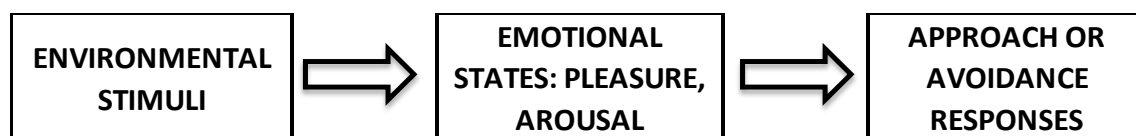
Figure 3.1 Modified Mehrabian-Russell Model. Source: Donovan & Rossiter 1994, p.284

Verhoef *et al.* (2009) noted the need to consider customers' in-store experience alongside experiences in other channels (Figure 3.3) as well as the evolution of their total experience with the brand over time. Verhoef *et al.* (2009) furthermore suggested that longitudinal research needs to be conducted to explore whether the drivers of the retail experience are stable. Over the stages of the customers' journey, it is likely that different retail drivers have different effects at the various stages of the decision-making process and as a function of customers' experience level (Puccinelli *et al.*, 2009). Taking this into consideration, my research should focus on seven consumer behaviour research domains that influence customers' experiences (Figure 3.2): (1) goals, schemas and information processing; (2) memory; (3) involvement; (4) attitudes; (5) affect; (6) atmospherics; and (7) consumer attributions and choices. These illustrate insights gleaned from each

topical area, using standard consumer decision-making stages (i.e., need recognition, information search, evaluation, purchase and post-purchase). For example, consumer goals play an important role in determining how consumers perceive the retail environment and various retail marketing mix elements (Arnold *et al.*, 2005).
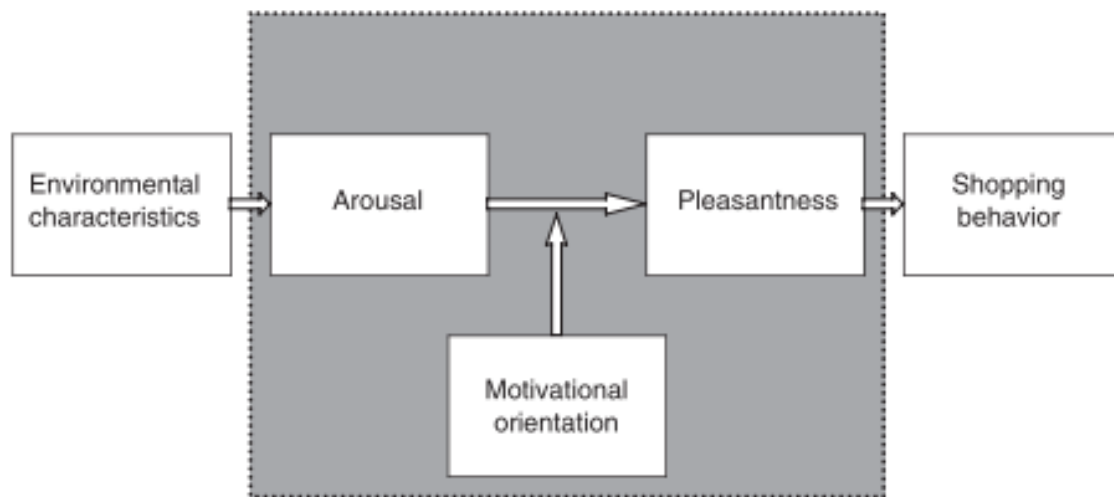
Figure 3.2 Environmental characteristics impact on shopping behaviour. Source: Kaltcheva & Weitz, 2006, p.109

Furthermore, according to Meyer and Schwager (2007), customer experience is the internal and subjective response. To have a holistic view of the theoretical background concerning customer experience, this process needs to be integrated with phases such as search, purchase and consumption. This approach differs from most studies in the retailing literature, which focus mainly on specific parts of the shopping experience.

However, for this research project, shopping encounters should not be examined in isolation and thus there is a need to adopt a holistic view of customers' shopping experience to identify the elements that have the greatest impact on customers' shopping trip. Adding to the above, recent literature has identified that the customer experience construct is holistic in nature and involves the customer's cognitive, affective, emotional, social and physical responses to the retailer (Bell *et al.*, 2011), influencing customer satisfaction and spending.
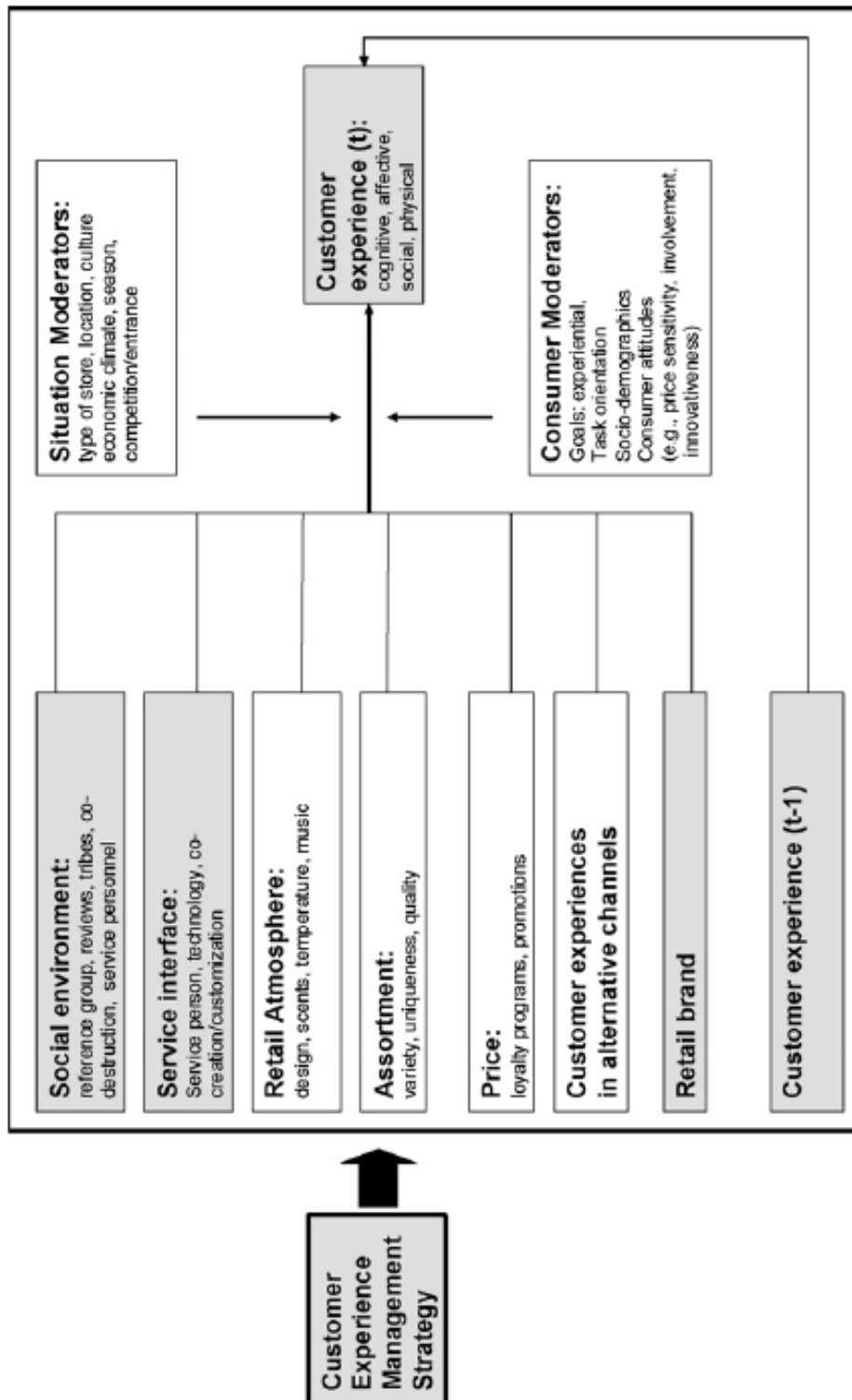
Figure 3.3 Conceptual model of customer experience creation. Source: Verhoef, P. *et al.,* 2009, p.32

3.3 Conceptual model and research framework

Based on my theoretical approach and the 'complete customers shopping path framework,' which I created as the result of my literature review, I identified the most important elements impacting customer behaviour, as well as customer behavioural responses. This helped me understand which elements constitute delightful and unpleasant shopping experiences, having the greatest impact on customers and their behaviour. Based on this, I developed a new model with the major factors influencing customers' shopping trips. These are identified and the key elements are highlighted (Figure 3.4).These are the elements that have a direct impact on creating the in-store experience, simultaneously influencing customers' behaviour. As I am attempting to narrow my study, I do not discuss other determinants that are the part of the customers' complete shopping path (described in my literature review). However, it is essential to understand that a customer's in-store experience is not limited to only his/her interaction in the store. It is rather created and implicated by a combination of different factors that occur before and after sales. Thus, although I am narrowing my study (Figure 3.4), I should keep in mind these different dynamics influencing and impacting customers' shopping experiences from a holistic point of view:

- **Social environment:** The impact customers' friends, colleagues and family have on each other during a shopping trip. The focus is on the interpersonal influence of customers and how the interactions among them can have a profound effect on customers' shopping experience, as well as their responses in-store.

- **Retail atmosphere/ layout:** A layout is an example of a design cue that influences the customers' expectations concerning their movement in the stores (Baker *et al.*, 2002). The focus here is on ambient and design factors, such as lighting, scent, colour, music etc. to verify what kind of direct effect they have on the shopping experience. Also in-store communications are the most influential touch points on brand consideration (Baxendale *et al.*, 2015).

IN-STORE EXPERIENCE	BEHAVIOURAL RESPONSES
SOCIAL ENVIRONMENT	SPEND
RETAIL ATMOSPHERE/ LAYOUT	
ASSORTMENT	
PRICE	
PROMOTION/ SPECIAL OFFERS COMMS	AVERAGE NUMBER OF VISITS
IN-STORE RETAIL BRAND COMMS	
SERVICE INTERFACE	
CRITICAL INCIDENTS	OVERALL SHOPPING SATISFACTION
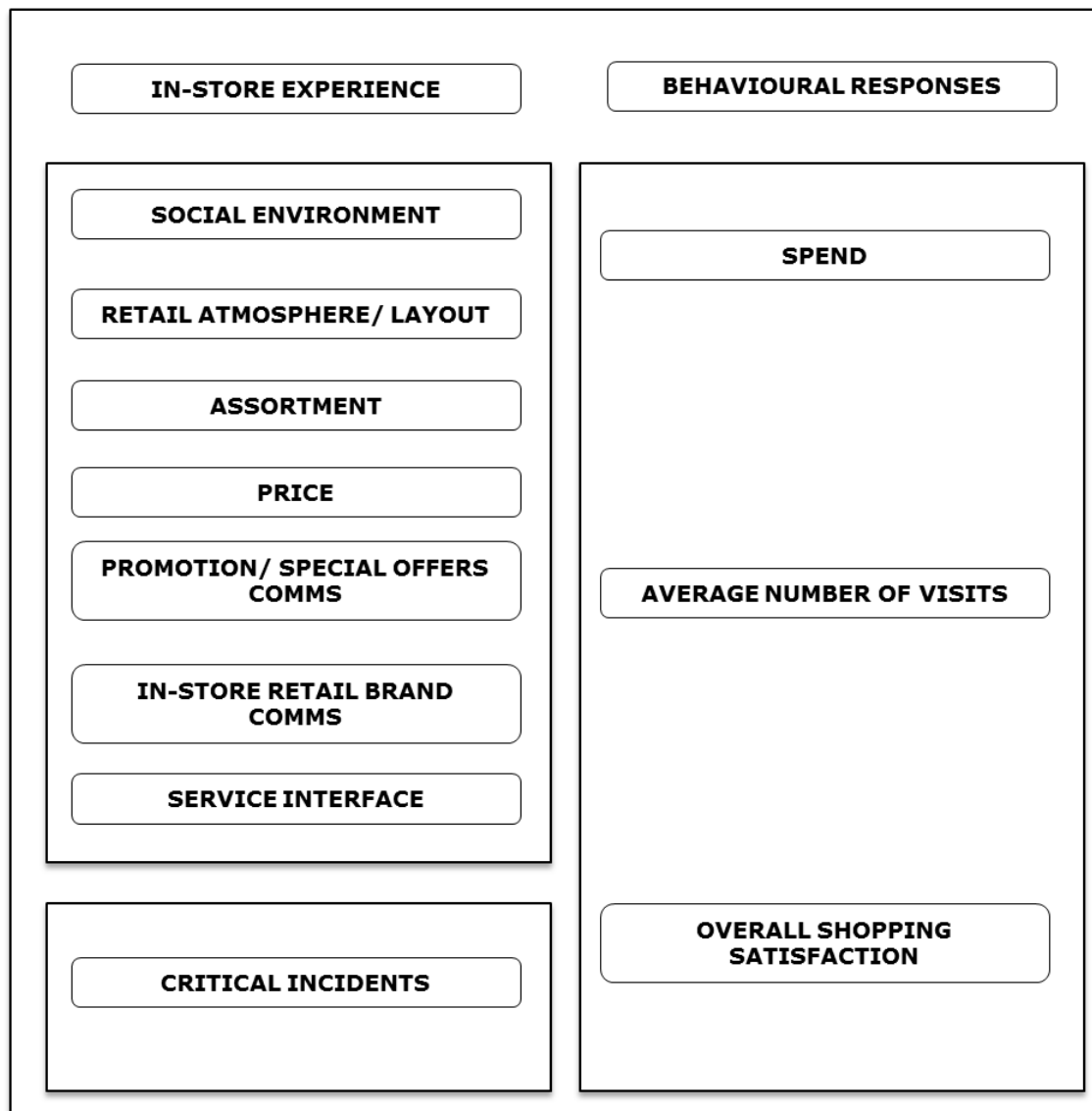
Figure 3.4 Initial, conceptual framework of in-store customer experience on satisfaction and behaviour. Source: Author

- **Assortment:** Customers' perceptions of the diversity of different products and services offered by a retailer influences their shopping experience and their behaviour. Different assortment strategies are important constructs, and these impact customers. One of the greatest problems for retailers is the challenge of getting the right merchandise in the right quantities to the right stores at the same time that customers want it.

- **Price:** This is an important construct controlled by retailers and influences the perceived shopping experience. Different pricing strategies impact customers' shopping goals. Furthermore, among the four Ps (product, price, place,

159

promotion) this is one of the most important in terms of earning value for the retailers.

- **Promotions/ special offer communications:** These are an important part of the marketing mix, and retailers aim to build a store brand image with the intention of influencing consumers' attitudes and behaviour. Different kinds of promotions have different roles in retailing, influencing customers' shopping goals and behaviour.

- **Branding:** Retailers make concerted efforts to improve their brand management to influence their customers' behaviour. Brand and brand-related information cues will be reviewed regarding how they influence customers' evaluation, as well as any advantages offered for the retailers by having strong brands.

- **Service interface and critical incidents:** These are specific events during a shopping trip that make positive or negative contributions to the shopping experience (Arnold *et al.*, 2005). They influence shopping satisfaction. The impact they have will be analysed depending on customers' shopping trip motivations and expectations.

In my framework, several dependent variables (spending, shopping satisfaction and number of visits) are examined to determine how they are impacted by in-store experience constructs. I used this framework as the basis to collect the data and to create my more detailed research framework, which I describe below. The framework also helped me to ensure that the secondary data I wanted to use are fully aligned with my research objectives.

3.4 Methods

3.4.1 Methods for researching the retail customer experience

Several methods have been used and repeated extensively while researching the in-store environment. Baker *et al.* (1992) described several methods with regards as to how the in-store environment could be tested. It focused mainly on using a prototype store, creating a simulated store environment or providing a verbal description of a store and asking participants to respond to it. Based on my experience as a retailer, I am aware that many retailers, for example Tesco or Metro group first developed prototype stores to observe which element of the project is

160

working well and which is adding the most value for the customers and business at the same time. This approach is very costly, thus making it too expensive to be used by small retailers. An alternative to this, which is a much more affordable solution, might be asking the customers to respond to verbal descriptions of a store. Gardner and Siomkos (1985) found that such descriptions systematically affect consumers' perceptions of physical sensations. However, Baker *et al.* (1992) described that although this approach is suitable for laboratory testing, it carries some limitations. These limitations mainly concern external validity as verbal descriptions can be value-laden (Lam, 2001). There are also many other studies using videotapes, slides or even drawings. This methodology could never be as accurate and precise as a real in-store environment. However, the validity of this simulation method is supported by Hui and Bateson (1991). It also helps researchers to keep all relevant cues constant across subjects. Furthermore, qualitative methodology was also used by the researchers.

In terms of different settings, prior studies concerning the in-store environment were, in many cases, performed in the field and in laboratories, with an artificial setup. Participants were asked to imagine themselves in hypothetical situations, and respond to specific questions. They were required to respond, as they believed others would do in the hypothetical situations given. Nevertheless, the advantage of laboratory research is that it can better establish causality through reducing the number of confounds via a controlled environment like a laboratory setting. These methods, in spite of having many advantages, also have several important disadvantages; the simulation is never as real as a real situation would be. Mainly they concern results, which would not really apply to the real world. Furthermore, it may be difficult to replicate or generalise these results, due to researchers' bias or social desirability. Interestingly, Gardner and Siomkos (1985) found that assessments of atmosphere effects are not biased by the use of role playing or third parties.

Many field studies do not have advantages connected to those, based on laboratory settings, where there is a possibility for subjects being assigned randomly to different treatment conditions, balancing the number of subjects in different treatment conditions at the same time. Nevertheless, field studies may have higher external validity. An unbalanced design or correlation may be found between explanatory variables in field studies which at the same time reduces the power of

hypothesis testing and hence the validity of the findings. For example, Donovan and Rossiter (1994) failed to find conclusive evidence for the interaction effect between pleasure and arousal on shopping behaviours and attributed the lack of strong evidence to the unbalanced design of their field study. This explains why simulation and laboratory experiments are part of a methodological approach to measure the impact of the in-store environment on customers.

There are several key benefits of conducting research in the field. First, my research approach allows me to gain first-hand experience and knowledge about the impact of the in-store environment on customers. No other method offers the same kind of focus on the research subject. Field research is an excellent method for understanding the complexity of different constructs shaping people's experiences, particularly in a social context. It may also uncover aspects of experiences that people were not aware of before. While considering other methods such as interviews and surveys, it is difficult to expect to achieve information of which respondents are not aware, or even answer questions they do not know. To run field research, there is usually a need for an extended time period, which may impact the social facts which of which thee researcher is not aware at the time. They become discovered over time but also they can be uncovered during the running process of the research project. Keeping this in mind, and the possibility of conducting my research in Tesco stores themselves, I decided to use secondary data collected in this context.

3.4.2 Methods of data collection and big data

My extensive literature review helped me develop a high-level research framework, which gave me direction concerning the kind of data I should be seeking. To a large extent, the success of each study depends on the quality of the data collection methods used and also how they reflect the research framework. The information needs of different user groups involve the collection of different types of data using different kinds of methods.

The data collection method must be appropriate to the population and the researched problem. The method usually starts during the literature review, which provides guidelines concerning which method fits best to answer the research question.

Data collection methods can be classified into two general types: quantitative and qualitative. Quantitative methods produce numerical data usually through structured surveys (Casley & Kumar, 1988), whereas qualitative methods produce descriptions of situations, events, people and systems interactions (Casley & Kumar, 1988). Data collection methods can also be divided into the following key categories: physiological measurements, observational methods, interviews, questionnaires, records or data already available.

When I more closely examined the quantity of collected data for different studies, I could observe that there are many research projects relying on collecting a small number of measures spanning a short period of time. Here the advantage of big data, which offer very big volumes of information, over many periods (seconds, minutes, hours, days, months or years) which in the case of my research study, represents customers' survey and behavioural data, is obvious. For researchers this is a big advantage. In such a diversity there are many opportunities to observe potentially significant variables which former studies did not considered at all owing to their necessarily more focused nature. Upon identifying these variables, researchers are able to explore relationships between them, as well as the contextual conditions under which these relationships may or may not hold (Gerard *et al.*, 2014). Such data are also highly beneficial for companies creating systems, which can aid in the use of marketing tools through automated calculations, graphics and guidance; facilitate group planning through support for fast iteration, as well as aiding the integration of cross-functional and multiple-level analyses (Wilson & McDonald, 1996).

Despite successful testimonials of 'big data first movers,' a recent industry survey indicates that a majority of companies have still not begun to engage in the practice of capitalising on big data (Snijders *et al.*, 2012). Nevertheless, in many different areas, data are being collected at an unprecedented scale. Many decisions that were previously based on 'guesswork' can now be based on mathematical and statistical models. Over the past years many fields related to big data have become very important not only in the academic but also business communities (Chen *et al.*, 2012). Many organisations are now verifying how big volumes of data could be examined and researched in order to create and capture value for individuals, businesses, communities and governments. It is very interesting to see that big data is becoming a tool not only for pattern analysis but is also being used to predict the

likelihood of an event taking place. Big data analysis now drives almost every aspect of many sectors of business and is revolutionising all aspects of our lives.

The term big data refers to collections of datasets with such appreciable levels in terms of size and complexity that they become difficult to capture, process and manage in a timely fashion using on-hand data management tools and traditional data processing applications (Snijders *et al.*, 2012). However, the classic definition of big data focuses on three aspects: volume, velocity and variety (Chen *et al.*, 2015). Volume refers to the amount of data, velocity to how rapidly data are produced and variety to diversity of in data formats. In the literature, I have also observed a 4th V, which is veracity. This refers to issues of trust and uncertainty with regards to data and the outcomes of data analysis. If I look at my research, I can define my big data as high-volume, high-velocity and high-variety information assets, demanding innovative forms of information processing for enhanced insight and decision-making (Huang & Huang, 2015).

There are many benefits of using big data, showing that in the hands of the right managers, big data can be among the most important assets to a company. However, I need to remember that the more data needs to connected, the greater the scale of the challenge. The data available are often unstructured, not organised in a database, and unwieldy; but there is a significant amount of signal all in the noise simply waiting to be released. Analytics brought rigorous techniques to decision making; big data are at once simpler and more powerful (McAfee & Brynjolfsson, 2012). The most important thing is to have the right tools, rigorous processes and appropriate people who can understand the underlying patterns that generate a return on data, knowing that the difference between winning and losing in a data-driven world will be the ability to reduce ongoing costs of managing increasing volumes of data with the ability to extract value from this data. However, many technical challenges remain that must be addressed to fully realise this potential. The larger the amount of data, the more challenging the work becomes. One of the key challenges for big data analysis is its variety, which refers to the heterogeneity of data types, representation, and semantic interpretation. The second one is velocity, which refers both to the rate at which data arrive and the time frame in which they need to be taken. Generally, one of the greatest challenges in working with big data is also gaining access to them, which in the case of my research, was difficult. However, I managed to acquire all the data I needed (Jagadish *et al.*, 2014). In

different domains I can find many examples of how managers are using big data. Several examples of the most common usages of big data are improving airline expected time of accomplishment (ETA) or speedier and more personalised promotions, which I can observe in many retailers (McAfee & Brynjolfsson, 2012). Big data are also a wrapper for different types of granular data. Five key sources of high volume data include (1) public data, (2) private data, (3) data exhaust, (4) community data and (5) self-quantification data (McAfee & Brynjolfsson, 2012).

Many retailers now have access to many types of different information. Such information is mainly till-data focusing on different types of transactions. Nevertheless, many companies are looking for more targeted data to better understand their customers' preferences to help them make better strategic choices and gain a competitive advantage. They accomplish this using different loyalty programs, aimed towards individual customers which provides them the opportunity to target offers to each individual customer differently, based on their preferences. The data used for this activity represent big data. On a wide retail market, Tesco is a leader in this kind of value-building strategic approach. For this purpose, Tesco uses the Clubcard loyalty program. Clubcard data have all the information concerning customers' spending that is not available for typical academic research. This represents secondary data, which is based on real empirical studies within the real retail store environment. The Clubcard data are collected on a daily basis by a system, which records all transactions done by Clubcard holders. It is managed by the Dunnhumby company owned by Tesco and is the largest customer-spending information database in the UK. It holds information pertaining to the individual spending of each Tesco Clubcard customer up to product level, for the time period throughout which the Clubcard of the given customer was used. It is used by Tesco's commercial and marketing teams for trade planning activities and to improve identification of customers' needs. The informative value of these data is enormous and represent big data.

I faced many challenges while trying to create value from the big data to which I had access. These included gaining access to the data first, and then information extraction and cleaning, data integration, modelling and analysis, interpretation and deployment. In the literature, many discussions on big data focus on only one or two steps, ignoring the remainder. Fortunately, in the case of my research project, I overcame the following challenges: data access, heterogeneity of data,

inconsistency and incompleteness, timeliness, privacy, visualisation and collaboration, as well as ecosystem of tools surrounding big data. While analysing the big data, I attempted to not only focus on aggregates or averages, but also on outliers. In many situations, averages are important, often revealing how people tend to behave under particular conditions. But, in the vastness of the big data universe, the outliers can be even more interesting.

My choice of methods was influenced by the data collection strategy, the type of variable, the accuracy required, the collection point and the skill of the enumerator. Links between a variable, its source and practical methods for its collection helped in choosing an appropriate one. The most important part of this process is the identification of which method will best help me answer the research question. While looking at this process through the perspective of my research project, it is important to mention that in order to study the variables of interest, researchers may also use data that already exist and that were collected for another purpose. This was the case with regards to my research thesis (Chapter 3), in which I used the secondary data to answer my research question (described below). My secondary data came from an online survey (dataset 1) and customers' behavioural data from the Clubcard data base (dataset 2). An online data collection method, in spite of its large sample size has both advantages and disadvantages. The key benefit in my case is the large sample size of survey respondents and the ability to match this sample to the behavioural data. Furthermore, using the Internet for data collection allows researchers to yield results much faster and avoid interviewer bias. It can also be completed at the respondent's convenience, which makes it much less intrusive than other traditional methods. In addition, the quality and accuracy of the data are increased owing to fewer errors in data entry and larger sample sizes. I needed, however, to ensure that I would not encounter key problems with this method (Schillewaert, 2005).

As the data from the online questionnaire were already collected and represented secondary data for me (described below), I needed to ensure that the survey not only meets the requirements of my research project, but is also designed using the best standards:

- The length of the survey should be adapted to the research purpose;
- The survey has clear sections, which should make the questionnaire flow easily and be understandable for the respondents;

- The survey introduction is honest and credible to ensure that the customers understand the reason behind the research;

- The 'feel' of the survey ensures that 'your opinion matters to me' is well reflected and visible for the respondents;

- There is a layout and clear typeface and typography. Furthermore, the usage of colours, tints and boxed sections are employed in a user-friendly way;

- The customers are rewarded for completing the questionnaire, for example with Clubcard points, like in the case of my research.

However, before making the final decision concerning the usage of the secondary data, I needed to analyse the advantages and disadvantages of this approach.

3.4.3 Primary data vs. secondary data

Primary data are collected for a specific research problem. There are special procedures applied afterwards, fitting the problem best. These data can then be reused for other purposes, such as a description of contemporary and historical attributes, comparative research or the replication of the original research, reanalysis (looking for results not addressed earlier), research design and methodological advancement, teaching and learning (Hox & Boeije, 2005).

Secondary data are collected by someone else and may include any data that are examined to answer a research question other than a question for which the data were initially collected (Vartanian, 2010). Most secondary data are quantitative in nature, coming from different sources (Smith, 2008). There are many advantages of using secondary data, and one of the most important, in my case, is the considerable breadth of variables as well as the high quality of the data. Furthermore, both the design and data collection were already completed, constituting a saving of both time and money. However, there are several disadvantages, which may lead to the decision not to use them, such as when the data collection has already been completed and study design is not reflecting the research question. The data may potentially lack depth, which could make measuring the constructs of interest difficult and lead to problems with validity or reliability. There may also be problems with accessing original fieldwork to help better understand the context of the research and assumptions in the data, which could be contrary to the research project (Hox & Boeije, 2005). The most important advantage of collecting one's own data is that the

collection process may be designed to the exact needs of the researched question, as it is aligned with the research design and data collection strategy. The most significant disadvantage is that it is costly and time consuming. In addition, it may be difficult or even impossible to collect already existing data. As long as existing data may serve to answer a new research question, it may be quite beneficial.

In my research, secondary data offer great sources of information, where I can form conclusions based on a high-quality dataset, rich in content and normally unavailable for researchers. Furthermore, my professional background is in line with the data origin, which helps to verify its validity.

3.4.4 Secondary data in my research project

3.4.4.1 Secondary dataset 1 – survey data

In my literature review, one of the major gaps I identified in existing knowledge concerning my research project is the way in which data is collected. In most cases, while researching the impact of the in-store environment on customers, researchers used experiments or declarative data. This approach has several deficits, as customer feedback may be biased by different assumptions or not entirely based on the real in-store environment perception, but rather a simulated one. As a member of the Tesco senior leadership team, for my research, I attempted to collect primary data for more than 12 months. This was difficult to achieve, and in the end, due to significant changes in the business, I was unable to do so. However, I was able to access two valuable sources of secondary data: survey and Tesco Clubcard data, which, for the purposes of my research, represented data pertaining to customer behaviour.

With regards to the survey data, in 2013 and 2014, in order to improve the shopping experience of its customers, Tesco invited customers to complete an online questionnaire concerning their last shopping trip (Appendix C). Customers were recruited daily and randomly throughout Tesco stores (all formats) and were invited to complete the online survey at home. As a reward for completing the survey, they were given Clubcard points. This approach led to the creation of a large database with detailed feedback concerning Tesco customers' shopping trips. The survey consisted of 14 demographic questions and 47 questions connected to the shopping experience, covering the key areas from my research framework (Figure 3.4).

Customers' perceptions of the social environment, retail atmosphere (layout), assortment, price, promotions and special offers communication, in-store and retail brand communication, service interface and critical incidents were measured. In order to launch the survey, customers were required to enter their Clubcard number, which helped me during the data preparation to track the details of customers' shopping spending. To measure the selected areas, Likert-type questions were asked. Unfortunately, in order to separate some items and to produce forced choice where no indifferent option was available, Tesco used different scales for some of the questions, which made it challenging to ensure the consistency of the data. Thus, as described below the cleaning and data verification process was crucial. However, the most common was a four-point scale, which referred to the level of agreement with a given statement. There was also a Yes/No measure as well as a descriptive five-point scale starting from excellent to very poor performance in a given area. Details of the questionnaire are shown in Appendix C. A four-point scale was used for some of the items, mainly so as to not give respondents an indifferent option. However, a Likert-type scale was used most commonly. This type of scale does offer this option and is generally the most commonly used in different types of questionnaires.

The customers answered the questions one by one; after answering one question, they were directed to another one. The questionnaire construction had the following characteristics:

- The questions were short and simple: there were 62 questions in total;
- The questionnaire was carefully targeted: Tesco customers were asked to complete the survey;
- The data in the questionnaire were matched to Clubcard data and then anonymised so that I had no way of identifying individuals;
- The customers were given something in return for completing the questionnaire: the respondents were given Clubcard points which they could spend on their shopping;
- The language was simple: no complicated questions were asked, and all were written in very simple language that was easy to understand
- The content was neither formal nor too informal;
- Leading questions were avoided;
- Open questions were very limited: there was only 5% of open questions;

- Rating scales and the list of choices were very simple, commonly used scales and ratings described below;

- The questions were posed in a logical order for customers to make them easy to follow and to ensure that respondents would not have problems remembering their shopping experiences;

- Before the launch, there was a trial in all Tesco UK stores;

- The idea behind the questionnaire was clearly introduced so that customers understood the format and purpose of the survey. The idea was well explained, indicating that the purpose of the research was to improve customers' shopping trip, based on their feedback.

The dataset was large, but I needed to work on the quality of the data, as there was a variety of scales used and not all the respondents were asked all the questions. Furthermore, there was a need to spend a substantial amount of time cleaning the data and ensuring that it fully reflected my research framework (Figure 3.4). Nevertheless, having achieved access to this database and the permission to use it for my research project, the feedback of 69,695 customers in the store environment concerning their shopping trip, was an enormous success. Normally, it is difficult to gain permission to conduct research in store, which is why most projects involve using simulations. Companies very seldom give access to such extensive databases to academics.

3.4.4.2 Secondary dataset 2 – behavioural data

In order to answer my research question, I needed behavioural data that I could match with the survey data. It is important to highlight here that Tesco customers' behavioural data are managed by Dunnhumby, which is part of Tesco. Dunnhumby is the world's leading customer science company, gathering till-data of Tesco customers. Based on these data, the company offers insights concerning customers' shopping experience, in-store merchandising strategies, category development strategies and all other actions helping to build customer loyalty while developing a sustainable business performance. In more detail, Dunnhumby UK receives a daily data feed from Tesco UK IT including the customers' unique ID (not their Clubcard number, but a masked ID linked to the Clubcard number) and their product-number level purchase behaviour (i.e., items, spending, quantity). The purpose of this data feed is to be able to perform in-depth customer analysis based

170

on an individual's unique shopping behaviour to better understand the drivers behind business performance. Examples of analysis include, but are not limited to: customer segmentations, customer category engagement, promotions performance and attractiveness, product substitutability and targeted communications.

To conduct the full analysis needed for my research project, I clearly identified the behavioural data specification needed for the research (Figure 3.4), which reflected the following and which was the part of my later sample description:

- Transactional information (outlined below) for the time period of Jan 2013 to Oct 2014, reported weekly. If customers shopped more than once during the week, the average for a week was used;
- Shopping information for a shopping visit on a specific date from the questionnaire;
- Lifestyle segment (details in Appendix E);
- Life stage segment (details in Appendix E);
- Date of birth;
- Gender.

The transactional information for each purchase occasion within the time period included:

- Shopping mission on that occasion;
- Basket value (spending);
- Basket value (spending) by division: grocery food/ grocery non-food/ fresh food;
- Spending on own-label (home brand) products by three value tiers (basic/ regular/ premium);
- Spending on promotional items;
- Date of visit;
- Store format.

A considerable part of the transactional information included that concerning private label spending. In Tesco, there is a segmentation of the company's private label, starting from the cheapest (basic own-label) then the most popular products with competitive prices (regular own-label), and finishing with most premium products for upmarket customers (premium own-label). Spending for promotional items included data concerning all the products currently in special offers, all having price cuts in comparison to the last price level. All the listed variables were reported weekly

(when the customer's visit occurred) and if a customer shopped more than once during the week, the average was used. All the above data represented a huge base of different information in my journey to determine the association between the in-store experience and customer behaviour.

In order to observe the details and relationships between the in-store experience and customer behaviour, I needed to run the process of matching the two datasets. The Clubcard number assigned to each individual customer from the survey was used to retrieve this customer behavioural data from the database. This activity helped me create one dataset including in-store experience survey responses together with detailed behavioural information concerning each customer.

3.4.4.3 Secondary data validation checks

Before deciding on secondary data collection, I needed to ensure that I would have the solution to the following challenges (Vartanian, 2010):

- have full access to all the data I need;
- be able to retrieve the data I need;
- ensure that the available final dataset meets all the quality research and methodological criteria;
- remain fully aware of the original context of the data collected.

Aware of the above challenges, I addressed each of them, in turn, to ensure that the data could be used in my research process.

Accessing and retrieving the data

It was a challenge to access the data, as they are not accessible to academics and external researchers. Despite being a member of Tesco's senior leadership team, it took me one year to achieve full access to online survey data together with Clubcard data. I decided to use online survey data based on customers' responses and that I could access with the help of Tesco's marketing team. However, to fully answer my research question, in addition to customer feedback concerning their shopping trip, I needed information on their spending. Most of the studies used declarative data; in my case I needed to gain access to customers' Clubcard data. The Clubcard data have all the information concerning customers' spending, which is not available for typical academic research, as noted previously. Thus, I decided to use those two sets of secondary data, which are based on the real empirical studies

in the real retail store environment. It was particularly difficult to gain access to Clubcard data, as it included the individual UK customers' shopping behavioural information. Nevertheless, I was able to gain full access to two sets of the described databases. The only disadvantage was that I could not influence the questionnaire construction or the way in which the data were collected by the Dunnhumby teams; as a result, detailed data checks (described below) were required. Furthermore, unfortunately, I am unable to analyse price, promotions and special offers constructs, which were not covered by the survey. Nevertheless, my key research areas were covered and I had access to the original fieldwork context, which helped me gain an adequate understanding of the data and the purpose of collecting them.

Data collection checks

The data were collected in a professional way, using Tesco IT infrastructure. A specially-designed online survey was used and completed by customers invited to participate in the survey, and all the answers were collected automatically on Tesco servers and made available for further analysis to Tesco marketing research teams. It was necessary to ensure consistency in collecting the data and that the tools to collect them across the UK remained the same. As to the Clubcard data, these were collected on a daily basis, by the system, which recorded all transactions performed by Clubcard holders. It is managed by Dunnhumby owned by Tesco and is the largest customers-spending information database in the UK, covering all individual spending information on each Tesco customer up to a product level, for the time period during which the Clubcard of the given customer was used.

Item face validity checks

Many different scales were used and certain questions were not included in the survey to all customers. As such, a considerable amount of work was required to ensure that the data met all the quality and research criteria. After the detailed analysis of the online questionnaire design and questions, I noticed many similar areas matching my research framework (Figure 3.4). There were, however, questions that I did not need and that I removed from the dataset during the data cleaning process (explained further in Chapter 3.4). I also ensured that the scales used to measure my construct were correct and consistent. Fortunately, there were no assumptions in the data that could be contrary to the research project. All together

173

this was supposed to provide me with a sample, which fully fits into my research design and gives big value added in terms of customers' feedback, sample size and real shopping basket data. Therefore, after ensuring that the quality of the data and all surveyed items met all my requirements and the research needs, I decided to use them for the analysis.

Awareness of the original context of the data collection

Having access to the original fieldwork context helped me to have an adequate understanding of the data and the purpose of collecting them. I knew that the Tesco online questionnaire data were originally collected for a similar purpose as mine, as Tesco was attempting to gauge customer satisfaction regarding their shopping trip. In terms of Clubcard data, they cover all individual customers' shopping behaviours. They are used by Tesco's commercial and marketing teams for trade-planning activities and to improve the identification of customer needs. Therefore, the purpose of collecting the secondary data was similar to the purpose of my research, which is a major advantage for me.

It is important to highlight that the opportunity to use two kinds of secondary data for my research is normally not possible for researchers due to the company's confidentiality regulations. However, I was able to analyse the data to meet my needs and to answer my research question. It is also important to note that all the previously described disadvantages coming from secondary data usage were not the case in my approach; to the contrary, all the benefits added value and contributed to existing knowledge.

3.4.5 Outline of the methodology

As noted previously, I gained access to two sets of big data: survey and behavioural data. This substantial amount of information was a major contribution to the research topic. A final database of 30,696 customers together with their behavioural information provided me with a large volume of secondary data. I needed to approach these with dedicated statistical tool, in order to make most sense of the data. For better insights, however, I added the shopping mission to my research framework, which helped me segment customers and observe more detailed findings based on their shopping mission. The statistical techniques I decided to use helped me answer the research question. For dataset 1 – survey

data, I started the analysis by cleaning all the data to remove errors that could lead to inaccurate conclusions. In order to be able to select the right sample from my dataset, I followed the reverse routing activity, which is in line with accepted statistical methodology. Then, for the same dataset, I used exploratory factor analysis to measure the constructs, which were not measured directly in the questionnaire. For dataset 2 – behavioural data, I also needed to apply data cleaning techniques, which helped to prevent any errors from impacting my research conclusions. As mentioned before, in order to observe the details and relationships between the in-store experience and customer behaviour, I needed to run the process of matching between the two described datasets. The Clubcard number assigned to each individual customer from the survey was used to retrieve the customer behavioural data from the database. This activity helped create one dataset including in-store experience survey responses together with detailed behavioural information concerning each customer. Then, having one dataset and having identified all the key factors, I used correlation and regression analysis to identify the relationships between my data (survey data vs. behavioural data). To fully answer my research question, I also performed one-way ANOVA tests, as well as sensitivity, mediation and moderation analyses. All these techniques helped me reduce the amount of data to the most relevant type and identify the relationships between them, which together with the sample size and data quality gave me a robust analysis to answer my research question.

3.4.5.1 Data cleaning

Data cleaning involves the detection and removal of errors and inconsistencies in my dataset. First, I decided which variables were crucial to the analysis and must-have values for the responses to be complete. Then, I focused on ensuring that the missing or blank data were properly coded, that there are no typing errors, no column shifts and no coding or measurement errors. This helped me identify inaccurate or irrelevant data. For this, I used descriptive statistics with data errors as well as frequencies. Then I had the following options: remove the responses with missing or incorrect values, correct missing or incorrect data if the correct value is known, going back to the data source and filling in the missing data variables or setting values to an average or other statistical value. The frequencies helped to locate the 'dirty' data among entered variables. It was also useful in

detecting unequal distributions among the data. I also checked the credibility of the data by assessing whether there was proper logic. In this process, I also looked at outliers, which could hide or create statistical significance. This process helped me to achieve two datasets with high data consistency and quality, which formed the starting point for further analysis.

3.4.5.2 Exploratory factor analysis

Having a very rich set of secondary data, I needed to focus first on the 69,695 customer answers to the survey to determine to what extent they match my research framework. The dataset was very rich in content, and I needed to find a way to measure data that were not measured directly and were as close to my research framework as possible. The survey also included a number of single items with a Likert-type scale to measure customers' attitudes regarding their in-store experience. Thus, I needed to run these through exploratory factor analysis to determine multi-item measures of key constructs. It also helped me to identify clusters of variables to be able to achieve the following (Field, 2013):

- understand the structure of a set of variables;

- see how a questionnaire measures an underlying variable;

- reduce a dataset to a more manageable size while retaining as much of the original information as possible.

The best statistical tool to achieve the above is exploratory factor analysis, which I ran for the survey data. The greatest benefit of this approach is that it helped me reduce the set of variables into a smaller set of dimensions (called factors). My factor analysis attempted to achieve parsimony by explaining the maximum amount of common variance in a correlation matrix using the smallest number of explanatory constructs. These explanatory constructs are known as factors in factor analysis, and they represent cluster variables that correlate highly with each other (Field, 2013). For my research project, applying factor analysis to the answers from the online questionnaire is a great tool, as it estimates dimensions from the data reflecting the constructs that cannot be measured directly.

The mathematical representation, describing each factor in terms of the variables measured is as follows:

$$\text{Yi} = b_1 X_{1i} + b_2 X_{2i} + \cdots + b_n X_n$$

The equation includes all the measured variables; however, the values of b differ depending on the relative importance of each variable for a particular component. For my research, the factor analysis process is a linear model in which loadings are used as weights. I will show it as a matrix, which will help me to identify which variables have high loads on the same factor. Understanding this, I was able to create my final research framework based on the identified factors. I identified the factors using the maximum likelihood method, which helped me generalise the findings from the sample to the entire population. Of course, I needed to go through the process of deciding which factor to choose, which is extraction. For this, the eigenvalues were important, which indicate the importance of selected factors. I kept only factors with large eigenvalues using SPSS and Kaiser's criterion. In my factor analysis, before identifying all the factors, I used communalities as indicators of whether too few factors were retained (Field, 2013). Having the factor structure, I needed to decide which variables comprise which factors. In my research thesis (Chapter 3.4.8), I used the loadings values to place variables with the factors. I needed to also keep in mind the significance of the loadings; however, as my sample size is relatively large, small loadings could be considered statistically meaningful (Field, 2013). The next step in researching my project involved using the correlation and regression analysis of those factors against the constructs of my interest.

3.4.5.3 Correlation analysis

To answer my research question, I needed to express the relationships between the variables statistically. A correlation is a statistical measure that indicates the extent to which two or more variables fluctuate together. A positive correlation indicates the extent to which those variables increase or decrease in parallel; a negative correlation indicates the extent to which one variable increases as the other decreases. There are two types of correlations: a bivariate correlation, which is a correlation between two variables, and partial correlation, which quantifies the relationship between two variables while controlling the effect of one or more additional variables (Field, 2013). In other words, it is also a scaled version of covariance that takes on values (-1, 1), with the correlation of +/- 1 indicating a perfect linear association and 0 indicating no linear relationship. The covariance I used in my analysis is the average sum of combined deviations:

$$covariance\ (x,y) = \frac{\sum_{i=1}^{n}(x_i - \bar{x})(y_i - \bar{y})}{N - 1}$$

Calculating the covariance is a good way to assess whether two variables are related to each other. A positive covariance tells me that as one variable deviates from the mean, the other variable deviates in the same direction. However, I need to remember that the covariance depends on the scale of measurements used: it is not a standardised measure (Field, 2013). This means that I would not be able to compare covariance in an objective way unless both datasets were measured in the same units. To overcome this problem, it is possible to convert the covariance into a standard set of units, which is standardisation. This process gives me a standard deviation, which is a unit of measurement into which any scale of measurement is able to be converted. To express the covariance in standard units of measurement, I can divide it by the standard deviation. The standardised covariance is known as a correlation coefficient and is defined as follows:

$$r = \frac{cov_{xy}}{s_x s_y} = \frac{\sum_{i=1}^{n}(x_i - \bar{x})(y_i - \bar{y})}{(N - 1)s_x s_y}$$

A correlation coefficient is a coefficient that illustrates a quantitative measure of some type of correlation and dependence, meaning statistical relationships between two or more random variables or observed data values. If I find that my observed coefficient is not as big as though there was no effect in the population, then I can be confident that the relationships I research are statistically meaningful. The hypothesis that the correlation coefficient is different from 0 is usually tested using a test statistic called a t-statistic with N – 2 degrees of freedom. I used SPSS software, which calculates this automatically. In my research, to determine the causality from correlation, I took the correlation coefficient a step further by squaring it. This is called the coefficient of determination $R2$ and is a measure of the amount of the variability in one variable that is shared by the other. This approach helped me to make bigger sense from analysing my research framework and key constructs impacting customers' shopping satisfaction, particularly in determining what variables impact it most.

3.4.5.4 Regression analysis

The objective of my research was to identify the relationships between variables concerning customers' in-store experience, shopping satisfaction and spending. The best statistical tool to accomplish this is regression analysis. This is a statistical process for estimating relationships among variables. It includes many techniques for modelling and analysing several variables, when the focus is on the relationship between a dependent variable and one or more independent variables. More specifically, regression analysis helped me understand how the typical value of the dependent variable (or criterion variable) changes when any one of the independent variables is varied while the other independent variables are held fixed. This relationship can be summarised using the linear model as an equation:

$$Y_i = b_0 + b_1 X_1 + \varepsilon_i$$

I can add as many predictors as I need to the above model, which will make the linear model appear as follows:

$$Y_i = (b_0 + b_1 X_{1i} + b_2 X_{2i} + \cdots + b_n X_{ni}) + \varepsilon_i$$

In this model, Y is the outcome variable, b_1 is the coefficient of the first predictor (X_1), b_2 is the coefficient of the second predictor (X_2), b_n is the coefficient of nth predictor (X_{ni}), and ε_i is the error for the ith participant. Therefore, I can say that the regression analysis involves fitting a linear model to my data and use it to predict values of an outcome variable (in my thesis – Chapter 3), I refer to this as an independent variable) from one or more predictor variables (dependent variables). In my research, I used one independent variable (so it is a simple regression), but also several predictors (multiple regression). This tool was very useful in my research, as it helped me go one step beyond the data I collected, and to answer my research question.

3.4.5.5 One-way ANOVA

To examine the relationships between the variables, I used regression analysis; however, to compare the differences between several means, I needed to use ANOVA, particularly when I wanted to see how different levels of satisfaction impact other researched constructs. Thus, to achieve the details concerning the analysis of the select groups of researched constructs, I needed to conduct a one-way ANOVA. This helped me to compare the means between my group of constructs and determine whether any of those means are significantly different from each other. ANOVA can be represented by the multiple regression equation in which the number of predictors is one less than the number of categories of the independent variable. While applying ANOVA in my research, I needed to keep in mind several key rules (Field, 2013). First, the parameters determine the shape of the model that I have fitted. Therefore, the larger the coefficients, the greater the deviation between the model and the grand mean. Furthermore, in experimental research parameters (b) represent the differences between group means. The greater the differences between the group means, the greater the difference between the model and grand mean.

In terms of violations of the assumptions of the homogeneity of variance, ANOVA is fairly robust in terms of the error rate when sample sizes are equal. However, if sample sizes are not equal, as in the case of my research, ANOVA is not robust to violations of homogeneity of variance. Thus, when groups with larger sample sizes have larger variances than groups with smaller sample sizes, the resulting F-ratio tends to be conservative, which means that it is more likely to produce non-significant results when differences in the population exists. In my case, I have groups with larger sample sizes, which have smaller variances, making the resulting F-ratio liberal. Therefore, when are no differences between the groups in the population, I achieved more significant results (Field, 2013).

3.4.5.6 Sensitivity analysis

In order to glean most from my statistical analysis, based on the regression analysis, I decided to perform sensitivity analysis. It will help to understand better and what is most important, predict the value of the dependent variables based on the change in independent variables. In general, sensitivity analysis is the study of how

the uncertainty in the output of the mathematical model or systems can be apportioned to different sources of uncertainty in its inputs (Saltelli, 2002). The process of recalculating outcomes under alternative assumptions to determine the impact of variable under sensitivity analysis can be useful for a range of purposes (Pannell, 1997):

- Testing of the robustness of the results of a model;

- Increased understanding of the relationships between input and output variables in a system or model;

- Uncertainty reduction: identifying model inputs that cause significant uncertainty in the output and should therefore be focus of attention if the robustness to be increased;

- Searching for errors in the model;

- Model simplification – fixing model inputs that have no effect on the output, or identifying and removing redundant parts of the model structure;

- Enhancing communication from modellers to decision makers (e.g., by making recommendations more credible, understandable, compelling or persuasive);

- Finding regions in the space of input factors for which the model output is either maximum or minimum or meets some optimum criterion;

- In the case of calibrating models with a large number of parameters, a primary sensitivity test can ease the calibration stage by focusing on the sensitive parameters. Not knowing the sensitivity of parameters can result in time being uselessly spent on non-sensitive ones.

In the case of my research, I attempted to create a model, which will help retailers simulate, what kind of investment in my research constructs will result in a specific outcome of measured variables. This should provide a clearer indication concerning the impact of in-store experience on customer behaviour.

3.4.5.7 Moderation and mediation

In statistics and regression analysis, moderation occurs when the relationship between two variables depends on a third variable. The third variable is referred to as the moderator variable or simply the moderator (Cohen *et al.*, 2002). The effect of a moderating variable is characterised statistically as an interaction that is

a categorical, or quantitative, variable that affects the direction and strength of the relation between dependent and independent variables.

Knowing that a moderating variable changes the impact of the independent variables on the dependent variables, I will use this analysis to gauge the impact of in-store experience (independent variable) on spend on the visit day (dependent variable), allowing this impact to change depending on the consumers' overall satisfaction with the visits (moderator). It will allow me to investigate if a customer with high visit-satisfaction will respond more positively to in-store experiences than one with a low visit-satisfaction. This analysis should provide interesting insight not only from managerial perspective but also an academic one.

By mediation however, I will attempt to understand the underlying mechanism of how independent variables are impacting the dependent variables by using an intermediary variable. In the case of my research, it would be good to verify if the in-store experience factors could be impacting spend through satisfaction, where for example higher quality experience increases overall satisfaction which in turn increases spend. It would help to better understand the detailed impact of researched constructs on customer behaviour.

3.4.6 Data collection and overview of the analysis process

For the data collection and analysis, I decided to use two sets of secondary data to conduct the detailed quantitative research analysis, employing an analytical approach to the generated data. I used a descriptive and comparative research approach. In the descriptive work, I focused on the statistical data analysis. The comparative approach helped me compare the data between groups, which helped me to gain a holistic understanding of my research question. The design of my research process was divided into eight important steps (Figure 3.5):

1. An extended literature review helped me to design the research framework (Figure 3.4);
2. Based on the framework, I identified two datasets I wanted to use;
3. As the selected datasets were secondary data, I needed to run the data validation checks;
4. Two datasets were subjected to the data cleaning process;
5. The data cleaning process together with reverse routing activity helped to identify the final sample from dataset 1;

6. The final dataset 1 sample was subjected to exploratory factor analysis;

7. After exploratory factor analysis EFA of survey data in dataset 1, I matched together the two datasets to create a final dataset, combining individual customers' survey and behavioural data;

8. A series of statistical analysis were conducted to answer the research question and to validate my hypothesis (Table 4.1).

My process started with an extended literature review, on the basis of which I was able to create my research framework. The high-level research framework was the summary of all the key elements creating the in-store experience for customers. It was holistic and covered all the insights from the existing literature. With this research framework, I was able to assess what kinds of data were needed to answer the research question. I identified two sets of data, to which I gained access: survey data and behavioural data.

The survey data were based on recruited customers who were asked to complete the questionnaire (Appendix C), which was designed to reflect my conceptual framework (Figure 3.4). As discussed earlier, this helped me measure the key elements of the in-store environment and therefore helped to understand their relationship with customer satisfaction and spending. Store customers were invited to complete an online survey. They were invited by being provided with a card with the information concerning the website address and a gift in Clubcard points for completing the questionnaire. The research was conducted throughout all Tesco UK Extra – 420 stores and Express – 1 700 stores. All the customers invited to complete the online survey were already holders of the Tesco Clubcard with their purchase history as well as with the possibility to track future purchases available. It represented my dataset 2 – behavioural data. The data were collected over a period of time from April 2014 to Jun 2014, administered online. As noted previously, I obtained responses from 69,695 customers, giving me a large sample size (Table 3.1). I also divided the sample based on the shopping mission, which gave me a better understanding of the purpose of the surveyed customers' shopping trip (Table 3.1). In order to see how representative to the target population the final sample is, I added data concerning all Tesco Clubcard holders. It is visible that the achieved sample is perfectly representative of my target population.

The data I had access to represented big data with a large volume, which required special treatment regarding information extraction, cleaning, data integration

and aggregation as well as modelling and analysis. Furthermore, as the data were secondary data, I needed to run data validation checks, which is described in Chapter 3.4.4.3. After ensuring that two datasets are of high quality and could be used in my research, I applied the data cleaning process. The process aimed to remove the errors in the data, as well as identify inaccurate and incomplete entries. There were several challenges regarding heterogeneity and incompleteness. Thus, a sampling activity (described below) was also important. I performed this in order to achieve a final research sample that could be representative of the entire population of interest and that would help me to generalise my findings to a wider population. Additionally, for the survey data, the process helped identify 22 samples from which I chose the final one. To make more sense of the dataset 1 final sample, I conducted an exploratory factor analysis to observe the relationships between the data, which resulted in the final research framework (Table 3.6). Based on this framework, I was able to combine the two datasets to achieve one final dataset combining customers' survey answers and their individual behaviour. Having applied series of statistical analyses (correlation, regression, one-way ANOVA, sensitivity, moderation and mediation analysis), I observed which in-store experience elements had the greatest impact on customer behaviour. This helped later with validating or failing to accept the hypothesis.
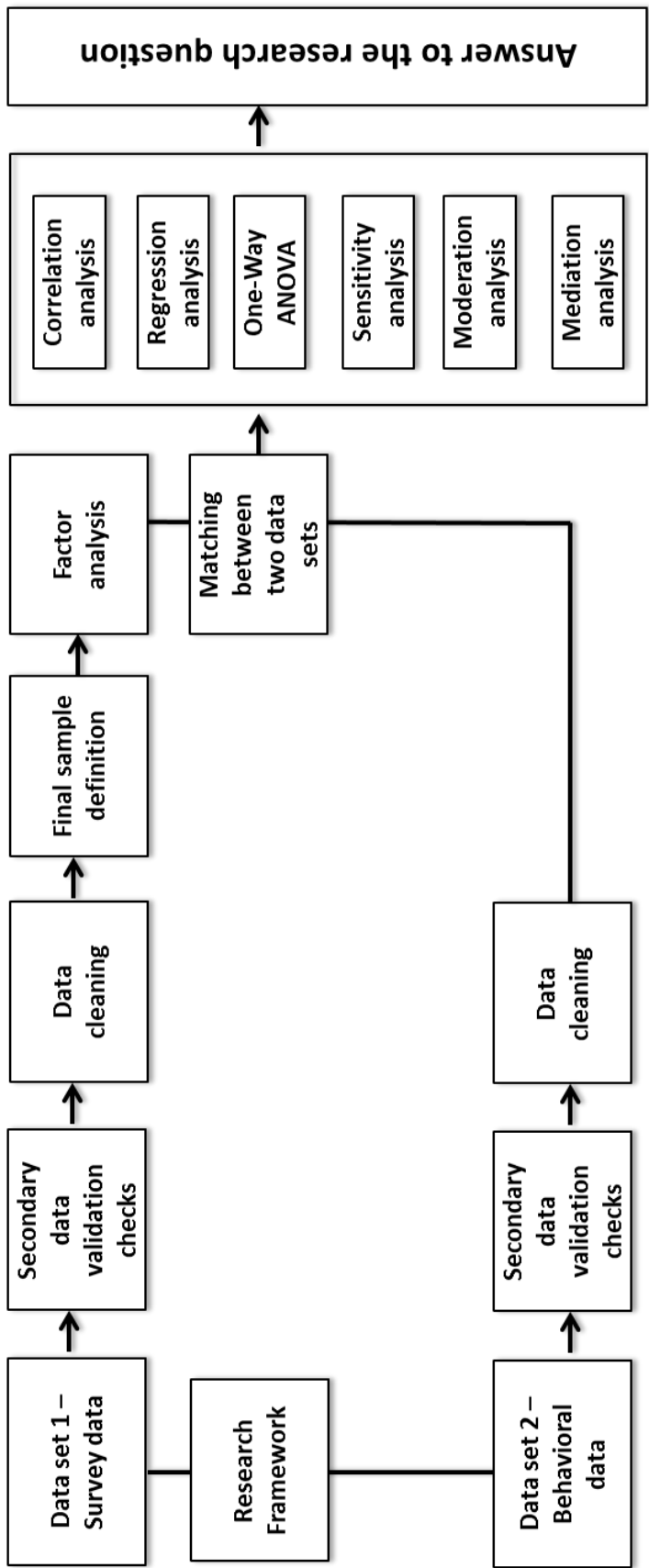
Figure 3.5 Research project design. Source: Author

3.4.7 Measures and sample definition

The dataset 1 survey consisted of 14 demographic questions and 47 questions connected to the shopping experience, covering the key areas from my research framework (Figure 3.4). They measured customers' overall perceptions of the social environment, retail atmosphere (layout), assortment, price, promotions and special offers communication, in-store and retail brand communication, service interface and critical incidents. The impact of each of the constructs was researched extensively and presented in the literature review. Based on those findings, some key implications for each of the constructs could be identified:

- **Social environment**

   The experiences of each customer may impact that of others (McGrath & Otnes, 1989; Otnes *et al.*, 1993; Baron *et al.*, 1996). There is also a high level of importance with regards to employees on a shopping floor, as they are likely to influence interpersonal service quality perceptions (Baker, 1986).

- **Retail atmosphere/ Layout**

   A store's environment influences the quantity of purchase, the extent to which a store is liked, time and money spent (Baker *et al.*, 1994; Milliman, 1982; Wheatley & Chiu, 1977; Sherman *et al.*, 1997; Bitner, 1992). Both these aspects also influence shopping satisfaction (Turley & Milliman, 1992; Baker *et al.*, 1992).

- **Assortment**

   There are important findings that customers' perception of breadth of different products and services offered by a retailer under one roof significantly influence store image (Ailawadi, 2009). I could also observe that the reduction in number of products does not lower customers' perception of assortment much as long as they can still find their favourite items (Broniarczyk *et al.*, 1998; Hoch *et al.*, 1994).

- **In-store brand communication**

   Brand and brand-related information cues influence customer evaluation (Dawar & Parker, 1994; Dodds *et al.*, 1991; Barone *et al.*, 2007). Furthermore, brand image and retail image are linked to one another (Porter & Claycomb, 1997). In addition, store image directly influences purchase intentions (Wu & Kao, 2011).

- **Service interface and critical incidents**

  Specific events during a shopping trip with a significant positive or negative contribution to the shopping experience influence overall shopping-trip satisfaction (Arnold *et al.*, 2005).

- **Overall shopping satisfaction**

  Much research has been performed proving that all the above constructs impact overall shopping satisfaction (Appendix A). In my research, I attempted to observe the detailed impact of these constructs.

To initiate the survey, customers needed to enter their Clubcard number, which helped me during the data preparation to track the details of customers' shopping spending. To measure the selected areas, Likert-type questions were asked. Unfortunately, due to internal purposes and in order to separate some items, Tesco used different scales for some of the questions, which was a challenge in terms of maintaining consistency in the data. As such, the cleaning and data verification process described previously was crucial and helped me to remove irrelevant items in order to maintain consistency in the data, ensuring that some differences in scale did not impact the overall results. Nevertheless, the most common was a four-point scale, which referred to the level of agreement with a given statement. I also applied a Yes/No measure, as well as a descriptive five-point scale starting from excellent to very poor performance of a given area. Details of the questionnaire are available in Appendix C. The customers answered the questions one by one; after answering one question, they were directed to another one. The questionnaire construction had the characteristics described in section 4.1.1.

In each store, there was a research team that approached customers after their shopping trip and invited them to complete the survey. They were invited by being provided with a card with the website address and a gift in the form of Clubcard points for completing the questionnaire, which was supposed to be done at home. Customers were selected at random. The survey data were reported only for those customers who completed the questionnaire within two days following their shopping trip. The research was conducted in all Tesco UK Extra – 420 stores and Express – 1,700 stores. All the customers who were invited to do the online survey were already Tesco Clubcard holders with a purchase history with the possibility of tracking their future purchases.

Table 3.1 Sample demographics and shopping mission. Source: Author

	Active Tesco Clubcard Holders	ALL surveyed Customers	Study Sample (Sample #1)
Store Format			
Tesco Extra (420 stores)	25%	25%	100%
Tesco Express (1 700 stores)	75%	75%	0%
Gender			
Male	30%	37%	35%
Female	65%	56%	57%
Undisclosed	5%	8%	8%
Lifestyle			
Less Afluent	32%	35%	37%
Mid-Market	38%	35%	33%
Upmarket	27%	25%	26%
Undisclosed	3%	5%	4%
Age Group			
Under 18 *	N/A	3%	2%
18-24	N/A	12%	9%
25-34	N/A	18%	16%
35-44	N/A	25%	25%
45-54	N/A	22%	25%
55-64	N/A	17%	22%
65+	N/A	2%	2%
N/A	N/A	0%	0%
Shopping Mission			
For a specific item	10%	19%	6%
To buy fuel	1%	1%	0%
To buy fuel and items from the store	1%	1%	0%
To buy items from the store	1%	2%	0%
To do a main shop	45%	30%	54%
To do a top-up shop	27%	29%	32%
To pick up food for later	8%	8%	5%
To pick up food for now	7%	9%	4%
Sample Size			
	15 000 000	69 695	30 696

∗ Age group data is not available for Tesco active Clubcard holders due to different age measures vs. surveyed customers

As the questionnaire included many items with a variety of responses, I applied the reverse engineering routing to determine what exact items I have available. Based on coding and identifying all the items (Appendix D), I knew that not many of the questions were asked to all respondents. Customers were routed depending on the type of store visit; these consisted of the type of store they visited (Extra or Express), whether they visited the produce (fresh food) section and the type of checkout used. Many items were asked dependent on this routing. There were also many 'NAs', depending on the relevance of the selected area (e.g., asking about car park access when the customer did not use the car park). Thus, I needed to conduct proper information extraction and cleaning. This was a key activity, as the

big data I had access to were not in a format ready for analysis. The proper cleaning process pulled out the required information from the underlying sources I achieved, helping to apply sampling procedures.

There are at least seven kinds of sampling procedures (Bernard, 1988). These can be divided into probability-based sampling and non-probability sampling techniques. Probability-based samples are representative of a larger population and include simple random, stratified random and cluster samples. Simple random sampling is a procedure where each member of the population has an equal chance to be selected (Bernard, 1988). Stratified random sampling is done when it is likely that an important sub-population will be under-represented in the simple random sample. Cluster samples narrow the sampling field down from large heterogeneous groups to small homogeneous groups that are relatively easy to sample directly. Cluster samples involve a multistage process, such as sampling a geographical area then random sampling each cluster. Decisions regarding sample size are influenced by cost and time considerations, as well as the required precision in estimators. Other factors I needed to consider were the size of the population to which I want to generalise, the heterogeneity of the population, the numbers of subgroups within the population and also how accurate I wanted the sample statistics to be (Bernard, 1988). There will always be a trade-off between greater accuracy and greater economy in sampling. In my case, Tesco has chosen the most theoretically rigorous approach; simple random sampling. Quantitative research ideally involves probability sampling to permit statistical inferences to be made (Sandelowski, 2000). The sample was randomly selected from my earlier predefined population of interest and its main advantage was that each member of the population had the same probability of being selected. Furthermore, the large sample size produced a representative and probabilistic sample of the respondents. The biggest disadvantage in this approach is the cost of obtaining the statistically representative sample. Then, by applying reverse engineering routing, I could identify a smaller sample, fully meeting all my requirements (described below). The smaller sample, allowed me to generalise the results of the study to the entire population. Based on this activity, I identified 22 different samples and items corresponding to each of them (Table 3.2).

Table 3.2 All identified sub-samples. Source: Author

Sample#	No. of Variables asked	Sub-questions			No.	%
		Car Park	Fruit and Veg	Checkout Type		
Extra UK Customers*					**52041**	
1	24	Y	Y	Normal	30696	44,0%
2	20	Y	N	Normal	7346	10,5%
3	23	N	Y	Normal	2103	3,0%
4	19	N	N	Normal	824	1,2%
5	22	Y	Y	Self-Service - Needed Help	1707	2,4%
6	18	Y	N	Self-Service - Needed Help	1025	1,5%
7	21	N	Y	Self-Service - Needed Help	231	0,3%
8	17	N	N	Self-Service - Needed Help	123	0,2%
9	21	Y	Y	Self-Service - No Help	655	0,9%
10	17	Y	N	Self-Service - No Help	588	0,8%
11	20	N	Y	Self-Service - No Help	131	0,2%
12	16	N	N	Self-Service - No Help	105	0,2%
13	21	Y	Y	Other	2923	4,2%
14	19	Y	N	Other	3056	4,4%
15	18	N	Y	Other	235	0,3%
16	16	N	N	Other	293	0,4%
Express Customers*					**16923**	
17	17	NA	Y	Self-Service - Needed Help	1550	2,20%
18	16	NA	N	Self-Service - Needed Help	317	0,45%
19	16	NA	Y	Self-Service - No Help	1165	1,67%
20	15	NA	N	Self-Service - No Help	806	1,16%
21	16	NA	Y	Other	9927	14,24%
22	15	NA	N	Other	3158	4,53%
Missing					**731**	
Sample					**69 695**	

* Tesco's UK operation is divided into formats, differentiated by size. **Tesco Extra**: average area = 6 500m^2 and **Tesco Express**: average area = 200m^2

190

I observed that the more generalisable my sample, the fewer items I could examine (only a small number of items were common across all 22 samples). Thus, for my further analysis I chose the sample with the most items asked, which made it closest to my research framework. Sample #1 included Tesco Extra customers, who used the car park, visited the fruits and vegetables section and used manned checkouts. This sample represents 44% of all my responses (30,696 customers) and gave me the most items for the analysis (23). The demographic description as well as the shopping mission are shown in Table 3.1. In order to see how well the final sample fits the target population, I also added data concerning all Tesco Clubcard holders. It is visible, that the final sample is similar to my full sample and all Tesco club card users, which makes it representative. It skews towards women, which is representative of UK grocery shoppers. In discussing Tesco Extra, the big format stores, I can see that the full shopping mission is dominant. It is also representative of the big format store shoppers. To obtain the necessary data to conduct a full analysis, I clearly identified the Clubcard data specifications needed for the research (Table 3.3), which were part of my sample description and reflected the specification described in chapter 3.4.4.2.

It is important to highlight that Clubcard data are managed by Dunnhumby, which is part of Tesco. Dunnhumby gathers till data of Tesco customers, offering insights for merchandising and category-development strategies which helps to increase sales and customer loyalty. All the above data represented an extensive base of different information in my journey to determine the association between customers' in-store experience and behaviour. In more detail, Dunnhumby UK receives a daily data feed from Tesco UK IT including the customers' unique ID (not their Clubcard number, but a masked ID linked to the Clubcard number) and their product-number level purchase behaviour (i.e., items, spend, quantity). The purpose of this data feed is to be able to perform in-depth customer analysis based on individuals' unique shopping behaviour to better understand the drivers behind business performance. Examples of analysis include, but are not limited to: customer segmentations, customer category engagement promotions performance and attractiveness, product substitutability and targeted communications. I will use Dunnhumby data as the secondary data in my research. As I described previously, I wanted to cross-match it with survey answers to analyse whether there are any relations between the data that could help me answer my research question.

Table 3.3 Final survey and behavioural data specifications. Source: Author

Data Specification	
Survey Data	**Behavioural Data (Clubcard)**
Visit date	Demographics
Overall shopping satisfaction	Shopping mission
Assortment	Total basket spend
Retail atmosphere/ Layout	Grocery food spend
Checkout service	Basic own-label spend
Personalised customer service	Regular own-label spend
	Premium own-label spend
	Grocery non-food spend
	Fresh food spend
	Spend on promotions
	Total basket spend next week
	Number of visits next week

In my final behavioural and survey data specification (Table 3.3), I included key research constructs from the survey, obtained while conducting my exploratory factor analysis (described below). There was, however, one item all participants were asked, which was taken directly from the survey for the purpose of my research: "How would you rate your overall satisfaction with this store on your recent visit?" A Likert-type five-point scale was used to measure it in the survey. For the purpose of the research, I labelled it "overall shopping satisfaction."

3.4.8 Exploratory factor analysis: Dataset 1

To make better sense of all the items 30,696 customers were asked, I conducted a factor analysis. After cleaning the data, using SPSS software, I achieved a complete list of relevant items asked of sample 1 (Table 3.4). Mapping these items to my a-priori constructs in my conceptual framework (Figure 3.4) shows that I am able to look at most of my in-store experience constructs. Likewise,

I demonstrated that for the constructs I do have (Table 3.4) (I have many items that are likely to measure these aspects of the in-store experience very well. I performed an exploratory factor analysis to investigate the variable relationships between the items, allowing to identify several underlying factors testing my a-priori assumptions regarding the aspects of customers' in-store experiences.

The factor analysis then explored whether these items fit into those groupings. Table 3.5 shows the eigenvalues and percentage of variance explained from different factor solutions. Following Kaiser's (1960) eigenvalue-greater-than-one rule for solution selection, I arrive at a four-factor solution as the most appropriate one for these data. The four-factor solution explains 65% of the variability in the data, which is reasonable (Hair *et al.*, 2009).

Table 3.6 shows the factor loadings from the rotated component matrix for the four-factor solution. I arrived at the following factors:

Factor 1: Assortment;

Factor 2: Retail atmosphere/ Layout;

Factor 3: Checkout service;

Factor 4: Personalised customer service.

Looking at groupings (Table 3.6), I see that the assortment and retail atmosphere factors are measured as hypothesised (all items load as expected). However, to be more explicit, most items related to the assortment factor I will call "product quality and availability." Furthermore, my original service interface factor is not measured completely as expected; this has been split into two factors: checkout service and personalised service factor. I was not surprised that the service interface factor was split, as personalised and general customer service is stronger according to shoppers' perceptions than the checkout's. Furthermore, it impacts customers' behaviour more because it is less likely to occur (Arnold *et al.*, 2005; Bitner, 1992; Verhoef *et al.*, 2009), which was also confirmed by my study and described below.

Table 3.4 Final list of the items asked. Source: Author

Construct	Item Code	Item description
Social Environment		
	SRV3	The store staff were dressed smartly and appropriately.
Retail Atmosphere/ Layout		
	ACC2	I could get in and around the store easily.
	ENV1	The store was clean and tidy.
	ENV2	How would you rate the overall look and feel of this store.
	ACC1	I could get in and out of the car park easily.
	EASE	How easy did you find your shopping experience?
Assortment		
	QLT1	I was satisfied with the quality of fruit and vegetables I saw in the store.
	QLT2	The fruit and veg looked appealing and well cared for.
	STK1	The store has a good range of products (the selection of products that you had to choose from for the size of the store).
	STK2	I was satisfied with the level of stock (whether the products you wanted to buy had sold out).
	STK3	I was satisfied with the level of stock on fruit and veg.
	STK4	The store has a good range of fruit and veg.
In-Store Brand Communication		
	SR	How much do you agree with the statement 'This Tesco store has community initiatives that help the local area'?
Service Interface		
	SRV1	The store staff made me feel welcome.
	SRV2	The store staff were helpful.
	SRV6	The checkout staff greeted you.
	SRV7	The checkout staff offered to help you pack.
	SRV8	The checkout staff gave you full attention while serving you.
	SRV	How would you rate the overall customer service and staff helpfulness?
	SRV4	I was satisfied with the length of time I had to wait at the checkout.
	SRV5	Did you need any assistance whilst shopping today?
Critical Incidents		
	SRV11	Was there a member of staff who did something special on your recent visit?
Overall Shopping Satisfaction		
	SAT	How would you rate your overall satisfaction with this store on your recent visit?

Table 3.5 Component analysis. Source: Author

Component Analysis		
x-Factor Solution	Eigenvalue	Cumulative Variance Explained
1	5.626	37.509
2	1.891	50.117
3	1.200	58.119
4	1.015	64.884
5	.845	70.515
6	.760	75.583
7	.703	80.270
8	.499	83.594
9	.477	86.775
10	.456	89.813
11	.424	92.638
12	.404	95.333
13	.296	97.305
14	.230	98.836
15	.175	100.000

Two of my customer service interface analysed items (SRV1 – the store staff made me feel welcome and SRV2 – the store staff were helpful) belong to two factors: retail atmosphere/ layout and personalised customer service. This is right as it contributes to the in-store environment but at the same time can be perceived as something personal. It is also important to note, that SRV6 (checkout staff greeted

you), SRV7 (checkout staff offered to help you pack) and SRV8 (was there a member of staff who did something special on your recent visit) have negative loading as they are negative scale in the survey.

Those factors were the basis for my final, narrowed research framework creation (Figure 3.6). To conduct the full analysis and to answer my research question, I needed to incorporate the Clubcard data. Based on the data availability discussed earlier and the results from my factor analysis, I developed a revised research framework to address my research question (Figure 3.6). My final research framework thus consisted of four key in-store experience constructs:

- **Assortment:** Customers' perceptions of the diversity of different products and services offered by a retailer influence customers' shopping experience and their behaviour. Different assortment strategies are important constructs and have impact on the customers. Furthermore, one of the greatest problems for retailers is the challenge of getting the right merchandise in the right quantities to the right stores at the same time that customers want it. In my research framework, the key focus is on assortment quality and availability. It also covers the aspect of the range size and its fit to the customers' needs.

- **Retail atmosphere/ layout:** A layout is an example of a design cue that influences customers' expectations concerning their movement in the stores (Baker *et al.*, 2002). The focus here is on ambient and design factors such as lighting, scent, colour and music to verify what kind of direct effect they have on customers' shopping experiences. For my further study, I also need to keep in mind that in-store communications are the most influential touch points on brand consideration (Baxendale *et al.*, 2015). In my detailed research framework, the key focus is on store cleanliness, layout congestion, the look and feel of the store as well as the ease of the shopping experience, which is also connected to congestion and number of customers.

- **Checkout service:** This construct in my detailed and final research framework focuses on checkout service. It measures customer satisfaction with their service at the checkout line. It mainly includes customer service aspects like offering help to customers, greeting them and giving their full attention to customers while serving them. It is an important construct, as it measures the 'final straight' of the customer's shopping trip, which is a part of their in-store experience.

- **Personalised customer service:** This construct in my final research framework focused on the store staff's customer service, not only checkout colleagues, involving how they made the store customers feel welcome and whether they were helpful. An important part of this construct is the individualised aspect of the customer service, assessing whether a staff member did something special for customers during their shopping trip.

It is important to note that my four in-store experience final constructs are the key constructs, from an academic, and retail, perspective. It was already identified in my literature review that assortment and customer service and retail atmosphere/ layout have one of the greatest impacts on customers. They are also the elements in which retailers invest a great deal to improve customers' shopping trips and to become more competitive. Thus, from a research perspective, in terms of contributing to existing knowledge and practice, I was interested in observing what kind of impact the above constructs have on customer behaviour. Furthermore, knowing that retailers are investing large sums of money into them, I was able to observe and rank them according to their impact size.

Table 3.6 Exploratory factor analysis – rotated component matrix with loadings >0.5 marked. Source: Author

Item	Component				Survey question
	Assortment	Retail Atmosphere/ Layout	Checkout Service	Personalised Customer Service	
ACC2		.811			I could get in and around the store easily.
ENV1		.778			The store was clean and tidy.
ENV2		.658			How would you rate the overall look and feel of this store?
QLT1	.771				I was satisfied with the quality of fruit and vegetables I saw in store.
QLT2	.798				The fruit and veg looked appealing and well cared for.
SRV1		.437		.558	The store staff made me feel welcome.
SRV2		.420		.563	The store staff were helpful.
SRV6			-.770		The checkout staff greeted you.
SRV7			-.694		The checkout staff offered to help you pack.
SRV8			.745		The checkout staff gave you their full attention whilst serving you.
SRV11				-.833	Was there a member of staff who did something special on your recent visit?
STK1	.669				The store has a good range of products (the selection of products that you had to choose from for the size of the store).
STK2	.650				I was satisfied with the level of stock (whether the products you wanted to buy had sold out).
STK3	.866				I was satisfied with the level of stock in fruit and veg.
STK4	.843				The store has a good range of fruit and veg.

* All values < 0.4 are hidden

3.5 Model of Hypotheses

For my research project, I analysed Tesco customer feedback concerning their shopping trip, together with detailed customers' behavioural data (described in the Methods section). I conducted a statistical analysis and employed various techniques to observe the relationships between the data. The research model I developed explored the impact of the four in-store experience variables on satisfaction and a number of behavioural variables. The aim of the analysis was to answer my research question:

What is the impact of product, service and in-store environment perceptions on customer satisfaction and behaviour?

However, before statistically analysing my data, based on my final research framework, available data, research question and literature review, I formulated a series of hypotheses (Figure 3.7). Together, they provided me with a detailed view on the researched topic and after testing helped me answer my research question.
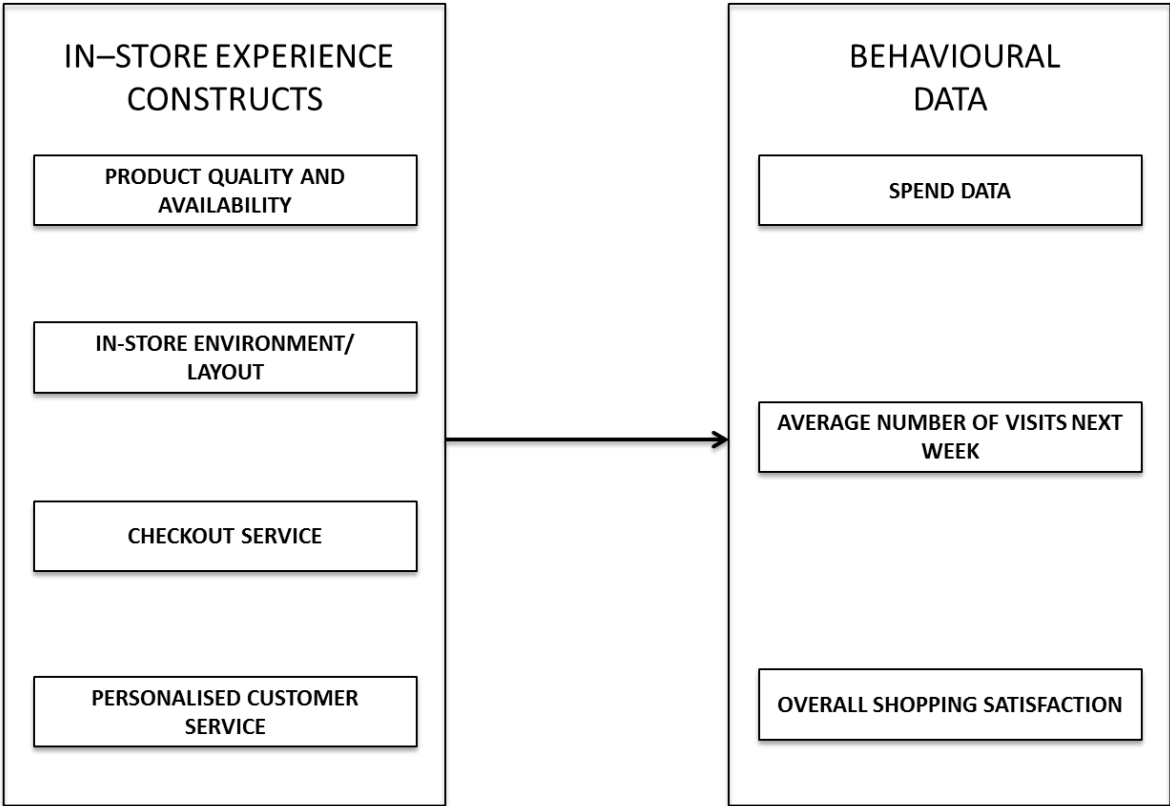
Figure 3.6 Narrowed research framework. Source: Author

The final summary of all below hypothesis is shown in, and the outcome was also used for the recommendations for the retailers.
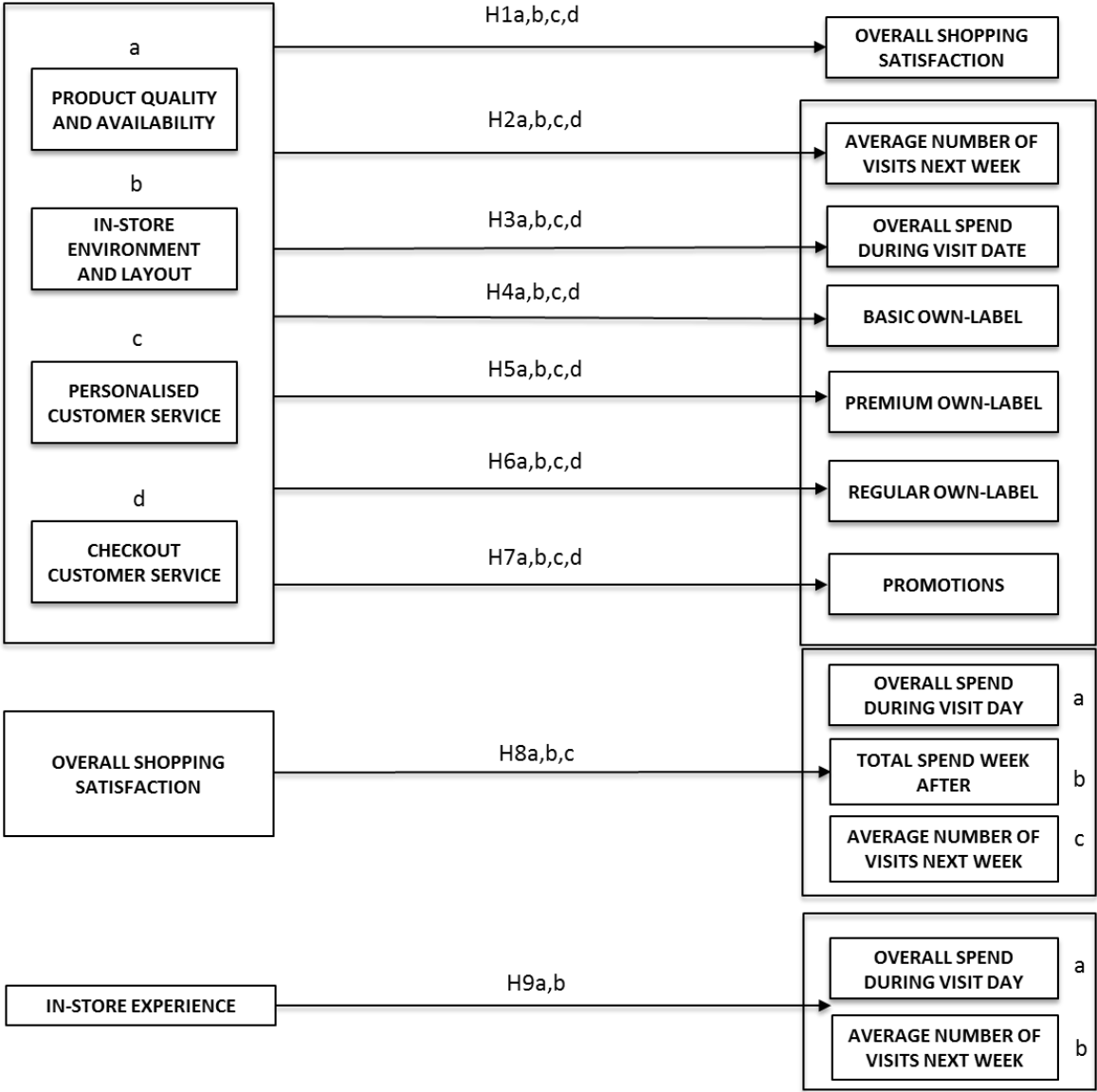
Figure 3.7 Model of hypotheses. Source: Author

3.5.1 Product quality and availability

The assortment of products and services is one of the basic functions of a retailer (Levy & Weitz, 2008). It is the main tool for retailers to create excitement, increase sales and increase profits by maximising the margin. I also know that customers' perceptions of the breadth of different products and services offered by a retailer influences their shopping experience and behaviour (Ailawadi *et al.*, 2009).

Most academic models apply to single-category assortment problems. However, as customers generally buy different and cross-category items, researchers should examine the complementarities of different market baskets, which would help to optimise the assortment (Agrawal & Smith, 2003). Different assortment strategies are important constructs and have an impact on customers. Researchers should also not ignore other marketing mix variables, as well as environmental impacts.

The most unclear thing for most retailers is what constitutes 'the right mix of products' or a 'good assortment' (Bauer *et al.*, 2012). Besides attitudinal analysis on the effects of assortment on the in-store experience, some empirical studies also show the effect of assortment on demand. Briesh, Chintagunta and Fox (2009) developed and estimated a model of the impact of different dimensions of assortment, as well as other variables, on the retail store choice. Knowing this, I can hypothesise that the assortment construct impacts overall shopping satisfaction. To be more specific, I conducted an in-depth examination of the impact of product quality and availability on overall shopping satisfaction. Based on my literature review, I could also assume that product quality and availability impact spending at time 't', particularly different kinds of spending. This led me to construct the following hypotheses concerning the impact of product quality and availability on customers' behaviour in terms of spending and overall shopping satisfaction:

H1a: Product quality and availability have an impact on overall shopping satisfaction.

H2a: Product quality and availability have an impact on the average number of visits next week.

H3a: Product quality and availability have an impact on overall spend during visit day.

H4a: Product quality and availability have an impact on basic own-label products spending.

H5a: Product quality and availability have an impact on premium own-label products spending.

H6a: Product quality and availability have an impact on regular own-label products spending

H7a: Product quality and availability have an impact on customers' promotional spending.

3.5.2 In-store environment and layout

A store's environment influences the quantity of purchased items, store liking, time and money (Sherman *et al.*, 1997), quality and evaluation of merchandise (Baker *et al.*, 1994), sales (Milliman, 1982), product evaluation (Wheatley & Chiu, 1977), satisfaction (Bitner, 1992) and store choice (Babin & Darden, 1996). Therefore, many retailers acknowledge the importance of the store environment as a tool for differentiation (Levy & Weitz, 2001). Furthermore, if I consider stimulus cues, I can say that the store atmosphere is the stimulus that causes consumer evaluation in relation to the environment, and some behavioural responses (Turley & Milliman, 2000). This construct also includes congestion, created by a large number of customers, impacting the ease of shopping. The retail atmosphere directly influences customers' in-store shopping experience. It has an impact on shoppers' behaviour by affecting their emotion, cognition and physiological state. Some of these elements may have different impacts on different behaviours (Lam, 2001). Not only is the layout of the store itself also of great importance for customers' shopping experience but also the fact if the store is overcrowded, or not. Positive experiences arise if the store makes it easy for shoppers to find the product they are looking for, when the layout of the store seems logical and when there are sufficient signs in the store (Bitner, 1992). Knowing this, and based on my final research framework, I created the following hypotheses:

H1b: The in-store environment and layout have an impact on overall shopping satisfaction.

H2b: The in-store environment and layout have an impact on the average number of visits next week.

H3b: The in-store environment and layout have an impact on overall spend during the visit day.

H4b: The in-store environment and layout have an impact on basic own-label products spending.

H5b: The in-store environment and layout have an impact on premium own-label products spending.

H6b: The in-store environment and layout have an impact on regular own-label products spending.

H7b: The in-store environment and layout have an impact on promotions spending.

3.5.3 Customer service interface constructs

The service interface is a key construct of the in-store experience framework. According to many studies, it has an impact on customer behaviour. Service quality can be defined as the overall evaluation attitude (Parasuraman, 1985), which is the degree and direction of discrepancies between customer perceptions and their expectation of what is actually delivered. For the main service quality dimensions, I can use the interaction quality; the interaction between customers and staff — and service environment quality — the overall atmosphere of the store and the service environment. I should also add the outcome quality — the actual service customers receive (Brady & Cornin, 2001) as well as the manner in which the shopping experience form impacts customer behaviour. While analysing the customer service interface and its impact on customers' shopping trip, the notion of critical incidents is important. This refers to specific events during a shopping trip that have significant positive or negative contributions to the shopping experience (Arnold *et al.*, 2005). Critical incidents thus influence shopping trip satisfaction. It is difficult to characterise these events, as they depend on the customers' shopping trip motivations and expectations. Contact employees play a major role, as they are responsible for satisfying customer needs and expectations (Arnold *et al.*, 2005; Bitner, 1992). By better understanding it, they can enhance shopping trip satisfaction. A classification scheme for employee behaviours in critical service encounters has been described in the literature (Bitner *et al.*, 1990). There are three primary groups of employee behaviours in critical service encounters (Esbjerg & Bech-Larsen, 2009):

- recovery, when employees respond to service delivery system failures, such as stockout;
- adaptability, or when the employee responses are prompted by customers' special needs and requests;
- spontaneity or unprompted and unsolicited behaviours.

What is quite interesting is the fact that critical incidents also may arise from negative or positive experiences with other customers (Grove & Fisk, 1997). According to Westbrook (1981), compared with pure services, customer-to-customer experiences are less critical for grocery shopping trip satisfaction, as they have limited interactions and less close physical contact (Westbrook, 1981). It may be

important in smaller communities where social and recreational shopping motives prevail. Having this in mind, I constructed the following hypotheses:

H1c: Personalised customer service has an impact on overall shopping satisfaction.

H1d: Checkout customer service has an impact on overall shopping satisfaction.

H2c: Personalised customer service has an impact on the average number of visits next week.

H2d: Checkout customer service has an impact on the average number of visits next week.

H3c: Personalised customer service has an impact on overall spend during visit day.

H3d: Checkout customer service has impact on an overall spend during visit day.

H4c: Personalised customer service has an impact on basic own-label products spending.

H4d: Checkout customer service has an impact on basic own-label products spending.

H5c: Personalised customer service has an impact on premium own-label products spending.

H5d: Checkout customer service has an impact on premium own-label products spending.

H6c: Personalised customer service has an impact on regular own-label products spending.

H6d: Checkout customer service has an impact on regular own-label products spending.

H7c: Personalised customer service has an impact on promotions spending.

H7d: Checkout customer service has an impact on promotions spending.

3.5.4 In-store experience and overall shopping satisfaction

I can observe a growing number of publications concerning atmospherics and the effects of the store environment on customers' decision-making, including spending (Eroglu & Machleit, 1990; Kaltcheva & Weitz, 2006; Shankar *et al.*, 2011). Most of the reviewed papers focused on customers' perceived in-store experience, which is a holistic construct in nature and involves customers' cognitive, affective, emotional, social and physical responses to the retailer (Bell *et al.*, 2011). There is evidence that a pleasant shopping experience results in higher customer loyalty and

satisfaction (Macintosh & Lockshin, 1997; Sirohi *et al.*, 1998; Terblanche & Boshoff, 2006a, 2006b). In most of the researched papers, I found that the store atmosphere interacts with customer perceptions, affecting their behaviours and creating an in-store experience. I observed that the store environment affects emotions, behaviours and cognition. Retailers realise that they need to help customers satisfy their shopping needs. Thus, they increasingly try to offer pleasurable or even entertaining shopping experiences (Arnold *et al.*, 2005; Wakefield & Baker, 1997). Moreover, knowing that one tends to buy more things and spend more money when one is in a positive rather than in a negative mood state (Spies *et al.*, 1997), there might well be important interactions between store characteristics, customer mood and purchasing behaviour; thus, the impact of the in-store experience on the emotional responses of the customers, is extremely important. There are also studies proving that pleasure induced by store environments appears to be a strong cause for consumers spending extra time in the store and spending more money than intended (Donovan & Rossiter, 1994). From this perspective, in-store experience, creating customer satisfaction is the main force impacting customers' behaviour and spending. In my research, the in-store experience construct includes my four, key researched factors (product quality and availability, in-store environment and layout, personalised customer service, checkout customer service). Having this holistic approach to in-store experience as well as overall shopping satisfaction led me to the following hypothesis construction:

H8a: Overall shopping satisfaction has an impact on overall spend during visit day.

H8b: Overall shopping satisfaction has an impact on total spend week after.

H8c: Overall shopping satisfaction has an impact on the average number of visits next week.

H9a: In-store experience has an impact on spend during visit day.

H9b: In-store experience has impact on the average number of visits next week.

3.6 Results

As described previously, the research methodology involved a two-step approach. First, exploratory factor analysis was conducted to create variables to measure the different dimensions of the in-store experience from the individual items. Four dimensions of in-store experience were identified. Combined with behavioural

data on the surveyed customers, this information gave me the final research framework (Figure 3.6). This approach provided me with the proper basis to conduct the correlation, regression, mediation, moderation and sensitivity analysis to test the hypotheses further.

3.6.1 Correlation analysis

Having survey data based on my framework on the one hand and behavioural data on the other, I employed the following statistical design (Figure 3.8).
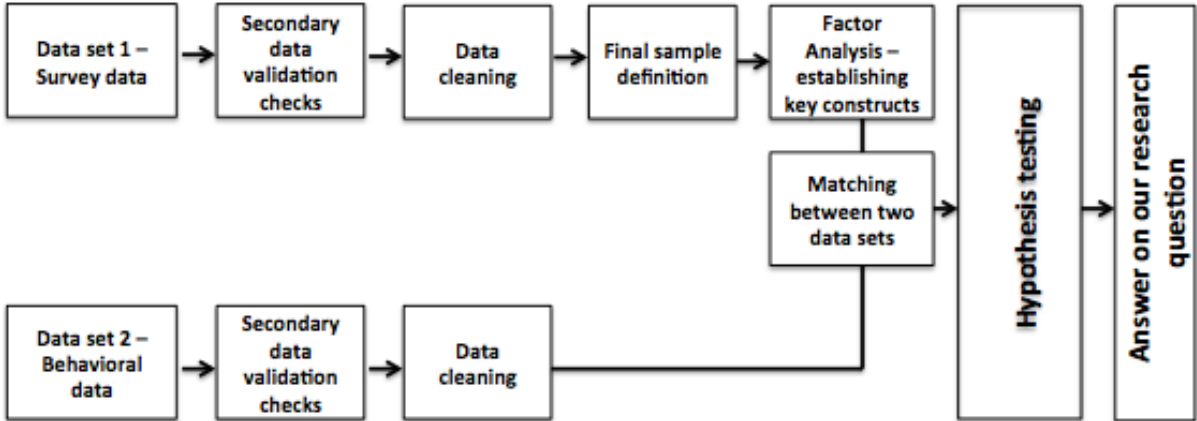
Figure 3.8 Statistical analysis key steps. Source: Author

I began the analysis with a correlation matrix, which should help me to observe any significant relations between my key research constructs, shopping basket data, overall shopping satisfaction and average number of visits the following week.

Looking at the correlation matrix (Table 3.7), I can observe significant relationships between overall shopping satisfaction and my key in-store experience constructs. In addition, considering the size of the sample, I could expect some correlations with regards to the total spending on a visit day, as well as the impact on the average number of visits the following week and also the spend week after.

Armed with this knowledge, and following my research model, I analysed how the in-store experience constructs impact different kinds of spending on a visit day. I created a shorter version of my correlation matrix focusing only on shopping basket data (Table 3.8), in order to determine whether there is any correlation between in-store experience elements, different kinds of spending, total spend this week and

week after as well as number of visits week after. Looking at my linear correlation data, I can assume that there is causality between in-store experience, spending during the visit day and week after, some specific food categories and number of visits week after. Better assortment (in my case, product quality and availability) means people are more likely to increase spending on basic and reduce spending on regular and premium categories and therefore reduce their spending-size overall. This is very interesting, as it may mean that good availability means customers are less likely to upgrade items when they cannot find all they want (so they spend less) however, positively influence the amount of money the customers spend week after. This makes sense, as we know product quality and availability positively impacts overall shopping satisfaction which is reflected in the amount of money spent week after, when customers are able to plan their shopping trip based on the experience they had. It also positively influences the number of visits the week after.

A better in-store environment and layout means that customers seem to spend less in general across the categories however at the same time they are more satisfied (Table 3.8), which may be also due to less crowded store and higher ease of shopping. A worse layout could mean that people come across items they did not plan to buy (e.g., additional stands with the products). Both customer service factors seem to have an overall positive effect on sales across all measured categories during the visit day and also during the visit the week after. Very interesting is also the fact that overall shopping satisfaction has a positive impact on customers' behaviour week after (spend and number of visits).

The correlation numbers are very low but significant. They are small, as customers' behavioural constructs are likely to be influenced by a number many factors, including: store proximity, pricing, promotions, household differences, individual differences and preferences, etc. Therefore a lot of the variability in spend and visits is likely to be explained by other aspects, not just shopping experience, which needs to be kept in mind.

Table 3.7 Correlation matrix. Source: Author

	In-store experience key constructs				Shopping basket data						
	Product quality and availability	In-store environment and layout	Checkout service	Personalised Customer Service	Spend on basic own-label products on a visit day	Spend on regular own-label products on a visit day	Spend on premium own-label products on a visit day	Spend on promotions on a visit day	Overall shopping satisfaction	Average N. of visits week after	Total spend on a visit day
Product quality and availability	1	,000	,000	,000	**.025**	**-.026**	**-.029**	**-.022**	**.438**	**.016**	**-.016**
In-store environment and layout	,000	1	,000	,000	-,011	**-.058**	-,014	**-.043**	**.523**	**.043**	**-.053**
Checkout service	,000	,000	1	,000	,002	**.064**	,019	**.024**	**.239**	-,012	**.042**
Personalised Customer service	,000	,000	,000	1	,006	**.075**	**.035**	**.062**	**.269**	**.017**	**.090**
Spend on basic own-label products on a visit day	**.025**	-,011	,002	,006	1	**.160**	**-.057**	**.065**	**.020**	-,001	**.196**
Spend on regular own-label products on a visit day	**-.026**	**-.058**	**.064**	**.075**	**.160**	1	**.213**	**.574**	-,008	**-.113**	**.741**
Spend on premium own-label products on a visit day	**-.029**	-,014	,019	**.035**	**-.057**	**.213**	1	**.312**	**-.026**	**-.053**	**.348**
Spend on promotions on a visit day	**-.022**	**-.043**	**.024**	**.062**	**.065**	**.574**	**.312**	1	-,006	**-.086**	**.787**
Overall shopping satisfaction	**.438**	**.523**	**.239**	**.269**	**.020**	-,008	**-.026**	-,006	1	**.055**	,004
Average N. of visits week after	**.016**	**.043**	-,012	**.017**	-,001	**-.113**	**-.053**	**-.086**	**.055**	1	**-.115**
Total spend on a visit day	**-.016**	**-.053**	**.042**	**.090**	**.196**	**.741**	**.348**	**.787**	,004	**-.115**	1

Significant parameters are in bold (p< .01)

Table 3.8 Shopping basket data correlation matrix. Source: Author

	Shopping basket and behavioural data						
	Spend on basic own-label products on a visit day	Spend on regular own-label products on a visit day	Spend on premium own-label products on a visit day	Spend on promotions on a visit day	Total spend on a visit day	Number of visits week after	Total spend week after
Product quality and availability	**.025**	**-.026**	**-.029**	**-.022**	**-.016**	**0.016**	**0.032**
In-store environment and layout	-,011	**-.058**	-,014	**-.043**	**-.053**	**0.043**	0.009
Checkout service	,002	**.064**	,019	**.024**	**.042**	-0.12	0.006
Personalised Customer Service	,006	**.075**	**.035**	**.062**	**.090**	**0.017**	0.018
Overall shopping satisfaction	**.020**	-.008	**-.026**	-.006	**.004**	**0.055**	**0.040**

Significant parameters are in bold (p<.05)

3.6.2 Regression analysis

In order to make more sense of the data and to verify which construct has the greatest impact on satisfaction and customer behaviour, I decided to conduct a regression analysis on the key constructs and elements of customer behaviour. It combined all proposed and researched models

When examining model A (the impact of in-store experience on overall satisfaction), I can clearly observe that the adjusted R^2 of my model is 0.595 (Table 3.9). This means that the linear regression explains 59.5% of the variance in the data. This is a clear indication that the key four in-store environment constructs explain a substantial amount of overall shopping satisfaction. Furthermore, the coefficients are significant, which means that there is a linear relationship between the variables and satisfaction in my model. I forced all the variables into a multiple linear regression; the beta weights are quite interesting for my research. As beta expresses the relative importance of each independent variable in standardised terms, I can observe which of the key factors from my model are significant predictors of overall shopping satisfaction. After the coefficients analysis, I could observe that the variable with the largest impact on overall shopping satisfaction is the in-store environment and layout (beta=0.423), together with product quality and availability (beta=0.354). However, I can see that all four factors have a significant impact on overall shopping satisfaction. I can conclude, therefore, that these four aspects of the in-store experience significantly impact satisfaction.

The second part of my analysis will focus on the core of my research project, which concerns spending. Therefore, I will focus on analysing what impacts spending and its different types. I need to remember that all the responses in the survey were related to the visit day. While analysing the results for model D (Table 3.9) could observe that there is a very small relationship between spending and overall satisfaction and it does not explain variance in the data (R^2 approx. 0), however the coefficient is significant. I could also observe some level of correlation between those two constructs (Table 3.7).

Table 3.9 Impact of in-store shopping experience on overall shopping satisfaction, total spend on a visit day and average number of visits the week after. Source: Author

Model	A: Overall shopping satisfaction				B: Total spend on a visit day				C: Average N. of visits week after				D: Total spend on a visit day				E: Average N. of visits week after			
	β	R	R2	SE	β	R	R2	SE	β	R	R2	SE	β	R	R2	SE	β	R	R2	SE
In-store experience constructs		**0,772**	**0,595**			**0,114**	**0,130**			**0,05**	**0,002**									
Product quality and availability	**0,354**			0,003	**-0,781**			0,003	0,024 ★			0,011								
In-store environment and layout	**0,423**			0,003	**-2,597**			0,003	**0,064**			0,011								
Checkout service	**0,193**			0,003	**2,042**			0,003	-0,017			0,012								
Personalised customer service	**0,218**			0,003	**4,471**			0,003	0,026 ★			0,011								
Overall shopping satisfaction													**0,217**	**0,004**	**0,000**	0,374	**0,1**	**0,055**	**0,003**	0,013

Significant parameters are in bold (p<.01)

★ Significant parameters (p<.05)

3.6.3 One-way ANOVA

As an alternative to regression, I decided to investigate these data using scatter plots and conducting one-way ANOVA tests to determine whether I can observe patterns even without the linear regression, particularly with the highest values for spending and satisfaction. While analysing the graph (Figure 3.9). I can see many individual-level variations (explaining why the regression's R2 was so low) and that the highest values are assigned to the highest overall shopping satisfaction level. I achieved significant results, indicating that the higher the level of satisfaction I have, the higher the average basket size is. However, on satisfaction level three I do not see this trend: this might be connected with the fact that a score of 3 was given for a 'reasonable' level of satisfaction, which is neither good nor bad. What is important is the fact that the highest levels of satisfaction (4 and 5) relate to the highest average spending (£45.40 and £48.50, respectively). Furthermore, the 95% confidence interval for these values do not overlap (upper bound for 4 = £45.90, lower bound for 5 = £47.70), which shows a clear distinction between them. Therefore, I can assume that the overall level of satisfaction has an influence on overall spending. The linear regression is not visible, but the relationship to the average spend size is visible.

In the same way, I decided to assess whether overall satisfaction has an impact on the frequency of visits – model E. To examine this, I created a scatter-plot graph to view the relationships between extreme values. There was very small linear regression (Table 3.9) and correlation (Table 3.7); however, there was a significant amount of individual-level variation (Figure 3.9). I could also see a pattern in which a higher frequency of visits is connected to a higher level of overall satisfaction. Knowing this, I decided to examine the details using a one-way ANOVA. I could see that the average number of visits the following week increases with a higher overall satisfaction rating and the results are significant, which is also supported by my model E (Table 3.9). Furthermore, I found that for the highest level of satisfaction, I see more frequent visits. Interestingly, as for spending, for the highest level of satisfaction, the 95% confidence intervals for these values do not overlap (upper bound for

4=2.2, lower bound for 5=2.35) which shows a clear distinction between them. Thus, I can conclude that when a customer had a positive experience, their number of visits increased.

		Dependent variable				
		Total spend on a visit day			Average N. of visits week after	
	Model	Mean	Scatter plot		Mean	Scatter plot
	Overall shopping satisfaction					
Low	1	**43.5**			**2.2**	
	2	**44.5**			2.1	
	3	42.2			2.2	
	4	**45.4**			**2.2**	
High	5	**48.5**			**2.4**	

Significant parameters are in bold
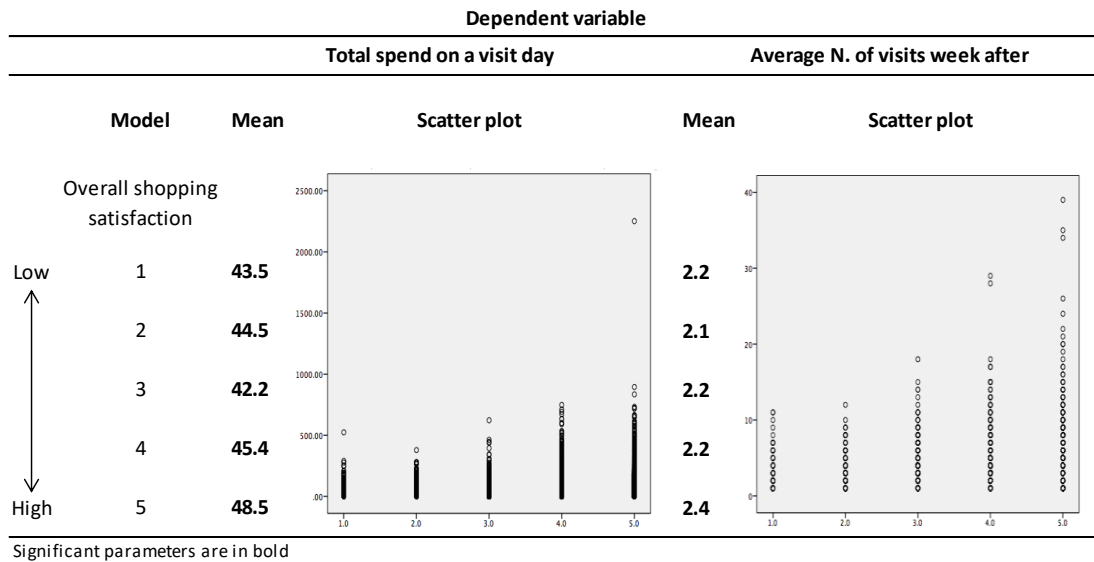
Figure 3.9 Individual-level variations for total spend and the average number of visits the following week. Source: Author

I also wanted to observe the impact of the key four in-store experience constructs researched, on the number of visits week after. Looking at model C in Table 3.9, I could observe that product quality and availability together with personalised customer service have positive impact, but on a significance level of 0,05. In-store environment and layout impacts the average number of visits the week after with a p value on a level of 0.01. Checkout service negatively impacts average number of visits week after but the results are not significant, which is logical and makes sense. That is why, I can conclude, that in-store experience influences the average number of visits the week after, with in-store environment and layout playing the biggest role in it.

After observing the impact of satisfaction on spending and the frequency of the visits, I explored the impact of my key research framework constructs on spending (model B). For this, I decided to follow the regression analysis, making spending on a visit day a dependent variable. My four factors from the research

framework were independent variables. When assessing the regression analysis (Table 3.9), as expected, I saw small R^2 values – I need to keep in mind that the sample size is large so even small R^2 values are likely to represent real relationships in the data (not occurring by chance). This could also be rationalised by thinking about how impactful I expect the environment to be in grocery shopping. It may provide an incremental benefit, but I do not expect it to be the main driver. It may be influenced by the number of factors not measured such as: store proximity, pricing, individual demographic characteristics, household differences and even the fact, that people need to eat. Therefore, I expect the experience to only contribute slightly (small R^2), but if I can identify the factors that even have a small impact on spending, it could be of great importance to retailers.

As I mentioned in the beginning of my thesis (Chapter 1.1), the retail market is extremely competitive that is why even a 1% increase in sales can make difference. Furthermore, although my findings are significant, it does not help, as there are different characteristics concerning satisfaction and its impact on spending on the individual level. Having limited information about individuals makes it difficult to explain the variability between them. As I am only including in-store experience factors, I am not able to explain in detail why person 1 might spend more than person 2 (e.g., disposable income, household size, psychology, communication activities, competitors' actions). That is where the low R^2 comes from. If I were to manage to measure and include all those other factors, then I would be able to explain why person 1 spends more than person 2 much more accurately, achieving a higher R^2. Furthermore, the coefficients are significant, which is why I can assume that there is a linear relationship between the variables. I observed a negative correlation between spending on a visit day and Factor 1 (product quality and availability) together with Factor 2 (in-store environment and layout). I observed a positive correlation between Factor 3 (checkout customer service) and Factor 4 (general/ individualised customer service). That is why, knowing that the results are significant, I can conclude that in-store experience elements (ones from my framework) have an impact on spending during the visit day. These findings are very interesting, as

they show the relative impact of various in-store experience constructs on overall spending. I will describe it in 'results interpretation section', together with many important implications for the retailers.

3.6.4 Sensitivity analysis

In order to provide retailers with more insights into what concerns the impact of the in-store experience constructs on customers' behaviour, I decided to perform a sensitivity analysis. It helped observe, what is the impact of a one-unit increase in the factors on the responses from my model. Based on my research findings (Table 3.9) my regression equation, took the form of:

$$y_{i,j} = \beta_{0,j} + \beta_{1,j} \times F1_i + \beta_{2,j} \times F2_i + \beta_{3,j} \times F3_i + \beta_{4,j} \times F4_i + \epsilon_{i,j}$$

Where $y_{i,j}$ represents the response of individual i in metric j, in Table 3.9, I considered 3 metrics; visit satisfaction, visit spend today, and number of visits next week. $F1_i$, $F2_i$, $F3_i$, and $F4_i$ represent individual i's response to each of the four factors respectively. $\beta_{0,j}$ represents the intercept or baseline for metric j, this is the value which $y_{i,j}$ takes when all the factors are equal to 0. $\beta_{1,j}$, $\beta_{2,j}$, $\beta_{3,j}$, and $\beta_{4,j}$ are the respective coefficients for each of the four factors in relation to metric j. $\varepsilon_{i,j}$ is the unexplained error term for individual i and metric j, i.e., the variation in individual i's response to metric j which is not explained by the four factors. The interpretation of the β's is that a one-unit increase in the factors represents a β increase in the response, y. As proof, suppose there is a new response for Factor 1, $F1'_i$, which results in a new level of response to the metric, $y'_{i,j}$, however all of the other factors stay the same:

$$y'_{i,j} = \beta_{0,j} + \beta_{1,j} \times F1'_i + \beta_{2,j} \times F2_i + \beta_{3,j} \times F3_i + \beta_{4,j} \times F4_i + \epsilon_{i,j}$$

Looking at the difference between the new response, y', and the old response, y, gives the change in response resulting from our change in F1'.

$$y'_{i,j} - y_{i,j} = \beta_{1,j} \times (F1'_i - F1_i)$$

In other words the increase in metric $y_{i,j}$ is equal to the change in $F1_i$ multiplied by $\beta_{1,j}$. Therefore a unit change in $F1_i$ ($F1'_i = F1_i + 1$) means that there will be a $\beta_{1,j}$ change in $y_{i,j}$. Table 3.10 shows the resulting change in the dependent variables given a unit change in the factors.

Table 3.10 Change in dependent variables given a one-unit increase in each factor. Source: Author

	Overall shopping satisfaction: (scale: 1-5)	Total spend on a visit date: (£)	Number of visits next week: (N)
Product quality and availability	**0.354**	**-0.78**	**0.02**
In-store environment and layout	**0.423**	**-2.59**	**0.06**
Checkout service	**0.193**	**2.04**	-0.017
Personalised customer service	**0.218**	**4.4**	**0.026**

Significant parameters are in bold (p<.05)

The sensitivity analysis findings above clearly show retailers the kind of in-store experience constructs in which they should invest. Where retailers can expect the highest return from one unit investment in the researched factors, is clearly visible. Interestingly, a better and more clinical layout improves the satisfaction most (by 0.4 point), positively impacts average number of visits next week, however decreases spend by £2.59. Considering the fact, that it is one customer spend during a visit, it represents big amount of money for retailers visited by several million customers daily. On the other hand, it represents a big opportunity for retailers with clinical layout, to make it more congested, less satisfying for customers but generate higher spend on a visit day.

When we look at customer service constructs, we can see that investing one unit in personalised customer service will increase the customers' spend by £4.40. This is the highest value coming from my sensitive analysis, which helps to prioritise the retailers' investments. Improving checkout service and individualised customer service, all together can increase the spend by more than £6.00. Considering that the average basket size for the big format retailer in UK is £30.00, this represents a significant amount of additional sales and provides clear direction where the biggest opportunities to sell more are. It is high enough to compensate on a possible sales miss coming from increased shopping satisfaction due to better layout. Customer service constructs not only have the highest return from the investment in terms of spend but also improve satisfaction and the average number of visits the week after. It gives clear indication for practitioners where to invest to increase sales and customer satisfaction and also what detailed implications it has in terms of customer behaviour.

3.6.5 Moderation

A moderating variable changes the impact of the independent variables on the dependent variable(s). In this case we are looking at the impact of in-store experience (independent variables) on spend on the visit day (dependent variable), however we are allowing these impacts to change depending on the consumer's overall satisfaction with the visits (moderator).

This allowed me to investigate whether a customer with high overall shopping satisfaction would respond more positively to in-store experiences than to the one with a low visit satisfaction (Figure 3.10).
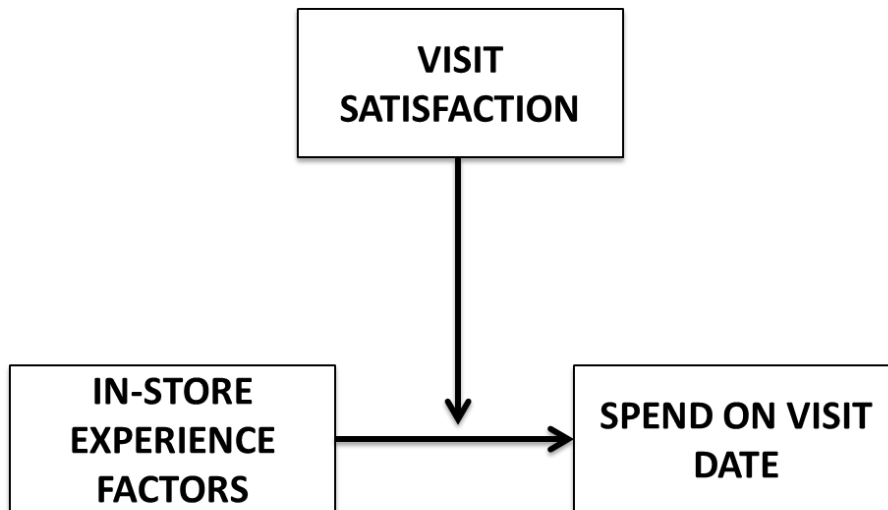
Figure 3.10 Overall shopping satisfaction as moderating variable. Source: Author

After completing the analysis and looking at the results in Table 3.11, it can be seen that there is no moderation, as it shows how model 2 differs from model 1. Model 1 represent the regression of number of visits next week against the researched factors and satisfaction with no moderation (no interactions). Model 2 is the regression with interactions between the factors and satisfaction. In Table 3.11 we can observe the change to the model fit statistics resulting from including satisfaction as a moderator. There is no improvement in the R^2 and this change is not significant by an F test. Therefore, including satisfaction as a moderating variable does not improve the model. This means that customers with high overall shopping satisfaction are not responding more positively to in-store experiences than the ones with a low satisfaction.

Table 3.11 Impact of moderation on model fit. Source: Author

Model Summary				
Model	R2	R2 Change	F Change	Sig. F Change
1	.004			
2	.004	.0	1.283	0.274

3.6.6 Mediation

Mediation attempts to understand the underlying mechanism of how the independent variables are impacting on the dependent variable(s) by using an intermediary variable. In this case, Table 3.9 shows that the in-store experience factors significantly impact both visit satisfaction and spend on the visit day. Also, visit satisfaction is impacting on spend on the visit day. Therefore, in-store experience factors could be impacting spend through satisfaction, i.e., a higher quality experience is increasing overall satisfaction which in turn increases spend (Figure 3.11).
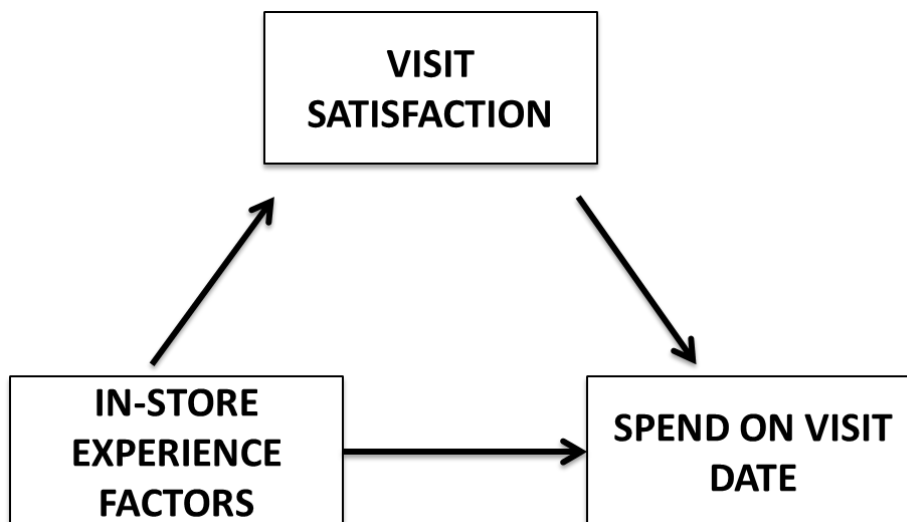
Figure 3.11 Visit satisfaction as intermediary variable. Source: Author

Following Baron & Kenny's (1986) steps for mediation, I tested to see if the relationship between in-store experience and spend on the visit day were mediated by visit satisfaction. First of all, I know from Table 3.10 that the in-store experience factors are a significant predictor of spend:

(1) $$SPEND_i = \beta_0 + \beta_1 \times F1_i + \beta_2 \times F2_i + \beta_3 \times F3_i + \beta_4 \times F4_i + \epsilon_{1,i}$$

I also know from Table 3.10 that the in-store experience factors are significant predictors of the proposed mediating variable, overall shopping satisfaction:

(2) $$SAT_i = \gamma_0 + \gamma_1 \times F1_i + \gamma_2 \times F2_i + \gamma_3 \times F3_i + \gamma_4 \times F4_i + \epsilon_{2,i}$$

To test whether the factors are mediated by satisfaction I constructed a third model:

(3) $$SPEND_i = \phi_0 + \phi_1 \times F1_i + \phi_2 \times F2_i + \phi_3 \times F3_i + \phi_4 \times F4_i + \phi_5 \times SAT_i + \epsilon_{3,i}$$

If ϕ_5 is significant then the mediator, satisfaction, is a significant predictor of spend after controlling for the impact of the factors. If the new coefficients for the factors (ϕ_1, ϕ_2, ϕ_3, and ϕ_4) are smaller in absolute value than the old coefficients (β_1, β_2, β_3, and β_4) then this demonstrates that the direct relationship between the independent variables and the dependent variable is reduced when controlling for the mediating variable. If this reduction in effect is significant then we say that the independent variables are mediated by satisfaction. Sobel (1982) proposes the following statistical test:

$$t_i = \frac{\gamma_i \times \phi_5}{SE_{t_i}},$$

(4)

$$SE_{t_i} = \sqrt{\gamma_i^2 \times \sigma_{\phi_5}^2 + \phi_5^2 \times \sigma_{\gamma_i}^2}$$

Where σ_ϕ and σ_γ are the standard errors of ϕ_5 and γ_i respectively and γ_i x ϕ_5 is the impact which the factors have through satisfaction. t_i can be compared to a Normal distribution to identify whether I should fail to accept the null hypothesis (that the impact of the factors via satisfaction is 0). This test assumes that γ_i x ϕ_5 is Normally distributed. Preacher & Hayes (2008) propose a bootstrapping approach instead of the Sobel test in order to avoid this assumption, however I believe that this is an acceptable assumption to make as the sample size is large.

The results from the mediation regressions are shown in Table 3.12. We note that ϕ_5 is not significant, which means that the mediator satisfaction is not a significant predictor of spend after testing for the impact of the factors. Furthermore, the impact of Factors 1 and 2 in model three increases vs. model 1 (they become more negative) but the impact of Factor 3 and 4 reduces, but not much. According to Baron & Kenny (1986), those are not the signs of mediation.

Nevertheless, I also performed the Sobel test (Table 3.13), which shows that looking at my p-values, none of these effects are significant. This means that the indirect impact of the in-store experience factors are not significantly different from '0' and therefore overall shopping satisfaction does not mediate the impact of any of the four researched factors. We can conclude, that in-store experience factors do not impacting spend through satisfaction, which means that the higher quality experience increases overall shopping satisfaction which, in turn, does not indirectly increase spend on a visit day.

Table 3.12 Results from mediation regression (total spend on a visit day).

Source: Author

Dependent Variable	1 - Total impact Total spend on a visit day		2 Overall shopping satisfaction		3 - Direct impact Total spend on a visit day		4 - Indirect impact
	β_i	SE	γ_i	SE	φ_i	SE	$\gamma_i \times \varphi_5$
Factor							
Product quality and availability	**-0,781**	**0,334**	**0,354**	**0,003**	**-0,854**	**0,404**	0,073
In-store environment and layout	**-2,597**	**0,332**	**0,423**	**0,003**	**-2,685**	**0,431**	0,088
Checkout service	**2,042**	**0,334**	**0,193**	**0,003**	**2,002**	**0,357**	0,04
Personalised customer service	**4,471**	**0,336**	**0,218**	**0,003**	**4,426**	**0,363**	0,045
Overall shopping satisfaction	-	-	-	-	0,207	0,647	-

Significant parameters are in bold (p<.05)

Table 3.13 Sobel test. Source: Author

Factor	γi x φ5	SE	t	pval
Product quality and availability	0,073	0,229	0,319	0,749
In-store environment and layout	0,087	0,273	0,319	0,749
Checkout service	0,039	0,124	0,319	0,749
Personalised customer service	0,045	0,141	0,319	0,749

In order to see if the overall shopping satisfaction mediates the impact of my four researched factors on next week spend, I performed the same analysis (Table 3.14 and Table 3.15).

Looking at the analysis, I observed a much stronger level of significance, however given the very large sample size, I would expect it to be stronger. Nevertheless, one interesting finding is that my Factors 3 and 4 (checkout service and personalised customer service) are mediated by satisfaction, whereas the impacts of Factor 1 (product quality and availability) and Factor 2 (in-store environment and layout) are suppressed by overall shopping satisfaction. By this one can conclude, that their positive impact on satisfaction is lessening their total impact on next week's spend. We can conclude, that F1 and F2 increase satisfaction, which in turn increases spend next week. This relationship is significant at the 10% level (Table 3.15). However, one cannot forget that F1 and F2 also have negative direct impact on spend next week. Nevertheless, the increase in visit satisfaction which comes from high levels of F1 and F2 helps to reduce their negative direct impact. However, the indirect impact (the impact through satisfaction) is quite small once compared to total impact, which means that there is still a large effect being unexplained by satisfaction.

Table 3.14 Results from mediation regression (total spend next week).
Source: Author

Dependent Variable	1 - Total impact Total spend next week		2 Overall shopping satisfaction		3 – Direct impact Total spend next week		4 - Indirect impact	5
	β_i	SE	γ_i	SE	φ_i	SE	$\gamma_i \times \varphi_5$	$\gamma_i \times \varphi_5 + \varphi_i$
Factor								
Product quality and availability	**-1,054**	0,438	**0,354**	**0,003**	**-1,604**	**0,534**	0,552	-1,052
In-store environment and layout	**-0,591**	0,442	**0,423**	**0,003**	**-1,242**	**0,571**	0,660	-0,582
Checkout service	**3,462**	0,466	**0,193**	**0,003**	**3,162**	**0,495**	0,301	3,463
Personalised customer service	**2,821**	0,442	**0,218**	**0,003**	**2,492**	**0,478**	0,340	2,832
Overall shopping satisfaction	-	-	-	-	1,56	0,866	-	

Significant parameters are in bold (p<.05)

Table 3.15 Sobel test. Source: Author

Factor	$\gamma i \times \varphi 5$	SE	t	pval
Product quality and availability	0,552	0,307	1,801	0,072
In-store environment and layout	0,660	0,366	1,801	0,072
Checkout service	0,301	0,167	1,801	0,072
Personalised customer service	0,340	0,189	1,801	0,072

4 CONCLUSIONS, LIMITATIONS AND FURTHER RESEARCH OPPORTUNITIES

4.1 Research results interpretation – recommendations for retailers

4.1.1 Overall shopping satisfaction

Table 4.1 is a summary of my hypotheses, indicating which of them are supported and which are not. All the hypotheses connected to the overall customer satisfaction from a shopping trip are interesting from both the customer and retailer perspectives. I decided to verify these to start with:

H1a: Product quality and availability has an impact on overall shopping satisfaction.

H1b: The in-store environment and layout have an impact on overall shopping satisfaction.

H1c: Personalised customer service has an impact on overall shopping satisfaction.

H1d: General customer service has an impact on overall shopping satisfaction.

H8a: Overall shopping satisfaction has an impact on overall spend during visit day.

H8b: Overall shopping satisfaction has an impact on total spend week after.

H8c: Overall shopping satisfaction has an impact on the average number of visits next week.

All the above hypotheses were supported, which gave me an important indication concerning what types of constructs impact overall satisfaction most, and also what the impact is of overall satisfaction on spend (during visit day and week after) and on the number of visits week after. My correlation matrix (Table 3.7) demonstrated significant relationships between overall shopping satisfaction and my key in-store experience constructs. It is clear that the highest correlation is for the in-store environment and layout construct (r=0.523), and a high correlation was also noted for the product quality and

availability construct (*r*=0438). My other two constructs were also significantly related to overall shopping satisfaction, but on a lower level: checkout service *r*=0.239 and personalised customer service *r*=0.269. Based on these findings, I can clearly state that customers' in-store experiences impact their overall shopping satisfaction. There is also an impact of overall satisfaction and the customer behaviour. Not only has it a positive impact on how much customers spend during the store visit but also positively influences, total spend week after and number of visits. Knowing this, it is visible that increasing overall shopping satisfaction creates advantages in what concerns higher spend and loyalty.

The purpose of my project is not only to identify what factors lead to shopping satisfaction, but also what kind of construct has the greatest influence on this satisfaction. Thus, to understand this in more depth, I decided to conduct a detailed regression analysis, which produced additional interesting findings. I also wanted to identify to what extent my four constructs explain the variance in the overall shopping satisfaction dependent variable. These also helped me to judge whether my model is complete and could be the basis for explaining most of the shopping satisfaction variance. The results from the regression analysis (Table 3.9) show me that R^2 of my model is 0.595. This means that my four in-store experience constructs explain 59.5% of the shopping satisfaction change. This is a clear indication that it explains most of the overall shopping satisfaction. It also shows that my final research framework can be used to determine what impacts the researched dependent variable I analysed. Furthermore, the coefficients are significant (*sig.*=0.000), which means that there is a linear relationship between the variables and satisfaction in my model. Nevertheless, I needed to acknowledge that 40% of other constructs that impact the overall shopping satisfaction could be researched further. This is discussed in more depth in my Discussion (4.2) and Further Research Opportunities (4.3) sections.

In order to observe which of my measured constructs had the greatest influence on customers' shopping satisfaction, I forced all variables into a multiple linear regression, where based on beta I was able to reach interesting conclusions. I observed that the in-store environment and layout (beta=0.423)

227

together with product quality and availability (beta=0.354) have the greatest impact of my four constructs on explaining overall shopping satisfaction. Furthermore, while analysing beta for the other two constructs (checkout service and personalised customer service), I observed that with SE=0.003, they also had a significant impact on overall shopping satisfaction.

All these findings are aligned with the described literature and other experiments (Baker *et al.*, 1994; Milliman, 1982; Sherman *et al.*, 1997; Bitner, 1992; Ailawadi & Harlam, 2009; Baron *et al.*, 1996; Arnold *et al.*, 2005; Grewal *et al.*, 1998). One unique aspect of my findings is that I measured the detailed impact of each independent variable from my model on the dependent variable. Having feedback from more than 30,000 customers in a real retail store environment, I can therefore conclude that the hypotheses are supported and that a customer's in-store experience has an impact on overall shopping satisfaction. However, the greatest impact and relationship to satisfaction of all the in-store experience constructs was the in-store environment and layout. This means that if retailers want to increase their customers' shopping satisfaction, they should focus on improving the in-store environment and layout. From the customer's perspective, this entails making sure that the store is tidy, not congested, with a good look and feel, helping to make the customer's shopping experience easy and pleasant. I also identified the impact and importance of the shopping satisfaction on what concerns the customers' future behaviour. This positively correlated to the number of visits week after and total spend week after. It shows how important a variable it is, in creating higher spend and loyalty now, and in the future.

4.1.2 Customers' spending and frequency the visits

Customer spending is important part of my research, as I wanted to observe the impact of my key in-store experience constructs on customers' spending. I aimed to observe not only whether customers' in-store experience impacts their spending size, but also what kinds of elements have the greatest impact on it. For this study, as I described before, I used secondary data, which in my case are the Dunnhumby data managed by Tesco. This is the largest

customers' database concerning spending in the UK retail market. By cross-matching the data with the survey answers, I could observe the relationships between in-store experience elements and behavioural data. From an academic perspective, the fact that those are till data, not declarative data is beneficial. Furthermore, they cover all the details, even concerning spending on selected categories. I approached the analysis with the following general hypotheses:

H3a: Product quality and availability has an impact on overall spend during the visit day.

H3b: The in-store environment and layout have an impact on overall spend during the visit day.

H3c: Personalised customer service has an impact on overall spend during the visit day.

H3d: General customer service has an impact on overall spend during the visit day.

H8a: Overall shopping satisfaction has an impact on overall spend during visit day.

H8b: Overall shopping satisfaction has an impact on total spend week after.

H8c: Overall shopping satisfaction has an impact on the average number of visits next week.

H9a: In-store experience has an impact on overall spend during the visit day.

H9b: In-store experience has an impact on average number of visits next week.

After performing all necessary analysis, when I attempted to verify my general H8a hypothesis, I observed that there was no high relationship between spending and overall satisfaction. My R2 was approximately 0, which means that overall shopping satisfaction did not explain variance in the data.

As this is a central hypothesis to my study, I decided to investigate the data in greater depth using other statistical tools. As an alternative to the regression, I investigated the data using scatter-plots and conducting one-way ANOVA. I knew that there was no strict linear regression; however I wanted to

determine whether I could observe some patterns, particularly for the highest values for spending and satisfaction (Figure 3.9). While analysing the graph, I observed many individual-level variations (this explains why R^2 was so low). Furthermore, I could see that the highest values are assigned to the highest overall satisfaction level. The results were significant, indicating that the higher level of satisfaction I have, the higher the spending is. I could also see that the highest levels of satisfaction (4 and 5) relate to the highest average spending (£45.40 and £48.50, respectively). Furthermore, the 95% confidence intervals for these values do not overlap (upper bound for 4 = £45.90, lower bound for 5 = £47.70), which shows a clear distinction between them. Thus, I can accept H2, concluding that the overall level of satisfaction has an influence on overall spending. I had an extensive amount of data with a great deal of individual-level variation, which makes the regression not visible; however, I observed a significant relationship to the average spending size. This is an important research outcome for retailers, as it indicates that there is a relationship between overall shopping satisfaction and the amount of money customers spend.

With regards to the basket size, it is also beneficial to identify whether there is a correlation between shopping satisfaction and the frequency of visits. This aspect was supposed to observe if by increasing the satisfaction, retailers could increase shopping basket value in a sustainable way together with an increase in the number of store visits. As I could not observe the linear regression, I also created a scatter-plot graph. This helped me observe the relationships between the extreme values (Figure 3.9). As with the analysis of behavioural data, I observed that for a higher level of satisfaction, the average number of visits increases. Interestingly, for the highest level of satisfaction, I observe more frequent visits. Furthermore, as for spending, for the highest level of satisfaction, the 95% confidence intervals for these values do not overlap (upper bound for 4=2.2, lower bound for 5=2.35), which shows a clear distinction between them. Knowing that the results are significant, I can accept H8b, concluding that when customers have a positive experience, their number of visits the following week increases. Once I know what impacts

overall shopping satisfaction, this is an important indication for retailers. This means that improving customers' shopping experience not only positively impacts their spending, encouraging customers to buy more, but also increases the number of visits. Overall, together with increased customer spend, this should help retailers develop in a more sustainable manner.

My statistical analysis also helped me verify the impact of the in-store experience and its key constructs from my research framework on spending (model B in Table 3.9). A regression analysis was performed to confirm hypotheses H3a, H3b, H3c, H3d and H9a. I found that the R2 values are small (R2=0.130), but I need to keep in mind that the sample size is very large, and thus even small values are likely to represent a real relationship in the data not occurring by chance. This level of the R2 value also shows that my final in-store experience research framework constructs are not the key ones impacting customer spending. It does have an impact; however, it is low as I include only factors from my research framework. This means that there are other, more basic ones in a grocery shopping environment that have a greater impact; such as the fact that customers need to eat, for example, or perhaps a price level, store proximity, demographical, or individual differences. I am aware now that my constructs are not the main drivers for customer spending; nevertheless, even identifying what contributes a small amount is of great value for retailers. I already mentioned that finding a way to increase sales by 1% in such a competitive environment like the UK can determine retailers' success or failure. In spite of a low R2, the coefficients are significant; therefore, I can assume that there is a linear relationship between the researched variables. Knowing this, I can accept hypotheses H3a, H3b, H3c, H3d and H9a, concluding that the in-store experience, together with my four key researched constructs; product quality and availability, in-store environment and layout, checkout service and personalised customer service – have an impact on how much customers spend during their shopping trip. While analysing Table 3.9, I could also accept hypothesis H9b – in-store experience has an influence on the average number of visits next week. It is visible, that three of my four measured constructs: product quality and availability, in-store environment and

layout, personalised customer service positively influence the number of visits next week. The results for checkout service were not significant.

Knowing that my four researched constructs have an impact on spending, I aimed to determine what kind of impact they have. After analysing the data from my regression analysis (Table 3.9), achieved a clear indication as to which element from my in-store experience constructs has the greatest impact on customer spending. The highest beta is for personalised customer service (beta=4.471), which shows that this construct has the greatest impact on increasing customer spending. The second-highest beta factor is checkout service (beta=2.042). Interestingly, the customer service factors, of all the researched in-store experience elements, impact customer spending the most, in a positive way. Thus, if retailers would like to drive sales, these constructs are the first ones in which they should invest, particularly individualised customer service. Furthermore, they have the greatest impact on customers.

Very surprisingly, there are two other constructs negatively impacting customer spending, which means that the better evaluated they are, the lower the customer spending. The in-store environment and layout had the highest negative beta (beta=-2.597) and product quality and availability (bet =-0.781). I found that these constructs positively impact customers' overall shopping satisfaction. Furthermore, I knew that overall satisfaction positively impacts spending as well as the average number of visits. Thus, I could logically assume that these two constructs would also have a positive impact on spending. My research findings show that this is not true and that retailers will need to change their approach and strategy to avoid generating a negative impact on customer spending.

Looking closer at my greatest negative contributor to spending, which is the in-store environment and layout, I can conclude that the more clinical and decongested environment I have in stores, the less customers spend. This makes sense from a behavioural perspective, as a clinical and decongested in-store environment provides fewer opportunities for customers to engage in unplanned buying. An environmental psychologist (Underhill, 2003) described stores that create roadblocks so that when you walk in, you are forced to stop.

Wolf *et al*. (2008) also suggest that when you touch something, you are more likely to buy it. Therefore, a clinical and not crowded layout positively impacts customers' satisfaction (customers like space in the store, not crowded stores and easiness of shopping), but negatively impacts their spending size. This is important for practitioners, indicating that they need to find the right balance between achieving the right level of shopping satisfaction and spending using the in-store environment as a regulatory variable.

The second construct negatively impacting spending is the product quality and availability factor, another important part of my research framework. Knowing that positively impacts overall shopping satisfaction, I can assume that this is the truth in terms of spending, as well. It would be logical to assume that the better the quality and availability of products in the store, the more customers spend. My research shows that this is not the case. I see a significant negative contribution to spending (beta=-0.781), suggesting that with lower availability, customers may spend more due to a lack of options of buying the products they are looking for. No option could mean the need to buy a more expensive substitute while at the same time having lower satisfaction from the shopping trip, which my research supports. That is why, very good availability makes the customers spend less during the visit day, however my linear correlation proves that they spend more the week after (Table 3.8), mainly due to increased satisfaction caused by this construct (Table 3.9). Again, here I have an important indication for retailers, which means that the product quality and availability is critical for shopping satisfaction. Nevertheless, it cannot be treated as a direct tool for sales increases. Retailers should focus on improving customer service (particularly individualised customer service) as well as creating a layout supporting impulse buying, which may also mean congested space in a store. To conclude, I can support all the following hypotheses:

H3a: Product quality and availability has an impact on overall spend during the visit day.

H3b: The in-store environment and layout have an impact on overall spend during the visit day.

H3c: Personalised customer service has an impact on overall spend during the visit day.

H3d: General customer service has an impact on overall spend during the visit day.

H8a: Overall shopping satisfaction has an impact on overall spend during visit day.

H8b: Overall shopping satisfaction has an impact on total spend week after.

H8c: Overall shopping satisfaction has an impact on the average number of visits next week.

H9a: In-store experience has an impact on overall spend during the visit day.

H9b: In-store experience has an impact on average the number of visits next week.

To use more detailed shopping basket data, I decided to look at the details of customer spending and what drives it. I attempted to assess what drives spending on basic own-label, regular own-label, and premium own-label products, as well as spending on promotions. Having this in mind, as well as information connected to key spending drivers from my literature review, I constructed the following hypothesis:

H4a: Product quality and availability have an impact on basic own-label products spending.

H4b: The in-store environment and layout have an impact on basic own-label products spending.

H4c: Personalised customer service has an impact on basic own-label products spending.

H4d: Checkout customer service has an impact on basic own-label products spending.

H5a: Product quality and availability has an impact on premium own-label products spending.

H5b: The in-store environment and layout have an impact on premium own-label products spending.

H5c: Personalised customer service has an impact on premium own-label products spending.

H5d: Checkout customer service has an impact on premium own-label products spending.

H6a: Product quality and availability has an impact on regular own-label products spending.

H6b: The in-store environment and layout have an impact on regular own-label products spending.

H6c: Personalised customer service has an impact on regular own-label products spending.

H6d: Checkout customer service has an impact on regular own-label products spending.

H7a: Product quality and availability have an impact on customers' promotional spending.

H7b: The in-store environment and layout have an impact on promotions spending.

H7c: Personalised customer service has an impact on promotions spending.

H7d: Checkout customer service has an impact on promotions spending.

After analysing my shorter correlation matrix, I could observe what kinds of in-store experience constructs influence different kinds of spending. Interestingly, looking at the linear relationships between data, I found that there was an impact of the in-store experience on spending and some specific categories. This is essential for retailers, as different categories represent different margin levels as well as price points. Thus, if I would like to invest in cheap products for price-sensitive customers, selling higher volumes at the same time, I would need to ensure that my product quality and availability construct is on a good level. Even better would be the higher spending I achieve on basic own-label products. This also justifies its negative correlation vs. total spending. As I mentioned earlier, the better this factor is, the less customers spend, as they do not need to look for more expensive substitutes.

On the contrary, when I correlated this factor with spending on regular own-label products and premium own-label products, I found a negative

relationship. This also justifies my former findings concerning the substitution of products customers are looking for. I also found it interesting that while improving the product quality and availability, there was a negative correlation with spending on promotions. This shows that the better quality and availability I have, the less customers spend on promotions, as they probably find all they need and they do not need to look for any substitutes being promoted, which would be preferable.

The findings concerning the impact of the in-store environment and layout construct on different categories of spending are quite similar. These were negatively correlated with regards to spending on regular own-label products, promotions and total spending on a visit day, supporting my former findings, where a clinical in-store environment negatively impacted spending. This is mainly owing to a lack of opportunity for ad-hoc buying (additional stands, displays, racks etc.). For retailers, it is interesting to see the same impact it has on all the categories. In the case of promotions, it is clear that the more clinical the layout is, without additional promotional items in place, the promotions spending is lower. This is still in line with all my former findings. In conclusion, I could say that if retailers would like to maximise their spending on promotions, they would need to create a place in the layout for additional expositions.

When I looked closer to my third in-store experience construct, which is checkout service and its relationship to different categories of spending, I found that in all cases, the impact is positive. The most positive impact is on regular own-label products, but mainly because they are the products most often bought by customers. There was also a significant impact on the money spent on promotions.

The impact on different categories of spending of personalised customer service is interesting, as well. As noted previously, it is the strongest construct impacting overall spending and shopping satisfaction. I observed a positive correlation for regular, premium own-label products and promotions. After this analysis, I can confirm that this construct is the most important of all my four measured in-store experience constructs. It impacts not only overall spending,

spending on different categories and shopping satisfaction, but even spending on promotions. Nevertheless, I did not see any impact on basic own-label products spending.

In my shopping basket data correlation matrix (Table 3.8), I observed what impacts spending on promotions. Different promotional mechanisms are key tools retailers use to create customer loyalty and additional sales. I observed that customers who faced higher levels of personalised customer service spend more on promotions. This is the most impactful construct, which means that retailers should invest resources in this element if they want to increase promotional sales. Interestingly, the in-store environment/ layout construct impacts this variable negatively. This means that the easier the layout is for customers and the more clinical of an environment is in stores, the less money customers spend on promotions. The answer to this is connected with the fact that having more displays in the stores is not something the customers like, but it gives more options for retailers to merchandise the promotional offer bought by customers. So here, retailers also need to find an appropriate balance between how clinical of an in-store environment they create, and their level of promotional sales.

Another interesting finding was the spending on basic own-label products. This category is mainly for price-sensitive customers, and it is very interesting to see what drives spending on it. As I can observe from my correlation matrix, the only construct significantly impacting this category of spending is product quality and availability. All the others, having an impact on overall spending, are not impacting spending on basic own-label products. Better assortment (in my case, product quality and availability) means people are more likely to increase spending on basic and reduce spending on regular and premium categories and therefore, reduce their spending-size, overall. This is very interesting, as it may mean that good availability makes customers not choose to upgrade items as they cannot find all they want (so they spend less). However, it positively influences the amount of money the customers spend week after. This makes sense, as we know product quality and availability is positively impacting overall shopping satisfaction which is reflected in the

amount of money spent the following week, when customers can plan their shopping trip based on the experience they had. It is also positively influencing the number of visits the following week after. This shows that price-sensitive customers are less likely to be influenced by the in-store experience constructs than others. This is an important research outcome, as by understanding their target group, retailers can design proper techniques to influence their customers' behaviour.

In summary, I can therefore accept the following hypotheses:

H4a: Product quality and availability has an impact on basic own-label products spending.

H5a: Product quality and availability has an impact on premium own-label products spending.

H5d: General customer service has an impact on premium own-label products spending.

H6a: Product quality and availability has an impact on regular own-label products spending.

H6b: The in-store environment and layout have an impact on regular own-label products spending.

H6c: Personalised customer service has an impact on regular own-label products spending.

H6d: General customer service has an impact on regular own-label products spending.

H7a: Product quality and availability have an impact on customers' promotional spending.

H7b: The in-store environment and layout have an impact on promotions spending.

H7c: Personalised customer service has an impact on promotions spending.

H7d: General customer service has an impact on promotions spending.

I failed to accept the following hypotheses:

H4b: The in-store environment and layout have an impact on basic own-label products spending.

H4c: Personalised customer service has an impact on basic own-label products spending.

H4d: General customer service has an impact on basic own-label products spending.

H5b: The in-store environment and layout have an impact on premium own-label products spending.

H5c: Personalised customer service has an impact on premium own-label products spending.

In conclusion, I can say that the above more-detailed findings confirm my general findings concerning the impact of in-store experience factors on spending. The additional value from the above analysis is that I could observe which categories are impacted more and which less by each of the analysed constructs. This is an important tool for retailers to decide upon their strategies based on the priorities concerning category performance. What is also interesting is the fact the all general hypotheses were accepted, showing the relationships to investigated variables. Thus, I could say that I achieved the results I expected; however, the greatest value added is the possibility of seeing the strength of the relationships between the variables. This helped me rank them and observe which ones have the greatest impact on customers and should, therefore, be the key priorities for retailers.

Table 4.1 Summary of the hypothesis testing results – key findings.

Source: Author

Hypothesis	Dependent variable	Supported?
Overall shopping satisfaction		
H1a	Product quality and availability has impact on overall shopping satisfaction	✓
H1b	In-store environment and layout have impact on overall shopping satisfaction	✓
H1c	Personalised customer service has impact on overall shopping satisfaction	✓
H1d	Checkout customer service has impact on overall shopping satisfaction	✓
Average number of visits next week		
H2a	Product quality and availability has impact on average number of visits next week	✓
H2b	In-store environment and layout have impact on average number of visits next week	✓
H2c	Personalised customer service has impact on average number of visits next week	✓
H2d	Checkout customer service has impact on average number of visits next week	✗
H8c	Overall shopping satisfaction has impact on average number of visits next week	✓
H9b	In-store experience has impact on average number of visits next week	✓
Overall spend during visit date		
H3a	Product quality and availability has impact on overall spend during visit day	✓
H3b	In-store environment and layout have impact on overall spend during visit day	✓
H3c	Personalised customer service has impact on overall spend during visit day	✓
H3d	Checkout customer service has impact on overall spend during visit day	✓
H8a	Overall shopping satisfaction has impact on overall spend during visit day	✓
H9a	In-store experience has impact on overall spend during visit day	✓
Basic own-label products spend		
H4a	Product quality and availability has impact on basic own-label products spend	✓
H4b	In-store environment and layout have impact on basic own-label products spend	✗
H4c	Personalised customer service has impact on basic own-label products spend	✗
H4d	Checkout customer service has impact on basic own-label products spend	✗
Premium own-label products spend		
H5a	Product quality and availability has impact on premium own-label products spend	✓
H5b	In-store environment and layout have impact on premium own-label products spend	✗
H5c	Personalised customer service has impact on premium own-label products spend	✗
H5d	Checkout customer service has impact on premium own-label products spend	✓
Regular own-label products spend		
H6a	Product quality and availability has impact on regular own-label products spend	✓
H6b	In-store environment and layout have impact on regular own-label products spend	✓
H6c	Personalised customer service has impact on regular own-label products spend	✓
H6d	Checkout customer service has impact on regular own-label products spend	✓
Customers' promotional spend		
H7a	Product quality and availability has impact on customers' promotional spend	✓
H7b	In-store environment and layout have impact on customers' promotional spend	✓
H7c	Personalised customer service has impact on customers' promotional spend	✓
H7d	Checkout customer service has impact on customers' promotional spend	✓
Overall spend week after		
H8b	Overall shopping satisfaction has impact on total spend week after	✓

4.2 Discussion and key findings

Many prior studies offer empirical support for the link between the general, holistic environment and affect (Babin & Darden, 1996; Donovan & Rossiter, 1982; Nath, 2009; Verhoef *et al.*, 2009; Wakefield & Baker, 1997). However, Bitner (1992, p. 57) stated that "…in marketing there is a surprising lack of empirical research or theoretically based frameworks addressing the role of physical surroundings in consumption settings. Managers continually plan, build and change an organisation's physical surroundings in an attempt to control its influence on patrons, without really knowing the impact of a specific design or atmospheric change on its users". Furthermore, with the exception of Donovan & Rossiter (1994), no study has investigated the multiple effects of the store environment simultaneously, and thus my understanding of the unique contribution of each kind of effect is very limited. Some environmental elements may have multiple impacts on shopping behaviours. In my research project, my aim was to observe what kinds of key in-store environment elements impact overall shopping satisfaction the most. I also wanted to analyse what kind of impact these have on spending (during the visit day and the next week), different kinds of spending and customer behaviour. I aimed to determine how impactful I expect the in-store experience and its constructs to be in grocery shopping. Even identifying factors that have a minor impact on spending could be extremely important to retailers. As I mentioned at the beginning of my thesis (Chapter 1.1), in such a competitive retail environment, finding a way to increase sales in like for like terms of even about 1% may determine a retailer's success, or failure.

Table 4.1 shows the summary of my hypothesis testing based on my research results. The general conclusion is that there is an impact of in-store experience constructs on overall shopping satisfaction, spending, and the number of store visits the following week. Furthermore, I can observe the impact of specific in-store experiences and key constructs on spending. Very beneficial, and with a high contribution value are my findings indicating which constructs have the biggest impact on customer behaviour and how strong it is in influencing customers. My sensitivity analysis (Table 3.10), clearly shows

retailers which kind of in-store experience constructs they should invest in, and where it is visible that retailers can expect the highest returns from a one unit investment in the researched factors. My more detailed conclusions and contributions to knowledge, based on my analysis are the following:

1. The in-store environment and layout significantly impacts overall shopping satisfaction.

2. Product quality and availability significantly positively impact overall shopping satisfaction.

3. The in-store environment and layout have a negative impact on spending, which means that customers may not be extending their shopping lists due to fewer opportunities of ad hoc or impulse purchases (clear aisles, fewer additional displays) or an environment that is too crowded with other customers. This also relates to all measured food categories.

4. Product quality and availability has a negative impact on spending, which means that the better the availability, the less customers spend, suggesting that with lower availability, customers spend more due to a lack of options of buying the products they are looking for. No options mean they may need to buy a more expensive substitute. This also relates to all measured food categories. Furthermore, points 3 and 4 are supported by patterns in (Table 3.8).

5. A better assortment (product quality and availability) means people are more likely to increase spending on basic and reduce spending on regular and premium categories and therefore reduce their spending-size overall. This is very interesting, as it may mean that good availability means customers do not upgrade items as they can find everything they want (so they spend less) however, it does positively influence the amount of money customers spend week after.

6. Product quality and availability positively influences the number of visits the following week.

7. Checkout customer service positively impacts spending, which means that the better the customer service is, the more customers spend.

8. Customer service constructs are the most impactful aspects of the in-store experience from the regression analysis, suggesting a strong and positive impact on spending of personalised customer service. This means that customers value a store based on their perceptions of how the store values them. It also positively impacts the number of visits in the following week.

9. Overall shopping satisfaction has a positive impact on the average number of visits the following week, spend on a visit day and total spend the week after

10. In-store experience constructs and overall shopping satisfaction are not impacting price-sensitive customer spending on basic own-label products.

11. Customer service constructs have the greatest impact on driving promotional sales.

12. Checkout service and personalised customer service are mediated by overall shopping satisfaction

13. Product quality and availability together with in-store environment and layout are suppressed by overall shopping satisfaction

14. Investing one unit in customer service constructs (improving it by 1 point on its measured scale) can result in spend increase by more than £6.00 on one visit.

First, with my robust model and having access to responses of 30,696 customers, I identified what impacts shopping satisfaction the most. My data are big data, and as I described before, using large datasets promises to offer new insights into questions that have been difficult or impossible to answer in the past. Furthermore, the strength of this study is not only the large sample size of the survey, but also the ability to match this sample to the behavioural data. As I could see (Appendix A), none of the research studies focused on as many in-store experience constructs and their impact on customers as mine did.

My statistical analysis showed that overall satisfaction is mostly impacted by the in-store environment and layout, together with product quality and availability. This confirms the former findings that those two constructs have

a significant impact on overall customer satisfaction and behaviour (Babin *et al.*, 1994; Eroglu & Machleit, 1990; Kaltcheva & Weitz, 2006; Shankar *et al.*, 2011; Theodoridis & Chatzipanagiotou, 2009; Verhoef *et al.*, 2009). However, none of the analysed papers and research evaluated four of my constructs simultaneously using such a big sample combined with the till data (not declarative data). Therefore, my research concerning overall shopping satisfaction contributes to existing knowledge suggesting that the in-store environment and layout has the greatest impact on customers' overall satisfaction from their shopping trip. This is more important than personalised customer service or even checkout customer service. This substantially helps to rank those key constructs, based on its proven importance for customers' overall shopping satisfaction.

My findings also contribute to the discussion concerning the importance of customer service with regards to other in-store experience constructs (Arnold *et al.*, 2005; Bitner, 1992; Esbjerg & Bech-Larsen, 2009). I identified that the checkout, general and personalised customer service does not impact satisfaction as strongly as product quality and availability. Those are important findings for retailers in helping to decide in which constructs they should invest money, particularly knowing that customer satisfaction creates stronger store loyalty. It is worth mentioning that my four analysed key in-store experience constructs are responsible for 60% of the impact on overall shopping satisfaction. I also found that the higher overall shopping satisfaction I achieve, the higher the average number of store visits customers make the following week together with higher spend on the next visit. This finding is key from a customer loyalty-building perspective.

The objective of the research project was also to verify whether there is any impact of in-store experience on customer spending and different kinds of spending. On the basis of a detailed analysis of my data, I found evidence of an association between the money spent during the shopping trip and the level of the in-store experience impact. This is in line with all existing research, confirming that there is a link between the in-store experience and how much customers spend (Babin & Darden, 1996; Kukar-Kinney *et al.*, 2012; Nath,

2009; Spies *et al.*, 1997). I could observe a detailed impact on my key in-store experience factor on spend on different food categories, described below.

Interestingly, many studies have been conducted, identifying key possible ways in which the store atmosphere may influence customer satisfaction and purchasing behaviour: directly, via goal-attainment and via mood-change. In all cases, the positive effect of a pleasant store atmosphere on customer reactions was clearly demonstrated (Donovan & Rossiter, 1994; Spies *et al.*, 1997), whereas in my study I observed a negative impact of some of the constructs on spending, which is a major contribution to existing knowledge. I observed that the in-store environment and layout has a negative impact on spending. This means that a neat, clinical and tidy in-store environment reduces customer spending, potentially because customers are not extending their shopping lists owing to fewer opportunities for ad hoc and impulse shopping (clear aisles, fewer additional displays). This makes sense from a behavioural perspective, as a clinical and decongested in-store environment offers fewer opportunities for customers to engage in unplanned buying. Therefore, a clinical layout positively impacts customers' satisfaction (customers like space in the store and an uncrowded environment), but negatively impacts their spending size. Essentially, the more time an item spends in your hand, the more likely you are to purchase it; as such, stores should be structured so customers are always picking things up. That might mean an end cap filled with items, or even a cluttered-looking shelf that you have to sift through. This is important for practitioners, indicating that they need to find the right balance between achieving the right level of shopping satisfaction and spending using the in-store environment as the regulatory variable. However, as I mentioned previously, this positively impacts overall shopping satisfaction. Furthermore, there is a level of product quality and availability that also has a negative impact on spending. This means that the better the availability, the less customers spend, suggesting that with lower availability, customers may spend more due to the lack of options of buying the products they are looking for. No options could mean they need to buy a more expensive substitute, which was supported in my research.

I obtained interesting findings as well concerning the contribution of customer service to increasing overall spending. First, my original service interface factor was not measured completely as expected; this has been split into two factors: checkout service and personalised service factors. I was not surprised that the service interface factor was split, as personalised customer service is stronger from the perception of shoppers, than that of checkout. Furthermore, it impacts customer behaviour more because it is more unlikely (Arnold *et al.*, 2005; Bitner, 1992; Verhoef *et al.*, 2009), which was also confirmed by my study. I also observed a strong and positive impact of personalised customer service on spending, which means that the better the customer service is, the more customers spend. I also observed a strong and positive impact of checkout customer service on spending. This also positively impacts the number of visits in the following week and customers' future spend. This is an important finding from a managerial perspective, as increasing sales by even a few percentage points in a competitive retail market may determine a retailer's success or failure. So, retailers should prioritise good customer service (both checkout and personalised) above assortment and the retail atmosphere.

I also found many relationships concerning the impact of the in-store experience constructs on different kinds of spending. It is clear that if retailers would like to drive promotional spending, they should invest in customer service constructs. Creating a less clinical in-store environment with many additional displays is also helpful to increase this type of spending. Interestingly, for basic own-label products spending, my key in-store experience constructs, except product quality and availability have almost no influence. This is a clear indication that different strategies should be used to impact price-sensitive customers and spend on this category. On the other hand, product quality and availability has a negative impact on spending on promotions, regular and premium own-label products; however, it has a positive impact on basic own-label products. This means that the better range and the bigger the availability the retailers have, the more price-sensitive customers spend on basic own-label products; they are not forced to buy substitutes due to product

gap issues. Better assortment means people are more likely to increase spending on basic and reduce spending on regular and premium categories and therefore reduce their spending-size overall. This is very interesting, as it may mean that good availability means customers do not upgrade items as they cannot find everything they want (so they spend less). They do, however, positively influence the amount of money the customers spend in the week after. This makes sense, as we know product quality and availability positively impacts overall shopping satisfaction which is reflected in the amount of money spent the week after, when customers can plan their shopping trip based on the experience they had. It is also positively influencing the number of visits the week after.

I identified that traditional in-store measurement techniques miss critical factors that go into shaping customer service and perceived customer value; they fail to fully address what is required to succeed in today's competitive retail environment. I need to remember that many previous studies were experimental, empirical or declarative in nature. These methods usually use small sample sizes. This is not as powerful as using a large sample size as in the case of my research. Because they are based on a single instance rather than a continuous and objective measure, the results may not be reliable benchmarks and may not always serve as meaningful measurements of change. For my research project, I used a robust model using detailed shopping spending data provided by Dunnhumby. The data were directly linked to each of 30,696 customers completing my survey. The details of spending up to different categories level helped me to draw conclusions regarding the impact of customers' in-store experience on the performance of particular categories. Having till data, rather than declarative data, helped me ensure that my findings were not impacted by mistakes in what the customers were declaring they bought.

This is an important contribution, to know that not only does the in-store experience impact spending and satisfaction, but also what elements of the in-store experience influence customer behaviour most. My findings have many implications for theory and practice. I provide a clear indication as to where

retailers should invest their resources to increase sales and customer satisfaction. Based on this, retailers, while making business decisions should focus on increasing customer satisfaction by finding the right level of ease of the shopping experience, providing customers with a high level of product availability and quality, while delivering the best customer service at the same time. This will increase customers' overall shopping satisfaction and spending, at the same time.

Through my study, I am giving retailers a clear indication as to where to invest in order to increase customer spending, not only shopping satisfaction, which in my case did not appear to be encouraging customers to buy more. My findings are based on a robust research model and an extensive sample size. At the same time, it is supported by a substantial amount of survey and behavioural data, which makes the findings representative and highly credible. Furthermore, I did not find any studies focusing on more than two in-store experience constructs impacting customer behaviour (Appendix A). All of this significantly contributes to the knowledge and practice of how products, services and the in-store environment impact customer behaviour and satisfaction.

Through this research project I identified where the highest return can be expected from a one unit investment, with regards to the researched factors – this is very important for retailers as well as contributing to existing knowledge. Interestingly, a better and more clinical layout most improves satisfaction (by 0.4 point), positively impacts the average number of visits next week, however decreases spend by £2.59. Considering the fact, that this is the value per one customer spend during a visit, it represents a large amount of money for retailers visited by several million customers, daily. On the other hand, it represents an extensive opportunity for retailers with a clinical layout, to introduce congestion, less satisfying for the customers but generating higher spends on a visit day. Larger benefits can be found from considering customer service constructs. I can see that investing one unit in personalised customer service increase's a customer's spend by £4.40. This is the highest value coming from my sensitive analysis, which helps to prioritise the retailers'

investments. Improving checkout service and individualised customer service, all together can increase the spend by more than £6.00. Considering that the average basket size for the big format retailer in UK is £30.00, this represents a significant amount of additional sales and gives clear direction as to where the biggest opportunities to sell more, are. It is high enough to compensate on a possible sales miss coming from increased shopping satisfaction due to better layout. Customer service constructs not only have highest return from the investment in terms of spend but also improve satisfaction and average number of visits the week after. It gives clear indication for retailers as to where to invest in order to increase sales and customer satisfaction and also what detailed implications it has in terms of customer behaviour.

My findings suggest that customer experience matters and the most compelling experiences do drive increased spending and loyalty. Giving customers what they want does not need to be expensive; it needs to be relevant. Through my research I identified what customers want; now retailers, to make use of it, need to adapt and readjust their investment plans. Furthermore, the practical value of my study is that retailers may be better able to explain and predict the effects of customers' in-store experience on their shopping behaviour. Through my study, I offer an overall framework appropriate for exploring environmental variables in the retail setting.

4.3 Limitations and further research opportunities

My study has several limitations of note. In my research, I decided to use secondary data coming from Tesco customers' online questionnaire feedback and Dunnhumby data. I knew, however, that the online questionnaire data were originally collected for a similar purpose as mine, as Tesco was attempting to determine customer satisfaction from their shopping trip. Nevertheless, the disadvantage was that I could neither influence the questionnaire construction nor the way the data were collected. The fact that I had access to the original fieldwork context, however, helped me gain an adequate understanding of the data, ensuring that from a methodological point of view, and my research framework perspective, it is correct. Furthermore, I also know that there are now

better tools to collect customer data than only surveys, like real-time experience tracking (Macdonald *et al.*, 2012) which could be a further research opportunity.

Having completed a factor analysis, I focused the work around identified key factors (Figure 3.6): product quality and availability, in-store environment, checkout and personalised customer service. This focus shows limitations and further research opportunities using the same methodology for other constructs. My analysis showed that although there was a strong correlation between identified key in-store experience constructs and satisfaction, there are others, not analysed here and impacting overall satisfaction (linear regression explains 59.2% of the variance in the data). This means that further focus on analysing what detailed impact of other constructs on overall shopping satisfaction might be of interest.

I did not analyse price and promotions, which constitute important factors influencing customers' behaviour in the literature (Ailawadi *et al.*, 2009; Bell & Lattin, 1998; Cox, 1964; Dhar & Hoch, 1996; Grewal *et al.*, 2011; Martos-Partal & González-Benito, 2010). This area could also provide me important insights after analysing their impact on spending. The same methodology I used in the paper could be followed. Furthermore, I found evidence that my key analysed constructs impact overall spending and some of the food categories (during the visit day). However, having limited information regarding individuals makes it difficult to explain the variability between them.

As I only included in-store experience factors, I am not able to explain very well why person 1 might spend more than person 2 (e.g., disposable income, household size, psychology, communication activities, competitors' actions). That is where the low R2 comes from. Had I managed to measure and include all those other factors, then I would be able to explain why person 1 spends more than person 2 much more accurately, thus achieving a higher R2. Furthermore, the correlation numbers themselves are very low, but significant. They are small, as customer behavioral constructs are likely to be influenced by a number many factors, including: store proximity, pricing, promotions, household differences, individual differences and preferences, etc. Therefore,

much of the variability in spend and visits is likely to be explained by other things, not just shopping experience, which could be researched further.

I also focused on food categories, but as I can assume, based on the findings, that different elements of the in-store experience impact customers buying food and customers buying non-food in a different way. Thus, there must be other in-store experience constructs worth examining more closely and how they impact spending on food. I already know that promotions and pricing strategies might play a key role here. The impact of the product and quality factor on spending is also worth examining in greater depth. I found a negative correlation to spending, which is connected with encouraging customers to choose more expensive substitutes. Nevertheless, further research could be conducted to identify the optimum level of product availability and quality with no negative impact on spending, but a positive impact on overall shopping satisfaction. I also did not observe any associations between spending and the shopping mission, which could be analysed further.

It would also be interesting to observe customer behaviour and their perception of their shopping experience, over time. A more detailed statistical analysis, using the data I have, would help me observe which elements of the in-store experience have the greatest influence on customer behaviour over time. It is possible that my key constructs do not impact spending during the visit day, but they do during the next visit and over a longer period of time. To achieve a proper foundation for this kind of research, I would need to determine consumers' baseline behaviour. This could be done using panel data techniques. Using behavioural data, customer-spending patterns from time 0 to time t-1 should be observed following my data specifications. Then, using external factors I could estimate what could likely happen next. This approach would provide a better estimation of a consumer's baseline behaviour rather than taking a simple average. Understanding what a customer is likely to do at the next time point means that I can estimate what they are likely to spend at time t. This would help me identify whether a customer has spent more or less than expected at time t.

By using the survey responses, I could observe and understand whether there is a link between their in-store experience (at time t) and increased/ decreased spending at time t. I can accomplish this using a regression analysis: customers' expected spending helping me to see the difference between the expected and their observed spending at time t. Then, I could regress it against the identified constructs to understand how their experience (mentioned in the survey) relates to different than expected shopping-behaviour. I could also understand whether customers' experiences at time t creates their ongoing behaviour reflected in their shopping habits in connection to their belonging to different social groups, which plays a major role here (Champniss *et al.*, 2015). I could examine this using the panel data method, identifying whether an individual customer shows a change in behaviour at time t+1 and whether this is connected to the experience those customers had at time t. By using this technique, I could observe how long the change in behaviour occurs rather than assume a constant, ongoing change in behaviour.

Collecting the data over a period of time would also help me build a model that would allow me to understand customers' future behaviour based on retailers' activities in the store. This approach would allow me to make a behavioural prediction in addition to the experience factor. Most previous studies on store environment focus on immediate effects, particularly on how consumers react to the store environment when they are inside a store. The lagged effects of the store environment on patronage decisions are examined in the retail patronage literature. Overall, this literature shows that the store environment is a weak predictor of patronage. However, anecdotal evidence suggests that the renovation of a store often leads to subsequent changes in shoppers' evaluations of the store and changes in shopping behaviours. Thus, the magnitude of the lagged effects needs to be re-examined. Furthermore, it would be also interesting to run this research in different store formats (e.g., discounters, supermarkets, express) to determine whether the same patterns appear. Another interesting aspect that I did not analyse is the effect of overconfidence and underconfidence (within the dimensions of consumer value) that trigger different consumption consequences (Razmdoost *et al.*, 2015) and

that could have significant value for creating optimal assortment strategies by retailers.

My four key in-store experience factors could also be researched in greater depth. If I look at the assortment construct, I can observe that the main focus is placed on assortment quality and availability. It also covers the aspect of the range size and the manner in which it fits customers' needs. These are key aspects for retailers; however, I know that all the merchandising strategies could be researched in greater depth, particularly knowing that this is the key factor determining retailers' competitiveness. Furthermore, the major challenge now for retailers is understanding how to best manage existing space. For hypermarket operators in particular, finding the right balance between available space and merchandising, which impacts sales and stock holding, would be quite beneficial. Retailers are facing many trade-offs based on customer perceptions and preferences, retailer constraints and environmental factors.

There are many more insights that could be brought to this field, mainly regarding assortment planning techniques, particularly having such a detailed database concerning customer spending. In my in-store environment and layout construct, I focused a great deal on store cleanliness, layout congestion, the look and feel of the store, as well as ease of the shopping experience. There are many other aspects connected to other in-store environmental cues like music, scent, colour, and different types of layout that I could research, as well. Connecting this with my detailed till data would contribute to my awareness of what elements controlled by retailers are more effective. The layout aspect could be quite interesting. Retailers are trying different layout types to drive more sales, but the challenge here is that I do not know which one is creating the right balance between overall shopping satisfaction and the call to action to spend more. For the checkout service, in my research I focused on customer service aspects like offering help to customers, greeting them and giving them full attention during service.

What is essential to customers and not measured in my research is the waiting time. It would be highly beneficial to measure this and to determine what kind of impact it may have on satisfaction as well as subsequent store visits.

I know that the longer the waiting time is, the more negatively it impacts customers' in-store experiences, but there are no studies indicating the impact it may have on spending. My researched personalised customer service factor is closely connected to this. Here, I focused on how store staff made customers feel welcome and whether customers were given personalised attention. In this factor, the loading connected to personalised customer service was quite important. Thus, it would be highly beneficial to understand what detailed impact this has on customer behaviour, particularly satisfaction and spend. My findings suggest that, in general, all customer service constructs have the greatest impact on overall shopping satisfaction, spending and different kinds of spending. As such, further research should be performed to explore which elements of this impact customers the most. Overall, all four in-store experience constructs measured made solid contributions concerning their impact on customers; however, each of them could be researched further and in greater depth, which could help me determine which sub elements are the most essential ones for building a great in-store experience.

As noted previously, all measured factors explained 60% of overall shopping satisfaction, which I know is associated with how much customers spend. Retailers, in such a competitive environment, are looking for different strategies to become their customers' first shopping choice. Thus, it is worth identifying and further studying the 40% of in-store experience constructs that were not measured, and which also impact customer shopping-satisfaction.

My extensive literature review showed that one of the elements might be the pricing and promotional constructs. Pricing strategies are essential for retailers. If I look at the 4Ps, the three original Ps (product, place, promotion) create value for the seller and the fourth P, of price, captures value. When the price is too high and promotion too weak, customers simply will not buy a product and will spend less. Thus, setting the right price is one of the most important retailing tasks. Nevertheless, it is often treated too mechanically, as retailers do not fully understand its impact on customer behaviour and what follows – margin and overall retailer performance. In addition, different pricing and promotional strategies have different contributions to creating the in-store

experience. As such, knowing the importance of those constructs, it would be beneficial to research them more, particularly in a context of overall shopping satisfaction and customer spending.

While analysing my high-level research framework, I could observe that the branding experience could be also researched and could be part of the 40% shopping satisfaction explanation. It would be interesting to determine the extent to which strong retailers' brands compensate, for example, for poor layout, a weak range or bad customer service. What impacts a brand's strength and how it contributes to customers' shopping experiences could be researched further, as well. This leads me to my high-level research framework, which ideally should be researched analysing all its elements and combining them with the till data. Then, I could achieve the full view on the in-store experience constructs with clear information regarding which of them impacts customer satisfaction and which are closely connected to increasing spending. This would help me achieve a complete understanding of what the in-store experience is for customers, and for retailers.

The abovementioned additional research opportunities would help me to better understand what drives customers' higher spending and satisfaction in different formats with different food categories by measuring different constructs. These results would also help retailers better manage their investments in stores, resulting in higher profitability and increased loyalty. I could, therefore, rank all the in-store experience constructs, helping retailers to make appropriate strategic decisions concerning their investment plans, achieving high customer satisfaction and driving higher spending, at the same time.

REFERENCES

Agrawal, J., Grimm, P. & Richardson, P. (1993) 'Informational and normative reference group influences on purchase decisions', *Working paper*, California State University.

Agrawal, N. & Smith, S.A. (2003) 'Optimal retail assortments for substitutable items purchased in sets', *Naval Research Logistics*, 50, pp. 793–822.

Ailawadi, K.L., Beauchamp, J.P., Donthu, N., Gauri, D.K. & Shankar, V. (2009) 'Communication and promotion decisions', *Retailing: a review and directions for future research*, 85(1), pp. 42–55.

Ailawadi, K.L. & Harlam, B. (2009) 'Retailer promotion pass through: a measure is magnitude, and its determinants', *Marketing Science*, 28(4), pp. 782–791.

Ailawadi, K.L., Harlam, B., César, J. & Trounce, D. (2006) 'Promotion profitability for a retailer: the role of promotion, brand, category, and store characteristics', *Journal of Marketing Research*, 43(4), pp. 518–535. Available at: http://journals.ama.org/doi/abs/10.1509/jmkr.43.4.518 (Accessed: 9 May 2013).

Ailawadi, K.L. & Keller, K.L. (2004) 'Understanding retail branding: conceptual insights and research priorities', *Journal of Retailing*, 80(4), pp. 331–342. Available at: http://linkinghub.elsevier.com/retrieve/pii/S0022435904000648 (Accessed: 6 April 2014).

Ailawadi, K.L., Neslin, S.A. & Gedenk, K. (2001) 'Pursuing the value-conscious consumer: store brands versus national brand promotions', *Journal of Marketing*, 65, pp. 71–89.

Ajzen, I. (1991) 'The theory of planned behaviour', *Organisational Behavior and Human Decision Processes*, 50(2), pp 179–211.

Allender, W.J. & Richards, T.J. (2012) 'Brand loyalty and price promotion strategies: an empirical analysis', *Journal of Retailing*, 88(3), pp. 323–342. Available at: http://linkinghub.elsevier.com/retrieve/pii/S0022435912000024 (Accessed: 30 March 2014).

Anderson, E., Fornell, C. & Lehman, D. (1994) 'Customer satisfaction, market share and profitability: findings from Sweden', *Journal of Marketing*, 58(July), pp. 53–66.

Areni, C. & Kim, D. (1993) 'The influence of background music on shopping behavior: classical versus Top-Forty music in a wine store', *Advances in Consumer Research*, 20(1), pp. 336–40.

Arksey, H. & O'Malley, L. (2005) 'Scoping studies: towards a methodological framework', *International Journal of Social Research Methodology*, 8(1), pp. 19–32.

Arnould, E.J., Price, L. & Zinkhan, G.L. (2002) *Consumer*s. 2nd ed. New York: Irwin/ McGraw-Hill.

Arnold, M.J. & Reynolds, K. (2003) 'Hedonic shopping motivations', *Journal of Retailing*, 79(2), pp. 77–95.

Arnold, M.J., Reynolds, K.E., Ponder, N. & Lueg, J.E. (2005) 'Customer delight in a retail context: investigating delightful and terrible shopping experiences', *Journal of Marketing*, 58, pp. 1132–1145.

Babin, B.J., Darden, W.R. & Griffin, M. (1994) 'Work and/or fun: measuring hedonic and utilitarian shopping value', *Journal of Consumer Research*, 20(4), pp. 644–56.

Babin, B.J. & Darden, W.R. (1996) 'Good and bad shopping vibes: spending and patronage satisfaction', *Journal of Business Research*, 35(3), pp. 201–206.

Babin, B.J., Hardesty, D.M. & Suter, T.A. (2003) 'Color and shopping intentions: the intervening effect of price fairness and perceived affect', *Journal of Business Research*, 56(7), pp. 541–551.

Bagozzi, R.P. (1998) *Marketing Management*. Upper saddle River, NJ: Prentice-Hall.

Baker, J. (1986) 'The role of the environment in marketing services: the consumer perspective', in Czepiel, J., Congram, C. & Shanahan, J. (eds.) *The Services Challenge: Integrating for Competitive Advantage*, American Marketing Association proceedings series, Chicago, IL, pp. 79–84.

Baker, J., Grewal, D. & Parasuraman, A. (1994) 'The influence of store environment on quality inferences and store image', *Journal of the Academy of Marketing*. Available at: http://link.springer.com/article/10.1177/0092070394224002 (Accessed: 30 January 2014).

Baker, J., Levy, M. & Grewal, D. (1992) 'An experimental approach to making retail store environment decisions', *Journal of Retailing*, 68(Winter), pp. 445–60.

Baker, J., Parasuraman, A., Grewal, D. & Voss, G.B. (2002) 'The influence of multiple store environment cues on perceived merchandise value and patronage intentions', *Journal of Marketing*, 66(2), pp. 120–141.

Baker, R. (1965) 'Explorations in ecological psychology', *American Psychologist*, 20(1), pp. 1–14.

Baron, S., Harris, K. & Davies, B.J. (1996) ' Oral Participation in Retail Service Delivery: A Comparison of the Roles of Contact Personnel and Customers', *European Journal of Marketing*, 30(9), pp. 75–90.

Baron, R.M. & Kenny, D.A. (1986) 'The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations', *Journal of Personality and Social Psychology*, 51(6), pp. 1173–1182.

Baron, S., Kim, H. & Barry, D.J. (1996) 'Oral participation in retail service delivery: a comparison of the roles of contact personnel and customers', *European Journal of Marketing*, 30(9), pp. 75–90.

Barone, M., Norman, A. & Miyazaki, A. (2007) 'Consumer response to retailer use of cause-related marketing: is more fit better?', *Journal of Retailing*, 6(6), pp. 373–387.

Bauer, J.C., Kotouc, A.J. & Rudolph, T. (2012) 'What constitutes a 'good assortment'? A scale for measuring consumers' perceptions of an assortment offered in a grocery category', *Journal of Retailing and Consumer Services*, 19(1), pp. 11–26. Available at: http://linkinghub.elsevier.com/retrieve/pii/S0969698911000877 (Accessed: 3 April 2014).

Baxendale, S., Macdonald, E.K. & Wilson, H.N. (2015) 'The impact of different touchpoints on brand consideration', *Journal of Retailing*. Available at: http://linkinghub.elsevier.com/retrieve/pii/S0022435914000967 (Accessed: 16 February 2015).

Bearden, W.O. & Etzel, M.J. (1982) 'Reference group influence on product and brand purchase decisions', *Journal of Consumer Research*, 9(September), pp. 183–194.

Bell, D.R., Corsten, D. & Knox, G. (2011) 'From point of purchase to path to purchase: how preshopping factors', *Journal of Marketing*, 75(January), pp. 31–45.

Bell, D.R. & Lattin, J.M. (1998) 'Shopping behavior and consumer preference for store price format: why 'large basket' shoppers prefer EDLP', *Marketing Science*, 17(1), pp. 66–88.

Bell, D.R., Teck-Hua, H. & Tang, C.S. (1998) 'Determining where to shop: fixed and variable costs of shopping', *Journal of Marketing Research*, (August), pp. 352–369.

Bellizzi, J., Crowley, A. & Hasty, R. (1983) 'The effects of color in store design', *Journal of Retailing*, 59(Spring), pp. 21–45.

Bellizzi, J. & Hite, R. (1992) 'Environmental color, consumer feelings, and purchase likelihood', *Psychology & Marketing*, 9(5), pp. 347–364.

Bernard, H.R. (1988) *Research methods in cultural anthropology*. California: SAGE.

Bettman, J.R. (1979) *An information processing theory of consumer choice*. Reading MA: Addison Weasley.

Birtwistle, G., Clarke, I. & Freathy, P. (1999) 'Store image in the UK fashion sector: consumer verses retailer perceptions', *International Review of Retail Distribution and Consumer Research*, 9(1), pp. 1–16.

Bitner, M.J. (1992) 'Servicescapes: the impact of physical surroundings on customers and employees', *Journal of Marketing*, 56(April), pp. 57–71.

Bitner, M.J., Booms, B.H. & Mohr, L. (1994) 'Critical service encounters: the employee's viewpoint', *Journal of Marketing*, 58(4), pp. 95–106.

Bitner, M.J., Booms, B.H. & Tetreault, M.S. (1990) 'The service encounter: diagnosing favorable and unfavorable incidents', *Journal of Marketing*, 54(January), pp. 71–84.

Blattberg, R.C. & Neslin, S.A. (1993) 'Sales promotion models', in: Eliashberg, J. and Lilien, G.L. (eds), *Marketing*, North-Holland: Amsterdam.

Blattberg, R.C., Eppen, G.D. & Lieberman, J. (1981) 'A theoretical and empirical evaluation of price deals for consumer nondurables', *Journal of Marketing*, 45(Winter), pp. 116–129.

Bolton, R.N. & Shankar, V. (2003) 'An empirically derived taxonomy of retailer pricing and promotion strategies', *Journal of Retailing*, 79(4), pp. 213–224.

Bosmans, A. (2006) 'Scents and sensibility: when do (in) congruent ambient scents influence product evaluations?', *Journal of Marketing*, 70(3), pp. 32–43.

Brady, M.K. & Cronin Jr., J.J. (2001) 'Some new thoughts on conceptualizing perceived service quality: a hierarchical approach', *Journal of Marketing*, 65(3), pp. 34–49.

Briesh, R.A., Chintagunta, P.K. & Fox, E.J. (2009) 'How does assortment affect grocery store choice?', *Journal of Marketing Research*, 46(2), pp. 176–189.

Broniarczyk, S., Hoyer, W. & McAlister, L. (1998) 'Consumers' perceptions of the assortment offered in a grocery category: the impact of item reduction', *Journal of Marketing Research*, 35(May), pp. 166–167.

Brown, J. & Dant, R. (2008) 'On what makes a significant contribution to the retailing literature', *Journal of Retailing*, 84(2), pp. 131–135. Available at: http://linkinghub.elsevier.com/retrieve/pii/S0022435908000316 (Accessed: 24 August 2013).

Bruner, G.C. (1990) 'Music, mood and marketing', *Journal of Marketing*, (October), pp. 94–104.

Bucklin, R.E. &. Lattin, J.M. (l991) 'A two-state model of purchase incidence and brand choice', *Marketing Science*, 10(l), pp. 24–39.

Burt, S. & Davies, K. (2010) 'From the retail brand to the retailer as a brand: themes and issues in retail branding research', *International Journal of Retail & Distribution Management*, 38(11), pp. 865–878. Available at: http://www.emeraldinsight.com/10.1108/09590551011085957 (Accessed: 13 April 2014).

Canter, D. (1983) 'The purposive evaluation of places', *Environment and Behavior*, 15(3), pp. 659–698.

Casley, D.J. & Kumar, K. (1988) *The collection, analysis, and use of monitoring and evaluation data.* Baltimore: Johns Hopkins University Press.

Champniss, G., Wilson, H.N. & Macdonald, E.K. (2015) 'Why your customers ' social identities matter', *Harvard Business Review*, 93(1/2), pp. 88–96.

Chebat, J.C., Gelinas-Chebat, C. & Filliatrault, P. (1993) 'Interactive effects of music and visual cues on time perception: an application to waiting lines in banks', *Perceptual and Motor Skills*, 34, pp. 191–196.

Chen, D.Q., Preston, D.S. & Swink, M. (2015) 'How the use of big data analytics affects value creation in supply chain management', *Journal of Management Information Systems*, 32(4), pp. 4–39.

Chen, H., Chiang, R.H. & Storey, V.C. (2012) 'Business intelligence and analytics: from big data to big impact', *Management Information Systems Quaterly*, 36(4), pp. 1165–1188.

Childers, T.L. & Rao, A.R. (1992) 'The influence of familial and peer-based reference groups on consumer decisions', *Journal of Consumer Research*, 19(3), pp. 198–211.

Chez, D., Thang, L., Lin, B. & Tan, B. (2003) 'Linking consumer perception to preference of retail stores: an empirical assessment of the multi-attributes of store image', *Journal of Retailing and Consumer Services*, 10, pp. 193–200.

Cohen, J., Cohen, P. & Aiken, S.L. (2002) *Applied multiple regression/correlation analysis for the behavioral sciences*. 3rd edn. Mahwah: Lawrence Erlbaum Associates.

Collins-Dodd, C. & Lindley, T. (2003) 'Store brands and retail differentiation: the influence of store image and store brand attitude on store own brand perceptions', *Journal of Retailing and Consumer Services*, 10(6), pp. 345–352.

Corstjens, J. & Corstjens, M. (2000) *Store wars: the battle for mindspace and shelfspace.* Chichester: John Wiley & Sons.

Corstjens, M., Lal, R. (2000) 'Building store loyalty through store brands', *Journal of Marketing Research*, 37, pp. 281–291.

Cox, K. (1964) 'The responsiveness of food sales to shelf space changes in supermarkets', *Journal of Marketing*, 1(May), pp. 63–67.

Crosby, L., Evans, A. & Kenneth, R. (1990) 'Relationship quality in services selling: an interpersonal influence perspective', *Journal of Marketing*, 54(2), pp. 68–81.

Davis, H.L. (1976) 'Decision making within the household', *Journal of Consumer Research*, 2(2), pp. 241–260.

Davis, L. & Hodges, N. (2012) 'Consumer shopping value: an investigation of shopping trip value, in-store shopping value and retail format', *Journal of Retailing and Consumer Services*, 19(2), pp. 229–239. Available at: http://linkinghub.elsevier.com/retrieve/pii/S0969698912000057 (Accessed: 6 April 2014).

Dawar, N., Parker, P. (1994) 'Marketing universals: consumers' use of brand name, price, physical appearance, and retailer reputation as signals of product quality', *Journal of Marketing*, 58, pp. 81–95.

Deloitte (2016) *Global Power of Retailing*. Available at: https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Consumer-Business/gx-cb-global-powers-of-retailing-2016.pdf (Accessed: 28 April 2016).

Desai, K. & Talukdar, D. (2003) 'Relationship between product groups' price perceptions, shopper's basket size, and grocery store's overall store price image', *Psychology and Marketing*, 20(10), pp. 903–933.

Dhalokia, U.M. & Morwitz, V.G. (2002) 'The scope and persistence of measurement effects: evidence from a field study of customer satisfaction measurement', *Journal of Consumer Research*, 29(September), pp. 159–167.

Dhar, S.K. & Hoch, S.J. (1996) 'Price discrimination using in-store merchandising', *Journal of Marketing*, 60(January), pp. 17–30.

Dodds, W.B., Monroe, K.B. & Grewal, D. (1991) *Effects of price, brand, and store information on buyers' product evaluations*, XXVI(August), pp. 307–320.

Donovan, R.J. & Rossiter, J.R. (1982) 'Store atmosphere: An environmental psychology approach', *Journal of Retailing*, 58(1), pp. 34–57.

Donovan, R.J. & Rossiter, J.R. (1994) 'Store atmosphere and purchasing behavior', *Journal of Retailing*, 70(3), pp. 283–294.

Dube, L., Chebat, J.C. & Moris, S. (1995) 'The effects of background music on consumers' desire to affiliate in buyer-seller interactions', *Psychology and Marketing*, 12(July), pp. 305–319.

Ehrlich, I. & Fisher, L. (1982) 'The derived demand for advertising: a theoretical and empirical investigation', *American Economic Review*, 72, pp. 366–388.

Erdem, O., Oumlil, B. & Tuncalp, S. (1999) 'Consumer values and the importance of store attributes', *International Journal of Retail and Distribution Management*, 27(4), pp. 137–144.

Eroglu, S.A. & Machleit, K.A. (1990) 'An empirical study of retail crowding: antecedents and consequences', *Journal of Retailing*, 66(2), pp. 201–21.

Esbjerg, L. & Bech-Larsen, T. (2009) 'The brand architecture of grocery retailers: setting material and symbolic boundaries for consumer choice', *Journal of Retailing and Consumer Services*, 16(5), pp. 414–423. Available at: http://linkinghub.elsevier.com/retrieve/pii/S0969698909000411 (Accessed: 6 April 2014).

Esbjerg, L., Jensen, B.B., Bech-Larsen, T., Barcellos, M.D. De, Boztug, Y. & Grunert, K.G. (2012) 'An integrative conceptual framework for analyzing customer satisfaction with shopping trip experiences in grocery retailing', *Journal of Retailing and Consumer Services*, 19(4), pp. 445–456. Available at: http://dx.doi.org/10.1016/j.jretconser.2012.04.006 (Accessed: 4 December 2013).

Farias, S.A. De, Aguiar, E.C., Vicente, F. & Melo, S. (2014) *Store atmospherics and experiential marketing: a conceptual framework and research propositions for an extraordinary customer experience*, 7(2), pp. 87–99. Available at: http://doi.org/10.5539/ibr.v7n2p87 (Accessed: 26 December 2014).

Felgate, M., Fearne, A., DiFalco, S. & Garcia Martinez, M. (2012) 'Using supermarket loyalty card data to analyse the impact of promotions', *International Journal of Market Research*, 54(2), p. 221. Available at: http://www.warc.com/Articles/10.2501/IJMR-54-2-221-240 (Accessed: 23 August 2014).

Field, A. (2013) *Discovering statistics using IBM SPSS STATISTICS*. 4th edn. SAGE.

Fisher, R.J. & Price, L.L. (1992) 'An investigation into the social context of early adoption behavior', *Journal of Consumer Research*, 19(4), pp. 477–486.

Fitzsimons, G.J. & Williams, P. (2000) 'Asking questions can change choice behavior: does it do so automatically or efforftully?', *Journal of Experimental Psychology*, 6(September), pp. 195–2006.

Folkes, V. & Wheat, R. (1995) 'Consumer's price perceptions of promoted products', *Journal of Retailing*, 71(3), pp. 317–328.

Fullerton, R.A. & Girish, P. (1993) 'Choosing to misbehave: a structural model of aberrant consumer behavior', *Advances in Consumer Research*, (24), pp. 340–344.

Gardner, M.P. & Siomkos, G.J. (1985) 'Toward a methodology for assessing the effects of in-store atmospherics', in Lutz, R. (ed.), *Advances in Consumer Research*. Chicago.

Gerard, G., Haas, M., Martin, R. & Pentland, A. (2014) 'Big data and management', *Academy of Management*, 57(2), pp. 321–326.

Grewal, D., Ailawadi, K.L., Gauri, D., Hall, K., Kopalle, P. & Robertson, J.R. (2011) 'Innovations in retail pricing and promotions', *Journal of Retailing*, 87, pp. S43–S52. Available at: http://linkinghub.elsevier.com/retrieve/pii/S0022435911000376 (Accessed: 23 March 2014).

Grewal, D., Levy, M. & Kumar, V. (2009) 'Customer experience management in retailing: an organizing framework', *Journal of Retailing*, 85(1), pp. 1–14.

Grewal, D., Levy, M. & Lehmann, D.R. (2004) 'Retail branding and customer loyalty: an overview', *Journal of Retailing*, 80(4), pp. ix–xii. Available at: http://linkinghub.elsevier.com/retrieve/pii/S0022435904000570 (Accessed: 13 April 2014).

Grewal, D., Monroe, K. & Krishnan, R. (1998) 'The effects of price-comparison advertising on buyers' perceptions of acquisition value, transaction value, and behavioural intentions', Journal of Marketing, 62(2), pp. 46–59.

Grewal, D. & Sharma, A. (1991) 'The effect of sales force behavior on customer satisfaction: an interactive framework', *Journal of Personal Selling and Sales Management*, 11(3), pp. 13–23.

Grossbart, S.L., Mittelstaedt, R.A., Curtis, W.W. & Rogers, R.D. (1975) Environmental sensitivity and shopping behavior, *Journal of Business Research*, 3(4), pp. 281–294.

Grove, S.J. & Fisk, R.P. (1997) 'The impact of other customers on service experiences: a critical incident examination of 'getting along', *Journal of Retailing*, 73, pp. 63–85.

Gruen, T.W. & Shah, R.H. (2000) 'Determinants and outcomes of plan objectivity and implementation in category management relationships', *Journal of Retailing*, 76, pp. 483–510.

Gulas, C.S. & Bloch, P.H. (1995) 'Right under our noses: ambient scent and consumer responses', *Journal of Business and Psychology*, 10(1), pp. 87–98. Available from: http://link.springer.com/10.1007/BF02249272 (Accessed: 3 October 2012).

Hair, J.F., Black, W.B., Babin, B.J. & Anderson, R.E. (2009) *Multivariate data analysis*. 7th edn. Pearson.

Harris, L.C. & Reynolds, K.L. (2004) 'Jaycustomer behavior: an exploration of types and motives in the hospitality industry', *Journal of Services Marketing*, 18(5), pp. 339–357. Available at: http://www.emeraldinsight.com/10.1108/08876040410548276 (Accessed: 16 March 2013).

Hart, C., Farrell, A. & Cadogan, J. (2007) 'Enjoyment of the shopping experience: impact on customers' repatronage intentions and gender influence', The Services Industries Journal, 27(5), pp. 583–604.

Hartline, M.D. & Ferrell, O.C. (1996) 'The management of customer-contact service employees', *Journal of Marketing*, 60(October), pp. 52–70.

Havlena, W.J. & Holbrook, M.B. (1986) 'The varieties of consumption experience: comparing two typologies of emotion in consumer behavior', *Journal of Consumer Research*, 13(3), pp. 394–404.

Hayes, B.E. (1998) *Measuring customer satisfaction: survey design, use and statistical analysis methods*. 2nd Edition. NJ, USA: ASQC Quality Press.

Helson, H. (1964) 'EDLP, hi-lo, and margin arithmetic', in *Adaptation-level theory*, New York: Harper & Row, pp. 16–27.

Hoch, S., Dreze, X. & Purk, M. (1994) 'EDLP, Hi-Lo, and Margin Arithmetic', Journal of Marketing, 58(October), pp. 16–27.

Hox, J.J. & Boeije, H.R. (2005) 'Data collection, primary versus secondary', in Kempf-Leonard, K. (ed.) *Encyclopedia of Social Measurement*. Amsterdam: Elsevier, pp. 593–599.

Huang, P.C. & Huang, P.S. (2015) 'When big data gets small', *International Journal of Organizational Innovation*, 8(2), pp. 100–117.

Hui, M.K. & Bateson, J.E.G. (1991) 'Perceived control and the effect of crowding and consumer choice on the service experience', *Journal of Consumer Research*, 18(September), pp. 174–184.

Hui, M.K., Dube, L. & Chebat, J. (1997) 'The impact of music on consumer's reaction to waiting for services', *Journal of Retailing*, 73(1), pp. 87–104.

Hui, S.K., Fader, P.S. & Bradlow, E.T. (2009) 'Path data in marketing: an integrative framework and prospectus for model building', *Marketing Science*, 28(2), pp. 320–335.

Jagadish, H.V., Gehrke, J., Labrinidis, A. & Papakonstatinou, Y. (2014) 'Big data and its technical challenges', *Communication of The ACM*, 57(7), pp. 86–94.

Jara, M. & Cliquet, G. (2012) 'Retail brand equity: conceptualization and measurement', *Journal of Retailing and Consumer Services*, 19(1), pp. 140–149. Available at: http://linkinghub.elsevier.com/retrieve/pii/S0969698911001184 (Accessed: 23 March 2014).

Juan Beristain, J. & Zorrilla, P. (2011) 'The relationship between store image and store brand equity: a conceptual framework and evidence from hypermarkets', *Journal of Retailing and Consumer Services*, 18(6), pp. 562–574. Available at: http://linkinghub.elsevier.com/retrieve/pii/S0969698911000907 (Accessed: 24 March 2014).

Kahn, B. & Lehmann, D. (1991) 'Modeling choice among assortments', Journal of Retailing, 67(Fall), 274–299.

Kahn, B.E. & McAlister, L.M. (1997) *Grocery revolution: the focus on the new consumer.* Reading. MA : Addison Wesley.

Kahn, B.E. & Raju, J.S. (1991) 'Effects of price promotions on variety-seeking and reinforcement behavior', *Marketing Science*, 10/4(Fall), pp. 316–337.

Kaiser, H.F. (1960) 'The application of electronic computers to factor analysis', *Educational and Psychological Measurement*, XX(1), pp. 141–151.

Kaltcheva, V.D. & Weitz, B.A. (2006) 'When should a retailer create an exciting store environment?', *Journal of Marketing*, 70(1), pp. 107–118.

Kaltcheva, V.D., Winsor, R.D., Patino, A. & Shapiro, S. (2013) 'Impact of promotions on shopper price comparisons', *Journal of Business Research*, 66(7), pp. 809–815. Available at: http://linkinghub.elsevier.com/retrieve/pii/S0148296311001925 (Accessed: 23 March 2014).

Kalwani M.U. & Kin-Yim C.(1992) 'Consumer price and promotion expectations: an experimental study', *Journal of Market Research*, 29(February), pp. 90–100.

Kardes, F.R. & Allen, Ch., T. (1993) 'Effects of multiple measurement operations on consumer judgment: measurement reliability or reactivity?' *Advances in Consumer Research*, 20, pp. 280–283.

Keller, K. (1993) 'Conceptualizing, measuring, managing customer-based brand equity', *Journal of Marketing*, 57(1), pp. 1–22.

Keller, K. (2003) *Strategic brand management: building, measuring, and managing brand equity*, 2nd ed. New York, NY: Prentice Hall.

Knox, S.D. & Denison, T.J. (2000) 'Store loyalty: its impact on retail revenue. An empirical study of purchasing behaviour in the UK', *Journal of Retailing and Consumer Services*, 7(1), pp. 33–45.

Kopalle, P., Biswas, D., Chintagunta, P.K., Fan, J., Pauwels, K., Ratchford, B.T. & Sills, J.A. (2009) 'Retailer pricing and competitive effects', *Journal of Retailing*, 85(1), pp. 56–70. Available at: http://linkinghub.elsevier.com/retrieve/pii/S0022435908000870 (Accessed: 6 April 2014).

Kotler, P. (1973) 'Atmospherics as marketing tool', *Journal of Retailing*, 49(Winter), pp. 48–64. Available at: http://content.ebscohost.com/pdf29_30/pdf/2013/3D7H/01May13/89880937.pdf?T=P&P=AN&K=89880937&S=R&D=bth&EbscoContent=dGJyMNLe80Seqa44yNfsOLCmr0yeprJSsq+4TK+WxWXS&ContentCustomer=dGJyMPGnrkquqK9MuePfgeyx44Dt6fIA (Accessed: 30 January 2014).

Kotzan, J.A. & Evanson, R. V. (1969) 'Responsiveness of drug store sales to shelf space allocations', *Journal of Marketing Research*, 6(4), pp. 465–469.

Krapfel, R.E. (1988) 'Customer complaint and salesperson response: the effect of the communication source', *Journal of Retailing*, 64(3), pp. 181–198.

Kriss, P. (2014) 'The value of customer experience, quantified', *Harvard Business Review*. Available at: https://hbr.org/2014/08/the-value-of-customer-experience-quantified (Accessed: 1 September 2014).

Kukar-Kinney, M., Ridgway, N.M. & Monroe, K.B. (2012) 'The role of price in the behavior and purchase decisions of compulsive buyers', *Journal of Retailing*, 88(1), pp. 63–71. Available at: http://dx.doi.org/10.1016/j.jretai.2011.02.004 (Accessed: 1 June 2013).

Kumar, A. & Kim, Y.K. (2014) 'The store-as-a-brand strategy: the effect of store environment on customer responses', *Journal of Retailing and Consumer Services*, 21(5), pp. 685–695. Available at: http://linkinghub.elsevier.com/retrieve/pii/S0969698914000575 (Accessed: 28 August 2014).

Kumar, N. & Steenkamp, J.B.E.M. (2007) *Private label strategy: how to meet the store brand challenge*, Harvard Business School Press.

Lam, S.Y. (2001) 'The effects of store environment on shopping behaviors: a critical review', *Advances in Consumer Research*, 28, pp. 190–197.

Laroche, M., Pons, F., Zgolli, N., Cervellon, M.C. & Kim, C. (2003) 'A model of consumer response to two retail sales promotion techniques', *Journal of Business Research*, 56(7), pp. 513–522. Available at: http://linkinghub.elsevier.com/retrieve/pii/S0148296301002491 (Accessed: 23 March 2014).

Levy, M. & Weitz, B.A. (1998) *Retailing management.* Chicago: Irwin/McGrawHill, Chicago.

Levy, M. & Weitz, B.A. (2008) 'Meaning of image', *Journal of Retailing*, 50(4), pp. 29–39.

Lindquist, J. D. (1974) 'Meaning of Image', *Journal of Retailing,* 50(Winter), pp. 29–38.

Lovelock, Ch.H. (1994) *Product plus: how product and service equals competitive advantage.* New York: McGraw-Hill.

Macdonald, E.K., Wilson, H.N. & Konus, U. (2012) 'Better customer insight – in real time', *Harvard Business Review*, 9, pp. 102–108.

Macintosh, G. & Lockshin, L.S. (1997) 'Retail relationships and store loyalty: a multi-level perspective', *International Journal of Research in Marketing*, 14(5), pp. 487–497. Available at: http://linkinghub.elsevier.com/retrieve/pii/S016781169700030X (Accessed: 23 March 2014).

Mantrala, M., Levy, M., Kahn, B., Fox, E., Gaidarev, P. & Dankworth, B. (2009), 'Why is assortment planning so difficult for retailers? A framework and research agenda', *Journal of Retailing*, 85(1), pp. 71–83.

Martin, C. (1996) 'Consumer-to-consumer relationships: satisfaction with other consumers' public behavior', *The Journal Of Consumer Affairs*, 30(1), pp. 146–169.

Martin, C. & Pranter, C. (1989) 'Compatibility management: customer-to-customer relationships in service environments', *Journal of Service Marketing*, 3(Summer), pp. 6–15.

Martineau, P. (1958) 'The personality of the retail store', *Harvard Business Review*, 36(1), pp. 47–55.

Martineau, P. (2014) 'Store atmospherics and esperiental marketing: a conceptual framework and research propositions for an extraordinary customer experience', *International Business Research*, 7(2), pp. 87–98.

Martos-Partal, M. & González-Benito, Ó. (2010) 'Store brand and store loyalty: The moderating role of store brand positioning', *Marketing Letters*, 22(3), pp. 297–313. Available at: http://www.springerlink.com/index/10.1007/s11002-010-9126-x (Accessed: 22 December 2012).

Mason, N. (1996) 'Store loyalty - that old chestnut customer loyalty - the issue for the 905', *The Researcher*, 1, pp. 6–15.

Massara, F., Liu, S.S. & Melara, R.D. (2010) 'Adapting to a retail environment: modeling consumer–environment interactions', *Journal of Business Research*, 63(7), pp. 673–681. Available at: http://linkinghub.elsevier.com/retrieve/pii/S0148296309001428 (Accessed: 30 March 2014).

Matilla, A.S. & Wirtz, J. (2001) 'Congruency of scent and music as a driver of in-store evaluations and behavior', *Journal of Retailing*, 77(2), pp. 273–289.

Mazursky, D. & Jacoby, J. (1986) 'Exploring the development of store images', *Journal of Retailing*, 62(2), pp.145–65.

McAfee, A. & Brynjolfsson, E. (2012) 'Big data: the management revolution', *Harvard Business Review*, October, pp. 60–68.

McGrath, M.A. & Otnes, C. (1989) 'An Ethnography of a Gift Store: Trappings, Wrap- pings, and Rapture', *Journal of Retailing*, 65(4), pp. 421–449.

McGrath, M.A. & Otnes, C. (1995) 'Unacquainted influencers: when strangers interact in the retail setting', *Journal of Business Research*, 32(3), pp. 261–272. Available at: http://linkinghub.elsevier.com/retrieve/pii/014829639400051F (Accessed: 5 December 2013).

McGrath, M.A., Sherry, J. & Heisley, D., (1993) 'An ethnographic study of an urban periodic marketplace: lessons from the Midville farmers' market', *Journal of Retailing*, 69(3), pp. 280–319.

Mehrabian, A. & Russell, J.A. (1974) *An approach to environmental psychology*. Cambridge: The MIT Press.

Messinger, P.R. & Narasimhan, C. (1997) 'A model of retail formats based on consumers' economizing on shopping time', *Marketing Science*, 16(1), pp. 1–23.

Meyer, C. & Schwager, A. (2007) 'Understanding customer experience', *Harvard Business Review*, (February), pp. 117–26.

Milliman, R.E. (1982) 'Using background music to affect the behavior of supermarket shoppers', *Journal of Marketing*, 46, pp. 86–91.

Milliman, R.E. (1986) 'The influence of background music on the behavior of restaurant patrons', *Journal of Consumer Resarch*, 73(September), pp. 286–289.

Milotic, D. (2003) 'The impact of fragrance on consumer choice', *Journal of Consumer Behaviour*, 3(2), pp. 179–191.

Mitchell, D.J. (1994) 'For the smell of it all: functions and effects of olfaction in consumer behavior', *Advances in Consumer Research*, 21, p. 330.

Mitchell, D.J., Kahn, B.E. & Knasko, S.C. (1995) 'There's something in the air: effects of ambient odor on consumer decision making', *Journal of Consumer Research*, 22(September), pp. 229–38.

Miyazaki, A.D., Grewal, D., Goodstein, R.C., (2005) 'The effect of multiple extrinsic cues on quality perceptions: a matter of consistency', *Journal of Consumer Research*, 32(1), pp. 146–153.

Mohan, G., Sivakumaran, B. & Sharma, P. (2012) 'Store environment's impact on variety seeking behavior', *Journal of Retailing and Consumer Services*, 19(4), pp. 419–428. Available at: http://dx.doi.org/10.1016/j.jretconser.2012.04.003 (Accessed: 22 March 2014).

Moschis, G.P. (1985) 'The role of family communication in consumer socialization of children and adolescents', *Journal of Consumer Research*, 11(2), pp. 898–913.

Moschis, G.P. (1989) 'Deviant consumer behavior', *Advances in Consumer Research*, 16, pp. 732–739.

Mulhern, F.J. & Padgett, D.T (1995) 'The relationship between retail price promotions and regular price purchases', *Journal of Marketing*, 59(October), pp. 83–90.

Nagle, T.T. (1987) *The strategy and tactics of pricing*. Englewood Cliffs, NJ: Prentice Hall.

Narhinen, M., Nissinen, A. & Puska, P. (2000) 'Changes in supermarket sales before and 'after a staged health promotion campaign', *British Food Journal*, 102(4), pp. 308–319.

Nath, C.K. (2009) 'Behaviour of customers in retail store environment – an empirical study', *The XIMB Journal of Management*, 6(2), pp. 63–75.

Netemeyer, R.G., Heilman, C.M. & Maxham, J.G. (2012) 'The impact of a new retail brand in-store boutique and its perceived fit with the parent retail brand on store performance and customer spending', *Journal of Retailing*, 88(4), pp. 462–475. Available at: http://dx.doi.org/10.1016/j.jretai.2012.06.002 (Accessed: 16 January 2013).

Nevin, J. R. & Houston, M. (1980) 'Images as a component of attractiveness to intra-urban shopping areas. *Journal of Retailing*, 56, pp. 77–93.

Ofir, C. & Simonson, I. (2007) 'The effect of stating expectations on customer satisfaction and shopping experience', *Journal of Marketing Research*, XLIV(February), pp. 164–174.

Otnes, C., Lowrey, T. & Chan, K.Y. (1993) 'Christmas gift selection for 'easy' and 'difficult' recipients: a social roles interpretation', *Journal of Consumer Research*, 20(2), pp. 229–244.

Otto, P.E., Davies, G.B., Chater, N. & Stott, H. (2009) 'From spending to understanding: analyzing customers by their spending behavior', *Journal of Retailing and Consumer Services*, 16(1), pp. 10–18. Available at: http://linkinghub.elsevier.com/retrieve/pii/S0969698908000180 (Accessed: 18 July 2012).

Outi, U. (2001) 'Consumer perceptions of grocery retail formats and brands', *International Journal of Retail & Distribution Management*, 29(5), pp. 214–25.

Pannell, D.J. (1997) 'Sensitivity analysis of normative economic models: theoretical framework and practical strategies', *Agricultural Economics*, 16, pp. 139–152.

Parasuraman, A., Berry, L.L. & Zeithaml, V.A. (1991) 'Refinement and reassessment of the SERVQUAL scale', *Journal of Retailing*, 67(4), pp. 420–50.

Parasuraman, A. & Valerie, A. (1988) 'SERVQUAL – a multiple-item scale for measuring consumer perceptions of service quality', *Journal of Retailing*, 64(1), pp. 12–40.

Park, C.W., Iyer, E.S. & Smith, D.C. (1989) 'The effects of situational factors on in-store grocery shopping behavior', *Journal of Consumer Research*, 15(4), pp. 422–433.

Park, C. & Lessing, V. (1977) 'Differences in susceptibility to reference group influence', *Journal of Consumer Research*, 4(2), pp. 102–110.

Peter, J.P. & Olson, J.C. (1994) *Understanding consumer behavior.* Boston, MA: Irwin.

Porter, S.S. & Claycomb, C. (1997) 'The influence of brand recognition on retail store image', *Journal of Product & Brand Management*, 6(6), pp. 373–87

Preacher, K.J. & Hayes, A.F. (2008) 'Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models', *Behavior Research Methods*, 40(3), pp. 879–891.

Puccinelli, N.M., Goodstein, R.C., Grewal, D., Price, R., Raghubir, P. & Stewart, D. (2009) 'Customer experience management in retailing: understanding the buying process', *Journal of Retailing*, 85(1), pp. 15–30. Available at: http://linkinghub.elsevier.com/retrieve/pii/S0022435908000869 (Accessed: 30 October 2012).

Raghubir, P.J., Inman, J. & Grande, H. (2004) 'The three faces of price promotions', *California Management Review*, 46(Summer), pp. 23–42.

Rajiv, L. & Rao, R. (1997) 'Supermarket competition: the case of every day low pricing', *Marketing Science*, 16(1), pp. 60–80.

Raju, J.S. (1995) 'Theoretical models of sales promotions: contributions, limitations, and a future research agenda', *European Journal of Operational Research*, 85(1), pp. 1–17. Available at: http://linkinghub.elsevier.com/retrieve/pii/037722179400275H (Accessed: 2 February 2012).

Rao, A.R. & Monroe, K.B. (1989) 'The effect of price, brand name, and store name on buyers' perceptions of product quality: An integrative review', *Journal of Marketing Research*, 26, pp. 351–357.

Razmdoost, K., Dimitriu,R. & Macdonald, E.K. (2015) 'The Effect of Overconfidence and Underconfidence on Consumer Value', *Psychology and Marketing*, 32(April), pp. 392–407.

Roy, A. & Tai, S.T.C. (2003) 'Store environment and shopping behavior: the role of imagery elaboration and shopping orientation, *Journal of International Consumer Marketing*, 15(3), pp. 71–99.

Said, E., Macdonald, E.K., Wilson, H.N. & Marcos, J. (2015) 'How organisations generate and use customer insight', *Journal of Marketing Management*, 31(9-10), pp. 1158–1179.

Saltelli, A. (2002) 'Sensitivity analysis for importance assessment', *Risk Analysis*, 22(3), pp. 1–12.

Sandelowski, M. (2000) 'Combining qualitative and quantitative sampling, data collection, and analysis techniques in mixed-method studies', *Research in Nursing and Health*, 23(3), pp. 246–255.

Sawyer, A. G. & Dickson, P.R. (1984) 'Psychological perspectives on consumer response to sales promotion', in Josz, K.E. (ed.) *Research on Sales Promotion: Collected Papers*. Cambridge: Marketing Science Institute, pp. 47–62.

Schillewaert, N. (2005) *Comparing response distributions of offline and online data collection methods*, International Journal of Market Research, 47(2), p. 163–178.

Semeijn, J., van Riel, A.C.R. & Ambrosini, A.B. (2004) 'Consumer evaluations of store brands: effects of store image and product attributes', *Journal of Retailing and Consumer Services*, 11(4), pp. 247–258. Available at: http://linkinghub.elsevier.com/retrieve/pii/S0969698903000511 (Accessed: 26 March 2014).

Shankar, V., Inman, J.J., Mantrala, M., Kelley, E. & Rizley, R. (2011) 'Innovations in shopper marketing: current insights and future research issues', *Journal of Retailing*, 87(1), pp. S29–S42.

Sherman, E., Mathur, A. & Smith, R.B. (1997) 'Store environment and consumer purchase behavior: mediating role of consumer emotions', *Psychology and Marketing*, 14(July 1997), pp. 361–379.

Sherry, J. & McGrath, M.A. (1989) 'Unpacking the holiday presence: a comparative ethnography of two gift stores', in: Hirschman, E. (ed), *Interpretive Consumer Research*, Association for Consumer Research: Provo, UT.

Shukla, P. (2011) 'The direct and interactive effects of store-level promotions on impulse purchase: moderating impact of category familiarity and normative influences', in Yi, Z., Xiao, J., Cotte, J. & Price, L. (eds.) *Asia-Pacific Advances in Consumer Research*, Duluth, MN: Association for Consumer Research, pp. 259–266.

Sigue, S. (2008) 'Consumer and retailer promotions: who is better off?', *Journal of Retailing*, 84(4), pp. 449–460. Available at: http://linkinghub.elsevier.com/retrieve/pii/S0022435908000663 (Accessed: 22 March 2014).

Sirohi, N., McLaughlin, E.W. & Wittink, D.R. (1998) 'A model of consumer perceptions and store loyalty intentions for a supermarket retailer', *Journal of Retailing*, 74(2), pp. 223–245. Available at: http://linkinghub.elsevier.com/retrieve/pii/S0022435999800943 (Accessed: 29 November 2013).

Smith, E. (2008) *Using secondary data in educational and social research*. Maidenhead:Open University Press.

Smith, P.C. & Curnow, R. (1996) 'Arousal Hypothesis and the effects of music on purchasing behavior', *Journal of Applied Psychology*, 50(3), pp. 255–256.

Snijders, C., Matzat, U. & Reips, U.D. (2012) 'Big data: big gaps of knowledge in the field of Internet', *International Journal of Internet Science*, 7(1), pp. 1–5.

Sobel, M.E. (1982) 'Asymptotic confidence intervals for indirect effects in structural equation models', in *Sociological Methodology*. American Sociological Association, Washington DC, pp. 290–312.

Solomon, M.R. (2008). *Consumer Behaviour: buying, having and being*. 8th edn. New York: Prentice Hall.

Spangenberg, E.R., Crowley, A.E. & Henderson, P.W. (1996) 'Improving the store environment: do olfactory cues affect', *Journal of Retailing*, 60(April), pp. 67–81.

Spies, K., Hesse, F. & Loesch, K. (1997) 'Store atmosphere, mood and purchasing behavior', *International Journal of Research in Marketing*, 14(1), pp. 1–17.

Steenkamp, J. & Dekimpe, M. (1997) 'The increasing power of store brands: building loyalty and marketshare', Long Range Planning, 30(6), pp. 917–930.

Swinyard, W.R. (1993) 'The effects of mood, involvement, and quality of store experience on shopping intentions', *Journal of Consumer Research*, 20(September), pp. 271–280.

Terblanche, N.S. & Boshoff, C. (2006a) 'The relationship between a satisfactory in-store shopping experience and retailer loyalty', *South African Business Management*, 37(2), pp. 33–44.

Terblanche, N.S. & Boshoff, C. (2006b) 'A generic instrument to measure customer satisfaction with the controllable elements of the in-store shopping experience', *South African Journal of Business Management*, 37(3), pp. 1–17.

Thaler, R. (1985) 'Mental accounting and consumer choice', *Marketing Science.* 4(Summer), pp. 199–214.

Theodoridis, P.K. & Chatzipanagiotou, K.C. (2009) 'Store image attributes and customer satisfaction across different customer profiles within the supermarket sector in Greece', *European Journal of Marketing*, 43(5/6), pp. 708–734.

Titus, P.A. & Everett, P.B. (1995) 'The consumer retail search process: a conceptual model and research agenda', *Journal of the Academy of Marketing Science*, 23(2), pp. 106–119.

Tranfield, D., Denyer, D. & Smart, P. (2003) 'Towards a methodology for developing evidence-informed management knowledge by means of systematic review', *British Journal of Management*, 14(3), pp. 207–222. Available at: http://doi.wiley.com/10.1111/1467-8551.00375 (Accessed: 13 May 2013).

Turley, L.W. & Milliam, R.E. (1992) 'Atmospheric effects on shopping: experimental evidence', *Psychology and Marketing*, 1(9), pp. 347–363.

Underhill, P. (2003) *Why we buy – the science of shopping*. New York City: Simon & Schuster.

Vahie, A. & Paswan, A. (2006) 'Private label brand image: its relationship with store image and national brand', *International Journal of Retail & Distribution Management*, 34(1), pp. 67–84.

Vartanian, T.P. (2010) *Secondary Data Analysis*. Oxford University Press.

Verhoef, P.C., Lemon, K.N., Parasuraman, A., Roggeveen, A., Tsiros, M. & Schlesinger, L.A. (2009) 'Customer experience creation: determinants, dynamics and management strategies', *Journal of Retailing*, 85(1), pp. 31–41. Available at: http://linkinghub.elsevier.com/retrieve/pii/S0022435908000845 (Accessed: 28 October 2012).

Volle, P. (2001) 'The short-term effect of store-level promotions on store choice, and the moderating role of individual variables', *Journal of Business Research*, 53(2), pp. 63–73. Available at: http://linkinghub.elsevier.com/retrieve/pii/S0148296399000740 (Accessed: 6 January 2014).

Wakefield, K.L. & Baker, J. (1997) 'Excitement at the mall: determinants and effects on shopping response', *Journal of Retailing*, 74(4), pp. 515–539.

Walters, R.G. & Jamil, M. (2003) 'Exploring the relationships between shopping trip type, purchases of products on promotion, and shopping basket profit', *Journal of Business Research*, 56(1), pp. 17–29. Available at: http://linkinghub.elsevier.com/retrieve/pii/S0148296301002016 (Accessed: 2 May 2012).

Walters, R. & Rinne, H. (1986) 'An empirical investigation into the impact of price promotions on retail store performance', *Journal of Retailing*, 62(Fall), pp. 237–266.

Ward, S. & Wackman, D.B. (1972) 'Children's purchase attempts and parental yielding', *Journal of Marketing Research*, 9(4), pp. 316–319.

Westbrook, R.A. & Oliver, R.L. (1981) 'Developing Better measures of consumer satisfaction: some preliminary results', in Monroe, K.E. (ed.) *Advances in Consumer Research*. Provo, UT: Association for Consumer Research. pp. 94-99. Vol.8.

Wheatley, J.J. & Chiu, J.S.Y. (1977) 'The effects of price, store image, and product and respondent characteristics on perceptions of quality', *Journal of Marketing Research* 14(5), pp. 181–186.

Wicker, A. (1973) 'Undermanning theory and research: implications for the study of psychological behavioral effects of excess human populations', *Representative Research in Social Psychology*, 4(1), pp. 185–206.

Williams, K.C. & Spiro, L.R. (1985) 'Communication style in the salesperson-customer dyad', *Journal of Marketing Research*, 22(November), pp. 434–442.

Wilson, H.N. & McDonald, M.H.B. (1996) 'Computer-aided marketing planning: the experience of early adopters', *Journal of Marketing Management*, 12(5), pp. 391–416.

Wolf, J.R., Arkes, H.R. & Muhanna, W.A. (2008) 'The power of touch: an examination of the effect of physical contact on the valuation of objects', *Judgement and Decision Making*, 3(6), pp. 476–482.

Wu, P., Kao, D. (2011) 'Goal orientation and variety seeking behaviour: the role of decision task', *Journal of Economic Psychology*, 32(1), pp. 65–72.

Wu, P., Yeh, G.Y.Y. & Hsiao, C.R. (2011) 'The effect of store image and service quality on brand image and purchase intention for private label brands', *Australasian Marketing Journal*, 19(1), pp. 30–39.

Yalch, R.F. & Spangenberg, E. (1990) 'Effects of store music on shopping behavior', *Journal of Consumer Marketing*, 7(Spring), pp. 55–63.

Yalch, R.F. & Spangenberg, E.R. (2000) 'The effects of music in a retail setting on real and perceived shopping times', *Journal of Business Research*, 2963(1982).

Yoo, C., Park, J. & MacInnis, D.J. (1998) 'Effects of store characteristics and in-store emotional experiences on store attitude', *Journal of Business Research*, 42(3), pp. 253–263.

Appendix A Empirical studies of in-store customer experience

Author	Independent variable			Dependent variable		
	Assortment	Service	In-store environment/ Layout	Purchase likelihood	Satisfaction	Spend
Cox (1964)	x		x	x	x	
Smith and Curnow (1966)			x	x		
Kotzan and Evanson (1969)			x			x
Cox (1970)	x			x		
Frank and Massey (1970)	x					x
Curhan (1972)	x					x
Curhan (1974)			x	x		
Chevalier (1975)	x		x	x		
Woodside and Waddle (1975)	x			x		
McKinnon, Kelly and Robinson (1981)	x			x		
Milliman (1982)			x			x
Wilkinson, Mason and Paksoy (1982)	x			x		
Gagnon and Osterhous (1985)			x			x
Milliman (1986)			x		x	
Bateson and Hui (1987)			x		x	
Bawa, Landwehr and Krishna (1989)	x			x		
Iyer (1989)			x	x		
Park, Iyer and Smith (1989)			x	x		
Yalch and Spangenberg (1990)			x	x	x	
Edwards and Shackley (1993)			x			x
Areni and Kim (1993)			x	x		
Yalch and Spangenberg (1993)			x	x	x	
Areni and Kim (1994)			x		x	x
Arnold (2005)		x		x	x	
Baker, Grewal and Parasurman (1994)		x	x	x		
Donovan, Rossiter, Marcoolyn and Nesdale (1994)			x	x		
Bitner (1992)		x		x		
Gulas and Schewe (1994)			x	x	x	
Esbjerg (2009)		x			x	
My Study	**x**	**x**	**x**	**x**	**x**	**x**

Appendix B In-store experience research opportunities

Emotional responses of the customers	Consumer goals and expectations	Social Environment	Retail Atmosphere/ Layout	Assortment	Price	Promotions	Branding	Service Interface	General Shopping Trip	GAP/ RESEARCH OPPORTUNITY
x	x		x						x	Direct effect of store environment and mediating role of physiological states in relationship between store environment and shopping behaviours
			x						x	Aspects constituting delightful and terrible shopping experiences, and influences on customers' shopping plans and behaviour
	x									Effects of "pre-shopping" factors, shoppers' overall trip goals, store-specific shopping objectives
			x	x						Meaning transfer from store environment to store's merchandise. Multiple effects of store environment, simultaneously
									x	Customer satisfaction with individual shopping trips
									x	What causes satisfaction/ dissatisfaction with individual shopping trips and what most impacts customer behaviour
			x							Research on the multiple effects of store environment, simultaneously
		x								Relationships between customers rather than focusing mainly on creating relationships with customers
		x								How customers can affect one another directly, or indirectly
		x								Relationship between store employee cues and consumer perceptions of time/ effort costs in a retail setting
		x								How customers act in groups, and how these groups influence fellow customers' shopping experiences
		x	x							Design of social environment and its management to allow performance assessment
						x				Long-term impact of sales promotions on consumer choice
						x				Impact on the retailer's brand health
						x				Customer expectations concerning future promotions and after-effects of price discounts
						x				Why some brands are promoted more than others, and why some offer greater discounts than their competitors
						x				In-depth study on sales promotions/ advertising trade-off
						x				In-depth study of relationships among shopping-trip types, retail promotions and purchases of specials and non-specials, and shopping basket profits

Emotional responses of the customers	Consumer goals and expectations	Social Environment	Retail Atmosphere/ Layout	Assortment	Price	Promotions	Branding	Service Interface	General Shopping Trip	GAP/ RESEARCH OPPORTUNITY
						x				Effects of individual characteristics of sales promotions on customers' evaluations of regular store prices
						x				Impact of promotions on brand equity and its usage
						x				Assumptions that promotions are profitable, as well as the view of purchase acceleration as a worry
			x		x	x				Influence of store environment on general price-level expectations for the entire store
				x						What constitutes "the right mix" or "a good assortment" of products
				x			x			How assortment can be integrated into retailers' brand and how retailers develop their communication strategies, as a whole
			x				x			Usage of store merchandising, signage, displays and other activities leveraging the equity of the brands sold by the retailer
							x			Understanding how a retailer should be positioned and how brand assortment sold by the retailer is related to its image
							x			Conceptualisation and scale for measuring retail brand experiences
							x			Three critical factors: the role of national brands, the role of private labels, and the role the store itself plays, as a brand
									x	Cumulative customer satisfaction through what causes satisfaction/ dissatisfaction with individual shopping trips and how it influences customers' shopping behaviour
									x	Research techniques used to investigate relationship between store environment and shoppers' behavioural responses mostly centres on field and laboratory experiments
									x	Guidelines for selecting the appropriate arousal level for a store environment with a specific layout
									x	Focus on "pre-shopping" factors from which the motivation and context for a shopping trip emerge
							x			Out-of-store marketing has no direct effect, but reinforces increase in unplanned buying from shoppers using marketing materials inside the store
x	x		x	x					x	Relationship between store layout, in-store atmosphere and shopping list data, and impact on consumers' shopping plans
										Links between travel patterns, purchase behaviour and customer feedback concerning shopping experience and brand exposure

Appendix C Online survey viewpoint

Question	Question format
1a) What was the date of your recent visit?	(Input date)
1b) What time was your visit to the store?	6am – 9am/ 9am – 12midday/ 12 midday – 2pm/ 2pm – 5pm/ 5pm – 7pm/ 7pm – 9pm/ 9pm – midnight
1c) Why did you visit the store on this occasion?	To do my main shopping/ To do a top up shop/ To pick up food for later/ To pick up food for now/ For a specific item
1d) What areas of the store did you visit/use?	Fresh Fruit and Vegetables, Bakery, Customer Service Desk, Counters (deli, butcher, fishmonger etc.), Technology Services Desk, Petrol Station, Click & Collect, Café or Restaurant, Opticians, Pharmacy, Phone Shop, Tesco Direct Desk, Clothing Department, Toilets
2a) On a scale of 1 to 5, where 1 is strongly agree and 5 is strongly disagree, please answer the following items: I could get in and out of the car park easily. The store was clean and tidy. I could get in and around the store easily. I was satisfied with the quality of fruit and vegetables I saw in the store. The store has a good range of products (the selection of products that you had to choose from for the size of store). I was satisfied with the level of stock on everything I wanted to buy (whether the products you wanted to buy had sold out).	Strongly agree/ Slightly agree/ Slightly disagree/ Strongly disagree/ N/A just for the fruit & vegetables
2b) (If dissatisfied with the stock) Could you please tell me what products were sold out, if any?	(Open comment)
2c) Are there any other items you'd like to see stocked in this store?	(Open comment)
3) IF SELECTED FRUIT & VEGETABLES AT THE START I was satisfied with the level of stock on fruit and vegetables. The store has a good range of fruit and vegetables. The fruit and vegetables looked appealing and well cared for.	Strongly agree/ Slightly agree/ Slightly disagree/ Strongly disagree
4a) On a scale of 1 to 5, where 1 is strongly agree and 5 is strongly disagree, please answer the following items: The store staff made me feel welcome. The store staff were helpful. The store staff were dressed smartly and appropriately. I was satisfied with the length of time I had to wait at the checkout.	Strongly agree/ Slightly agree/ Slightly disagree/ Strongly disagree/ N/A just for staff helpfulness and checkout questions
4b) If you needed help, were you able to find a staff member to assist you?	Yes/No/Didn't need help
5a) What type of checkout did you use today?	Normal checkout/ Self-service checkout/ Scan As You Shop (handheld devices)/ Express/Basket checkout (10 items or less)/ Checkout at the Customer Service Desk/ N/A
IF NORMAL – 7bi) Did the following happen on your shopping trip today? The checkout staff greeted you. The checkout staff offered to help you pack.	Yes/ No
7bii) On a scale of 1 to 5, where 1 is strongly agree and 5 is strongly disagree, please answer the following item: The checkout staff gave you their full attention whilst serving you.	Strongly agree/ Slightly agree/ Slightly disagree/ Strongly disagree
IF SELECTED CUSTOMER SERVICE DESK AT THE START I was satisfied with the length of time I had to wait at the Customer Service Desk. The Customer Service Desk staff were helpful.	Strongly agree/ Slightly agree/ Slightly disagree/ Strongly disagree
IF SELECTED SELF-SERVICE CHECKOUT (SSC) – 5b) (If yes) Staff were quick to react to any problems on self service	Strongly agree/ Slightly agree/ Slightly disagree/ Strongly disagree/ I didn't have any problems with Self Service

285

Question	Question format
6a) Was there a member of staff who did something special on your recent visit?	Yes/ No
6b) I'm delighted to hear that someone made your visit special. If you can remember their name, please include it here.	(Open comment)
6c) Please tell me what they did, so that I can say thank you.	
7) How would you rate the overall customer service and staff members' helpfulness? LEAD QUESTION	Excellent/ Good/ Reasonable/ Poor/ Very Poor
8) How would you rate your overall satisfaction with this store on your recent visit?	Excellent/ Good/ Reasonable/ Poor/ Very Poor
9) How would you rate the overall look and feel of this store?	Excellent/ Good/ Reasonable/ Poor/ Very Poor
How easy did you find your shopping experience?	1 – Not very easy/ 2/ 3/ 4/ 5/ 6/ 7/ 8/ 9/ 10 – Very easy
7/8/9) IF ANSWERED POOR OR VERY POOR It sounds like your visit wasn't as good as I would like. Would you like someone to contact you to discuss your experience? Please give me some details so I know what went wrong.	
10) What are the three things that this store should focus on to improve your overall shopping experience in this store?	Availability of everyday items/ Availability of fresh food (fruit and vegetables, meat, bakery)/ Prices and special offers/ Range/ variety of food/ Queues at checkouts/ Congestion/ clutter around the store (cages, cardboard)/ Quality of fresh food (fruit and vegetables, meat, bakery)/ Helpfulness of the staff/ Cleanliness and tidiness of the store/ Accurate price labelling on the shelf/ Nothing
11) How much do you agree with the statement "This Tesco store has community initiatives that help the local area"?	Strongly agree/ Slightly agree/ Neither agree nor disagree/ Slightly disagree/ Strongly disagree/ Don't know
12a) Have you bought more than 10 different items today?	Yes/ No
12b) (If yes) Did the cashier talk to you about your Price Promise result?	Yes/ No, the cashier did not talk to me about my/ Price Promise result/ No, I did not receive a Price Promise result/ Don't know
12c) Have you heard of the Tesco Fuel Save?	Yes/ No/ Don't Know
12d) Did the cashier talk to you about the Fuel Save Programme?	Yes/ No/ Don't Know
13) For the next question, I'm interested in the emotions you feel when you think about Tesco. On a scale of 1 to 10, how much do you like Tesco, where 10 means I really like them and 1 means I don't like them at all?	1 - I don't like them at all/ 2/ 3/ 4/ 5/ 6/ 7/ 8/ 9/ 10 – I really like them
14a) Which age group best describes you?	Under 18/ 18 –24/ 25 – 34/ 35 – 44/45 – 54/ 55–64/65+
14b) Are you male or female...?	M/F
14d) How many people live in your household, including you?	1/ 2/ 3/ 4 / 5/ 6+
14e) Do you have any children living at home?	Yes/ No: If Yes: age 0 – 5/ Yes, age 6 – 10/ Yes, age 11 – 16/ Yes, age 17+/ Prefer not to say
Thanks for filling out my survey. Please let me know if there's anything else you'd like to tell me.	(Open comment)

286

Appendix D Survey questions coding table

VAR	QCode	QType	QDesc
ACC1	CARPARK_ACCESS	CHOICE	I could get in and out of the car park easily.
ACC1	CARPARK_ACCESS	CHOICE	I could get in and out of the car park easily.
ACC1	CARPARK_ACCESS	CHOICE	I could get in and out of the car park easily.
ACC1	CARPARK_ACCESS	CHOICE	I could get in and out of the car park easily.
ACC1	CARPARK_ACCESS	CHOICE	I could get in and out of the car park easily.
ACC2	EXPRESS_EASY	CHOICE	I could get in and around the store easily.
ACC2	EXPRESS_EASY	CHOICE	I could get in and around the store easily.
ACC2	EXPRESS_EASY	CHOICE	I could get in and around the store easily.
ACC2	EXPRESS_EASY	CHOICE	I could get in and around the store easily.
DIS1	SPECIAL_OFFERS_APPEALING	CHOICE	The special offers in the store were appealing and relevant to me.
DIS1	SPECIAL_OFFERS_APPEALING	CHOICE	The special offers in the store were appealing and relevant to me.
DIS1	SPECIAL_OFFERS_APPEALING	CHOICE	The special offers in the store were appealing and relevant to me.
DIS1	SPECIAL_OFFERS_APPEALING	CHOICE	The special offers in the store were appealing and relevant to me.
DIS1	SPECIAL_OFFERS_APPEALING	CHOICE	The special offers in the store were appealing and relevant to me.
DIS2	SPECIAL_OFFERS_INTENTIONS	CHOICE	I would visit this store more if the special offers were more relevant to me.
DIS2	SPECIAL_OFFERS_INTENTIONS	CHOICE	I would visit this store more if the special offers were more relevant to me.
DIS2	SPECIAL_OFFERS_INTENTIONS	CHOICE	I would visit this store more if the special offers were more relevant to me.
DIS2	SPECIAL_OFFERS_INTENTIONS	CHOICE	I would visit this store more if the special offers were more relevant to me.
DIS2	SPECIAL_OFFERS_INTENTIONS	CHOICE	I would visit this store more if the special offers were more relevant to me.
DIS3	SPECIAL_OFFERS_VARIETY	CHOICE	Having a good variety of regularly changing special offers is important to me.
DIS3	SPECIAL_OFFERS_VARIETY	CHOICE	Having a good variety of regularly changing special offers is important to me.
DIS3	SPECIAL_OFFERS_VARIETY	CHOICE	Having a good variety of regularly changing special offers is important to me.
DIS3	SPECIAL_OFFERS_VARIETY	CHOICE	Having a good variety of regularly changing special offers is important to me.
DIS3	SPECIAL_OFFERS_VARIETY	CHOICE	Having a good variety of regularly changing special offers is important to me.
DIS4	SPECIAL_OFFERS_VFM	CHOICE	The special offers in this store are good value for the money.
DIS4	SPECIAL_OFFERS_VFM	CHOICE	The special offers in this store are good value for the money.
DIS4	SPECIAL_OFFERS_VFM	CHOICE	The special offers in this store are good value for the money.
DIS4	SPECIAL_OFFERS_VFM	CHOICE	The special offers in this store are good value for the money.
DIS4	SPECIAL_OFFERS_VFM	CHOICE	The special offers in this store are good value for the money.

VAR	QCode	QType	QDesc
EASE	EASY_EXPERIENCE	CHOICE	How easy did you find your shopping experience?
EASE	EASY_EXPERIENCE	CHOICE	How easy did you find your shopping experience?
EASE	EASY_EXPERIENCE	CHOICE	How easy did you find your shopping experience?
EASE	EASY_EXPERIENCE	CHOICE	How easy did you find your shopping experience?
EASE	EASY_EXPERIENCE	CHOICE	How easy did you find your shopping experience?
EASE	EASY_EXPERIENCE	CHOICE	How easy did you find your shopping experience?
EASE	EASY_EXPERIENCE	CHOICE	How easy did you find your shopping experience?
EASE	EASY_EXPERIENCE	CHOICE	How easy did you find your shopping experience?
EASE	EASY_EXPERIENCE	CHOICE	How easy did you find your shopping experience?
EASE	EASY_EXPERIENCE	CHOICE	How easy did you find your shopping experience?
ENV1	EXPRESS_CLEANLINESS	CHOICE	The store was clean and tidy.
ENV1	EXPRESS_CLEANLINESS	CHOICE	The store was clean and tidy.
ENV1	EXPRESS_CLEANLINESS	CHOICE	The store was clean and tidy.
ENV1	EXPRESS_CLEANLINESS	CHOICE	The store was clean and tidy.
ENV2	LOOK_AND_FEEL	CHOICE	How would you rate the overall look and feel of this store?
ENV2	LOOK_AND_FEEL	CHOICE	How would you rate the overall look and feel of this store?
ENV2	LOOK_AND_FEEL	CHOICE	How would you rate the overall look and feel of this store?
ENV2	LOOK_AND_FEEL	CHOICE	How would you rate the overall look and feel of this store?
ENV2	LOOK_AND_FEEL	CHOICE	How would you rate the overall look and feel of this store?
QLT1	EXPRESS_FRESH	CHOICE	I was satisfied with the quality of fruit and vegetables I saw in the store.
QLT1	EXPRESS_FRESH	CHOICE	I was satisfied with the quality of fruit and vegetables I saw in the store.
QLT1	EXPRESS_FRESH	CHOICE	I was satisfied with the quality of fruit and vegetables I saw in the store.
QLT1	EXPRESS_FRESH	CHOICE	I was satisfied with the quality of fruit and vegetables I saw in the store.
QLT1	EXPRESS_FRESH	CHOICE	I was satisfied with the quality of fruit and vegetables I saw in the store.
QLT2	APPEALING_FRESH	CHOICE	The fruit and vegetables looked appealing and well cared for.
QLT2	APPEALING_FRESH	CHOICE	The fruit and vegetables looked appealing and well cared for.
QLT2	APPEALING_FRESH	CHOICE	The fruit and vegetables looked appealing and well cared for.
QLT2	APPEALING_FRESH	CHOICE	The fruit and vegetables looked appealing and well cared for.
SAT	OVERALL_SATISFACTION	CHOICE	How would you rate your overall satisfaction with this store on your recent visit?
SAT	OVERALL_SATISFACTION	CHOICE	How would you rate your overall satisfaction with this store on your recent visit?
SAT	OVERALL_SATISFACTION	CHOICE	How would you rate your overall satisfaction with this store on your recent visit?
SAT	OVERALL_SATISFACTION	CHOICE	How would you rate your overall satisfaction with this store on your recent visit?
SAT	OVERALL_SATISFACTION	CHOICE	How would you rate your overall satisfaction with this store on your recent visit?

288

VAR	QCode	QType	QDesc
SR	TESCO_COMMUNITY	CHOICE	How much do you agree with the statement "This Tesco store has community initiatives that help the local area"?
SR	TESCO_COMMUNITY	CHOICE	How much do you agree with the statement "This Tesco store has community initiatives that help the local area"?
SR	TESCO_COMMUNITY	CHOICE	How much do you agree with the statement "This Tesco store has community initiatives that help the local area"?
SR	TESCO_COMMUNITY	CHOICE	How much do you agree with the statement "This Tesco store has community initiatives that help the local area"?
SR	TESCO_COMMUNITY	CHOICE	How much do you agree with the statement "This Tesco store has community initiatives that help the local area"?
SR	TESCO_COMMUNITY	CHOICE	How much do you agree with the statement "This Tesco store has community initiatives that help the local area"?
SRV	OVERALL_SERVICE	CHOICE	How would you rate the overall customer service and staff members' helpfulness?
SRV	OVERALL_SERVICE	CHOICE	How would you rate the overall customer service and staff members' helpfulness?
SRV	OVERALL_SERVICE	CHOICE	How would you rate the overall customer service and staff members' helpfulness?
SRV	OVERALL_SERVICE	CHOICE	How would you rate the overall customer service and staff members' helpfulness?
SRV	OVERALL_SERVICE	CHOICE	How would you rate the overall customer service and staff members' helpfulness?
SRV1	EXPRESS_STAFF_WELCOME	CHOICE	The store staff made me feel welcome.
SRV1	EXPRESS_STAFF_WELCOME	CHOICE	The store staff made me feel welcome.
SRV1	EXPRESS_STAFF_WELCOME	CHOICE	The store staff made me feel welcome.
SRV1	EXPRESS_STAFF_WELCOME	CHOICE	The store staff made me feel welcome.
SRV10	SELF_SERVICE_REACTION_NEW	CHOICE	Staff were quick to react to problems on self-service.
SRV10	SELF_SERVICE_REACTION_NEW	CHOICE	Staff were quick to react to problems on self-service.
SRV10	SELF_SERVICE_REACTION_NEW	CHOICE	Staff were quick to react to problems on self-service.
SRV10	SELF_SERVICE_REACTION_NEW	CHOICE	Staff were quick to react to problems on self-service.
SRV10	SELF_SERVICE_REACTION_NEW	CHOICE	Staff were quick to react to problems on self-service.
SRV11	STAFF_WOW	CHOICE	Was there a member of staff who did something special on your recent visit?
SRV11	STAFF_WOW	CHOICE	Was there a member of staff who did something special on your recent visit?

VAR	QCode	QType	QDesc
SRV2	EXPRESS_STAFF_HELPFUL	CHOICE	The store staff were helpful.
SRV2	EXPRESS_STAFF_HELPFUL	CHOICE	The store staff were helpful.
SRV2	EXPRESS_STAFF_HELPFUL	CHOICE	The store staff were helpful.
SRV2	EXPRESS_STAFF_HELPFUL	CHOICE	The store staff were helpful.
SRV2	EXPRESS_STAFF_HELPFUL	CHOICE	The store staff were helpful.
SRV3	STAFF_DRESSED	CHOICE	The store staff were dressed smartly and appropriately.
SRV3	STAFF_DRESSED	CHOICE	The store staff were dressed smartly and appropriately.
SRV3	STAFF_DRESSED	CHOICE	The store staff were dressed smartly and appropriately.
SRV3	STAFF_DRESSED	CHOICE	The store staff were dressed smartly and appropriately.
SRV4	EXPRESS_CHECKOUT_TIME	CHOICE	I was satisfied with the length of time I had to wait at the checkout.
SRV4	EXPRESS_CHECKOUT_TIME	CHOICE	I was satisfied with the length of time I had to wait at the checkout.
SRV4	EXPRESS_CHECKOUT_TIME	CHOICE	I was satisfied with the length of time I had to wait at the checkout.
SRV4	EXPRESS_CHECKOUT_TIME	CHOICE	I was satisfied with the length of time I had to wait at the checkout.
SRV4	EXPRESS_CHECKOUT_TIME	CHOICE	I was satisfied with the length of time I had to wait at the checkout.
SRV5	ASSISTANCE	CHOICE	Did you need any assistance whilst shopping today?
SRV5	ASSISTANCE_FIND	CHOICE	Were you able to find a member of staff to assist you?
SRV5	ASSISTANCE_FIND_NEW	CHOICE	If you needed help, were you able to find a member of staff to assist you?
SRV5	ASSISTANCE	CHOICE	Did you need any assistance whilst shopping today?
SRV5	ASSISTANCE_FIND	CHOICE	Were you able to find a member of staff to assist you?
SRV5	ASSISTANCE_FIND_NEW	CHOICE	If you needed help, were you able to find a member of staff to assist you?
SRV5	ASSISTANCE_FIND_NEW	CHOICE	If you needed help, were you able to find a member of staff to assist you?
SRV6	CHECKOUT_GREETING	CHOICE	The checkout staff greeted you.
SRV6	CHECKOUT_GREETING	CHOICE	The checkout staff greeted you.
SRV7	CHECKOUT_PACK_NEW	CHOICE	The checkout staff offered to help you pack.
SRV7	CHECKOUT_PACK_NEW	CHOICE	The checkout staff offered to help you pack.
SRV8	CHECKOUT_FULL_ATTENTION	CHOICE	The checkout staff gave you their full attention whilst serving you.
SRV8	CHECKOUT_FULL_ATTENTION	CHOICE	The checkout staff gave you their full attention whilst serving you.
SRV8	CHECKOUT_FULL_ATTENTION	CHOICE	The checkout staff gave you their full attention whilst serving you.
SRV8	CHECKOUT_FULL_ATTENTION	CHOICE	The checkout staff gave you their full attention whilst serving you.

VAR	QCode	QType	QDesc
STK1	EXPRESS_PRODUCT_RANGE	CHOICE	The store has a good range of products (the selection of products that you had to choose from for the size of the store).
STK1	EXPRESS_PRODUCT_RANGE	CHOICE	The store has a good range of products (the selection of products that you had to choose from for the size of the store).
STK1	EXPRESS_PRODUCT_RANGE	CHOICE	The store has a good range of products (the selection of products that you had to choose from for the size of the store).
STK1	EXPRESS_PRODUCT_RANGE	CHOICE	The store has a good range of products (the selection of products that you had to choose from for the size of the store).
STK2	EXPRESS_STOCK	CHOICE	I was satisfied with the level of stock (whether the products you wanted to buy had sold out).
STK2	EXPRESS_STOCK	CHOICE	I was satisfied with the level of stock (whether the products you wanted to buy had sold out).
STK2	EXPRESS_STOCK	CHOICE	I was satisfied with the level of stock (whether the products you wanted to buy had sold out).
STK2	EXPRESS_STOCK	CHOICE	I was satisfied with the level of stock (whether the products you wanted to buy had sold out).
STK3	STOCK_FRESH	CHOICE	I was satisfied with the level of stock on fruit and vegetables.
STK3	STOCK_FRESH	CHOICE	I was satisfied with the level of stock on fruit and vegetables.
STK3	STOCK_FRESH	CHOICE	I was satisfied with the level of stock on fruit and vegetables.
STK3	STOCK_FRESH	CHOICE	I was satisfied with the level of stock on fruit and vegetables.
STK4	RANGE_FRESH	CHOICE	The store has a good range of fruit and vegetables.
STK4	RANGE_FRESH	CHOICE	The store has a good range of fruit and vegetables.
STK4	RANGE_FRESH	CHOICE	The store has a good range of fruit and vegetables.
STK4	RANGE_FRESH	CHOICE	The store has a good range of fruit and vegetables.
STK5	SOLD_OUT	CHOICE	Were any items that you wanted to buy today sold out?
STK5	SOLD_OUT	CHOICE	Were any items that you wanted to buy today sold out?

291

Appendix E Research sample segmentation

LIFESTYLE HIGH

CODE	DESCRIPTION	CODE	DESCRIPTION
LA	LESS AFFLUENT	OA	OLDER ADULTS
MM	MID-MARKET	OF	OLDER FAMILIES
UM	UPMARKET	OT	OTHER
		PE	PENSIONERS
		YA	YOUNG ADULTS
		YF	YOUNG FAMILIES

CODE	DESCRIPTION
CO05	CANT COOK WONT COOK
CO07	COUNTING THE CALORIES
CO10	TIME POOR FOOD RICH
FF12	WHOLESOME FOODIES
FF13	EXOTIC CHEFS
KC08	KIDS CHOICE
MA06	TRUSTED BRANDS
MA09	FRESH AND SIMPLE
MA11	EVERYDAY LUXURY
PS01	CHEAPEST I CAN FIND
PS02	STRETCHING THE BUDGET
PS03	LOW COST COOKS
TR04	TRADITIONAL

LIFESTYLE LOW

CODE	DESCRIPTION
A1	SINGLE MIDDLE-AGED ADULT - 40-59
A2	2 MIDDLE-AGED ADULTS - BOTH 40-59
A3	3 OR 4 MIDDLE AGED ADULTS - ALL 40-59
F0	OLDER FAMILIES - ALL 10-19
F1	MIXED FAMILIES 1 - ALL 0-9
F2	MIXED FAMILIES 2 - ALL 3-19
F3	MIXED FAMILIES 3 - OTHERS
FB	BABY FAMILIES - ALL 0-2
FY	YOUNG FAMILIES - ALL 3-9
M1	MIXED AGED ADULTS 1 - ALL 20-59
M2	MIXED AGED ADULTS 2 - ALL 40+
M3	MIXED AGED ADULTS 3 - OTHERS
P0	OVER 60S SCHEME
P1	SINGLE PENSIONER - 60+
P2	PENSIONER COUPLE - BOTH 60+
P3	3 OR 4 PENSIONERS - ALL 60+
QQ	AGE RANGE VALUES DO NOT MATCH PROFILES
S0	SINGLE PARENT OLDER FAMILIES - ALL 10-19
S1	SINGLE PARENT MIXED FAMILIES 1 - ALL 0-9
S2	SINGLE PARENT MIXED FAMILIES 2 - ALL 3-19
S3	SINGLE PARENT MIXED FAMILIES 3 - OTHERS
SB	SINGLE PARENT BABY FAMILIES - ALL 0-2
SY	SINGLE PARENT YOUNG FAMILIES - ALL 3-9
XX	UNUSUAL HOUSEHOLDS
Y1	SINGLE YOUNG ADULT - 20-39
Y2	TWO YOUNG ADULTS - BOTH 20-39
Y3	3 OR 4 YOUNG ADULTS - ALL 20-39
ZZ	NO LIFESTAGE DETAILS