

**Designing for Optimum Experiences in Online Retail: The Impact of Website Design on Flow
in Online Retail Environments**

**Submitted by Nimrita Singh to the University of Exeter as a thesis for the degree of
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Abstract

Online shopping is increasingly popular and is expected to grow significantly. The buying of retail items online now forms a vital part of the retail economy (ONS, 2018). Online sales have seen a steady increase since 2008 with 18% of total retail sales occurring online in 2019 (ONS, 2019). The rise in store closures together with the growth in online sales has led to an increased interest in understanding consumer behaviour in online retail (PWC, ONS 2019).

Over the last two decades, both retailers and consumers have become increasingly experience orientated. The provision of a memorable customer experience in online retail is seen as a competitive advantage from a service delivery perspective; due to its impact on desirable customer outcomes. However, there is limited research exploring a comprehensive set of website design features that contribute to an optimum online experience that impacts customer outcomes such as satisfaction and intention to purchase. The thesis provides an intellectual understanding of the facilitation of a memorable customer experience online by understanding the impact of website design elements on the overall customer experience in online retail. Understanding how to design websites for optimum customer experience can afford retailers a strong competitive advantage. Further to understand customer outcomes, the research explores the role of flow experience which addresses the cognitive involvement of the customer. The relationship between website design features, flow experience and customer outcomes is examined.

Online retailers are increasingly focusing on providing an exceptional customer experience as a key characteristic of the service delivery system. Flow offers a distinctive approach to explore customer experience and can be described as a state of optimum experience. Research indicates that customers who achieve flow are acutely immersed in the online environment. Acute involvement in the navigation process, for example, results in immersion within the online system. Successful experiences are assumed to have a significant impact on customer outcomes. These include purchase decisions, loyalty and an affinity with a retailer. This, therefore, provides opportunities for strategic differentiation.

Website design is one of the significant factors that contribute to e-commerce success; building intuitive and engaging websites is crucial for online retailers as it generates a positive experience which

leads to more online buying, customer satisfaction and loyalty. This research examines whether customers who achieve flow due to their interaction with specific website design attributes during their online shopping experience are more likely to leave satisfied and exhibit intention to purchase.

Table of Contents

1	Introduction.....	9
1.1	Audience and Scope	11
1.2	Contribution and Thesis Structure.....	11
1.3	Wider Implications	14
2	Literature Review: Customer Experience, Website Design and Customer Outcomes	15
2.1	Background.....	15
2.1.1	<i>Approach to Literature.....</i>	<i>17</i>
2.1.2	<i>Structure of Literature Review.....</i>	<i>18</i>
2.2	Customer Experience.....	20
2.3	Online Customer Experience.....	31
2.3.1	<i>Antecedents of Online Customer Experience.....</i>	<i>33</i>
2.3.2	<i>Online Customer Experience: Frameworks.....</i>	<i>46</i>
2.4	Outcomes of Online Customer Experience	59
2.4.1	<i>Purchase Intent</i>	<i>59</i>
2.4.2	<i>Cart Abandonment</i>	<i>63</i>
2.5	Designing for Online Customer Experience.....	66
2.5.1	<i>Product Presentation, Information and Variety.....</i>	<i>69</i>
2.5.2	<i>Product Recommendations.....</i>	<i>70</i>
2.5.3	<i>Navigation.....</i>	<i>71</i>
2.5.4	<i>Information Search and Customer Outcomes</i>	<i>71</i>
2.6	Research Objective.....	75
3	Study One – Preliminary Exploratory Research exploring Online Customer Journeys	79
3.1	Research Objective.....	80
3.2	Research Methodology	81
3.3	Research Philosophy	82
3.3.1	<i>Ontology.....</i>	<i>82</i>
3.3.2	<i>Epistemology.....</i>	<i>83</i>
3.3.3	<i>Positivism.....</i>	<i>83</i>
3.3.4	<i>Post- Positivism.....</i>	<i>84</i>
3.3.5	<i>Critical Realism</i>	<i>84</i>
3.3.6	<i>Intrepretivism</i>	<i>85</i>
3.3.7	<i>Suitability of Critical Realism.....</i>	<i>85</i>

3.4	Research Design and Data Collection Procedure	86
3.4.1	<i>Structure of the Sessions</i>	88
3.4.1	<i>Sample</i>	91
3.5	Related Literature	93
3.5.1	<i>Customer Journey Mapping</i>	93
3.5.2	<i>Consumers Buying Decision Process</i>	99
3.5.3	<i>Customer Emotions During the Online Shopping Process</i>	100
3.6	Analysis and Results	102
3.6.1	<i>Finding 1</i>	102
3.6.2	<i>Finding 2</i>	104
3.6.3	<i>Finding 3</i>	106
3.6.4	<i>Discussion</i>	108
3.6.5	<i>Limitations</i>	109
3.6.6	<i>Summary</i>	110
4	Study Two: The effect of website design attributes on flow experience and customer outcomes	112
4.1	Research Question	112
4.2	Conceptual Model and Hypothesis	114
4.2.1	<i>Background</i>	114
4.2.2	<i>Theoretical Overview</i>	115
4.2.3	<i>Hypothesis Development</i>	120
4.2.4	<i>Research Methodology</i>	135
4.3	Pretest	142
4.3.1	<i>Data Collection and Sample</i>	143
4.3.2	<i>Pretest Design and Findings</i>	144
4.4	Pilot Study	150
4.4.1	<i>Aims of this pilot study:</i>	151
4.4.2	<i>Validating the Research Instrument</i>	151
4.5	Empirical Study Design and Results	169
4.5.1	<i>Data Collection</i>	170
4.5.2	<i>Analysis Method and Results</i>	177
5	Implications, Limitations and Conclusions	207
5.1	Theoretical Implications, Discussion and Conclusion	207
5.2	Contributions to Knowledge	211

5.3	Managerial Implications	212
5.4	Limitations and Future Research	213
5.5	Conclusion	214
5.6	Critical Reflection	214
6	References	216
7	Appendix	253
7.1	Interview Transcripts from Online Customer Journey Mapping (Study One).....	253
7.1.1	<i>Interview Transcripts - Rachael (1) ASOS.....</i>	253
7.1.2	<i>Interview Transcripts - Naomi O'Brien (2) NEXT.....</i>	255
7.1.3	<i>Interview Transcripts - Jessica Abigail (3) ASOS.....</i>	257
7.1.4	<i>Interview Transcripts - Harry Penrose (4) NEXT.....</i>	259
7.1.5	<i>Interview Transcripts - Emily Morgan (5) NEXT.....</i>	260
7.1.6	<i>Interview Transcripts - Agniya Lax (6).....</i>	262
7.2	Task List (Study Two).....	263
7.2.1	<i>Customer Journey Mapping - Task List – Website A.....</i>	263
7.2.2	<i>Customer Journey Mapping - Task List – Website B.....</i>	265
7.3	Pretest Questionnaires	267
7.3.1	<i>Pretest – Seasoned Shopper.....</i>	267
7.3.2	<i>Pretest –Researcher</i>	279
7.4	Final Study - Questionnaire Items	291
7.5	Problems Identified in Pretest	296
7.6	Ethics Form	299
	TABLE 1 DEFINITION OF KEY TERMS	10
	TABLE 2 KEY DEFINITIONS OF CUSTOMER EXPERIENCE	24
	TABLE 3 CUSTOMER EXPERIENCE DEFINITION CHARACTERISTICS	26
	TABLE 4: SUMMARY OF ANTECEDENTS AND OUTCOMES OF CUSTOMER EXPERIENCE.....	65
	TABLE 5: SUMMARY OF EXISTING RESEARCH ON WEBSITE ATTRIBUTES	69
	TABLE 6 EMOTION MAP USED DURING THE SESSIONS	91
	TABLE 7 INTERVIEW QUESTIONS (STUDY ONE)	92
	TABLE 8 WEBSITE DESIGN ELEMENTS AND DESCRIPTIONS FOR USE IN STUDY TWO	103

TABLE 9: BUYING DECISION PROCESS INDICATORS IN INTERVIEW TRANSCRIPT	105
TABLE 10 CUSTOMER EMOTIONS DURING VARIOUS STAGES OF ONLINE SHOPPING	106
TABLE 11 FLOW DEFINITIONS	116
TABLE 12 FLOW COMPONENT AND THEIR DEFINITIONS	118
TABLE 13: MEASUREMENT ITEMS AND DEFINITIONS	136
TABLE 14 ORIGIN OF CONSTRUCTS	140
TABLE 15: FEEDBACK/SUGGESTION FROM RESPONDENTS (PRETEST).....	145
TABLE 16: CRONBACH'S ALPHA	160
TABLE 16 KMO AND BARTLETT'S TEST	164
TABLE 17 ROTATED COMPONENT MATRIX.....	164
TABLE 18 TOTAL VARIANCE EXPLAINED.....	168
TABLE 19 MEASUREMENT ITEMS IN THE FINAL STUDY	171
TABLE 20 DESCRIPTIVE SAMPLE STATISTICS.....	175
TABLE 21 OVERVIEW OF CB-SEM & PLS-SEM	179
TABLE 22 PATTERN MATRIX AFTER FACTOR ANALYSIS AFTER PURIFICATION.....	182
TABLE 23: MODEL FIT	186
TABLE 24: MEASUREMENT MODEL VALIDITY AND RELIABILITY	188
TABLE 25 FACTOR CORRELATION MATRIX WITH DIAGONAL SHOWING THE SQUARE ROOT OF AVE. 190	
TABLE 26: STRUCTURAL MODEL FIT	191
TABLE 27: STRUCTURAL MODEL RESULTS	193
TABLE 28 FLOW → CUSTOMER OUTCOMES.....	195
TABLE 29 PRODUCT EXPERIENCE AND FLOW	197
TABLE 30 CUSTOMER SUPPORT AND FLOW	198
TABLE 31 CUSTOMER INTERFACE AND FLOW	199
TABLE 32: MEDIATION RESULTS	202
TABLE 33: ALTERNATIVE MODEL FIT.....	203
TABLE 34: RESULTS FOR ALTERNATIVE MODEL.....	203
FIGURE 1: THESIS STRUCTURE	13
FIGURE 2 TIMELINE OF LITERATURE	19
FIGURE 3 STRUCTURE OF LITERATURE REVIEW	20

FIGURE 4 AN OVERVIEW OF ONLINE CUSTOMER EXPERIENCE LITERATURE.....	33
FIGURE 5 HOFFMAN, NOVAK AND YUNG (2010) FLOW MODEL	51
FIGURE 6 VARIOUS CONSTRUCTS OF FLOW (HOFFMAN, NOVAK AND YUNG, 2000).....	53
FIGURE 7 ROSE ET AL. (2012) ONLINE CUSTOMER EXPERIENCE FRAMEWORK	59
FIGURE 8 THESIS OVERVIEW.....	78
FIGURE 9 RESEARCH ONION (SAUNDERS ET AL. 2013)	82
FIGURE 10 STRUCTURE OF SESSIONS.....	89
FIGURE 11 OVERLAPS IN CUSTOMER JOURNEY MAPPING MODELS IN LITERATURE.....	97
FIGURE 12 ONLINE CUSTOMER JOURNEY STAGES- MANGIARACIANA ET AL. (2009).....	97
FIGURE 13 CONSUMER’S BUYING DECISION PROCESS	100
FIGURE 14 HIERARCHY OF CONSUMER EMOTIONS, LAROS AND STEENKAMP (2003)	101
FIGURE 15 OVERVIEW OF EMOTIONS AND SPECIFIC RESPONSES DURING THE ONLINE CUSTOMER JOURNEY	108
FIGURE 16 ONLINE CUSTOMER JOURNEY (WHITE), DECISION MAKING PROCESS (GREY) AND WEBSITE FACTORS (BLACK) THAT IMPACT THE CUSTOMER AT EACH STAGE	111
FIGURE 17 FLOW COMPONENTS.....	118
FIGURE 18 AN OVERVIEW OF THE CONCEPTUAL MODEL.....	120
FIGURE 19 CONCEPTUAL MODEL OVERVIEW	134
FIGURE 20 DESCRIPTIVE SAMPLE STATISTICS.....	154
FIGURE 21 AGE OF RESPONDENTS	176
FIGURE 22 AVERAGE MONTHLY EXPENDITURE ONLINE.....	176
FIGURE 23: MEASUREMENT MODEL	187
FIGURE 24: STRUCTURAL MODEL	192
FIGURE 25 RELATIONSHIP BETWEEN FLOW ELEMENTS AND CUSTOMER OUTCOMES	195
FIGURE 26 PRODUCT RELATED ATTRIBUTES AND THEIR IMPACT ON FLOW ELEMENTS.....	197
FIGURE 27 CUSTOMER SUPPORT AND FLOW ELEMENTS	198
FIGURE 28 CUSTOMER INTERFACE AND IMPACT ON FLOW ELEMENTS	199
FIGURE 29 STRUCTURAL MODEL WITH SUPPORTED HYPOTHESIS.....	201
FIGURE 30 WEBSITE DESIGN ATTRIBUTES IDENTIFIED IN STUDY ONE.....	208
FIGURE 31 FINAL MODEL	211

1 Introduction

Over 50% of the world population has access to the internet (ITU, 2018), yet only 18% of all retail sales still occur online in developed economies such as the UK (ONS, 2019). Nonetheless, the online retail sector has seen steady growth over the last 10 years (ONS, 2018). There still remains strong competition among online retailers (Pantano and Viassone, 2015). The provision of goods that offer value is crucial to the success of a retailer, but in addition, forging a memorable customer experience offers differentiation opportunities (Grewal, Levy, and Kumar 2009; Verhoef et al., 2009). Thus, the provision of a memorable shopping experience is even more significant. Retail strategists and researchers are adopting newer value propositions to engage consumers through outstanding customer experience to influence customer behaviours. Firms and academics recognise the importance of managing and understanding customer experience (Accenture, 2015; Grewal, et al., 2009; Lemon and Verhoef, 2016). Yet, no comprehensive model investigates the influence of a set of website features on customer experience and in turn influence on purchase intent and satisfaction in online retail. Through an investigation of customer experience in online retail environments, the thesis explores how website design can impact an optimum experience also known as flow. Furthermore, the relationships between the components of the flow model and customer outcomes are also explored.

Customer experience is particularly complex in online environments due to the constraints of the virtual environment. While complex and complicated tend to be used synonymously (Kinni, 2017), it is crucial to understand the difference between the terms in a business context. Complicated problems can be difficult to solve but can be appropriately addressed via processes and systems (Nason, 2017). On the other hand, complex problems include too many unknowns and inter-related factors to be simply solved using processes and systems (Nason, 2017). Complex problems are “nuanced”, the factors that can be controlled within complex environments are limited (Nason, 2017). The constraints of the virtual environment that make it particularly complex include, for example, the inability to physically examine or try on products (Song, Fiore and Chang, 2000; Bhatnagar, Misra and Rao, 2010). There is evidence of the flow model being used to explore customer experience in online environments (Hoffman, Novak and Yung, 2000; Kawaf and Tagg, 2017). The model addresses a

psychological state in which an individual feels cognitively efficient, motivated and delighted (Shang, Chen and Shen, 2005). Research also indicates a relationship between this heightened psychological state and customer outcomes such as loyalty, satisfaction, purchase intent and word of mouth behaviour (Floresheim and Bridges, 2007; Ding, Hu and Verma, 2009). While customer experience is well established in the literature, and examples are found addressing this in online environments, little evidence is found explicitly relating website design with the attainment of flow experience in online retail. It is therefore crucial, from a strategic perspective, to understand retailer cues that lead to components of flow. In the online environment, customers interact primarily with the website. Therefore, it is necessary to understand website attributes and how they affect consumer experience to accurately determine how to facilitate an intrinsically enjoyable experience online. The research objective for this thesis is therefore derived to address this limited intellectual knowledge. Specifically, the research is focused on understanding website design features that lead to flow experience online and which subsequently lead to desired customer outcomes.

Table 1 Definition of Key Terms

Term	Definition
Flow	Shang et al. (2005) defined flow as a psychological state in which an individual feels cognitively efficient, motivated and delighted. Flow is intrinsically enjoyable and completely involves a person (Hoffman, Novak and Yung 2000, Ding et al., 2009).
Website Design Attributes	A range of website design attributes that the customer interacts with on a website such as product images, product information, navigability and interactivity.
Touchpoints:	A touch point is broadly defined as every point of contact that the consumer interacts with the business (Grewal et al., 2007).
Desired Customer Outcomes	In the context of this thesis, desired customer outcomes are broadly related to purchase intent and customer satisfaction.

1.1 Audience and Scope

The research focuses on goods bought through online retail websites in the UK, and the research has limited application regarding services such as hotel booking and flights. The findings of this thesis are relevant to stakeholders in the eCommerce environment such as eCommerce Directors, Managers, Procurement Managers, Operations Managers, Designers and Developers.

It is also worth noting that, the research deals primarily with eCommerce websites. The application of this research to mCommerce platforms is limited. Consumer behaviour on mobile and desktop can differ due to a variety of factors. Additionally, trust differs across devices as on mobile devices, app marketplaces (Apple Appstore) add to brand trust and protection (Hillman and Neustaedter, 2017). Further, due to the difference in screen sizes between mobile and desktop, design considerations can vary. Finally, payment options can also differ due to the presence of digital wallets on mobile (Hillman and Neustaedter, 2017).

1.2 Contribution and Thesis Structure

The contribution of this thesis comprises of three dimensions. First, the research establishes flow online influences customer outcomes. Second, the research establishes how website design attributes can influence flow in online retail. Finally, this research suggests designing websites for flow has a more significant impact on customer outcomes; as website design elements have little impact on customer outcomes directly.

The thesis establishes three of the six components of a customer's state of flow directly lead to positive customer outcomes; these are focused attention, exploratory behaviour and control. Of the other components of a customer's state of flow, telepresence was not found to affect customer outcomes. This is a notable finding as literature has emphasised the influence of telepresence on willingness to purchase, shopping enjoyment and positive attitude (Song and Fiore, 2004; Klein 2003; Suh and Chang, 2006). The other two remaining components, skill and challenge were found to have an indirect effect. However, all flow elements are assumed to be related in the model. Thus, all flow elements should be considered when evaluating experience in the context of online retail.

The research also finds that product presentation is significant from a flow perspective in online retail. Product presentation impacts control, exploratory behaviour, focused attention and skill. Interactivity is another significant design attribute in online retail impacting several flow elements (focused attention, control and exploratory behaviour). Product variety, product searchability, availability and information are also found to be significant from a flow perspective. Channels of customer support, types of customer support and aesthetics were found to be significantly less important from a flow perspective.

Research Objective and Thesis Structure

Through an evaluation of customer experience literature, it was evident that customer experience plays a significant role in influencing important customer outcomes such as trust, loyalty, satisfaction and intention to purchase. However, there is a lack of a body of knowledge examining the influence of website design characteristics (a vital customer touchpoint) on online customer experience. Thus, this thesis employs two studies to investigate the research questions and establish the above-mentioned contribution to knowledge – RQ1: How website design attributes influence the flow experience online? RQ2: Subsequently, how a customer's flow experience online influence customer outcomes? RQ3: Are customer outcomes online mediated by the flow experience?

The thesis is organised as follows: First, online customer experience literature is examined to identify the knowledge gap. The research gap formulates the research objective addressed through two studies. The first study improves the understanding of website attributes. The second study addresses the overall research question and formulates a conceptual model and research instrument building on the findings of study one. Each study contains method, findings, analysis and discussion. This thesis concludes with a discussion of contributions, limitations and future research.

Study one undertakes exploratory research to establish website design attributes that are important in online retail. This is important as existing knowledge surrounding website attributes is limited. While there are studies assessing the impact of a variety of individual website factors in online environments, the provision of a holistic model of design attributes and their impact on customer experience in online retail is absent. The research undertaken in Study One collects empirical evidence to determine a comprehensive set of website design attributes which might influence the flow experience. Customer

journeys of participants were carefully examined to accurately determine a set of website design attributes relevant to online retail. Through this investigation, twelve crucial website attributes in online retail were identified, these are product presentation, information on products, search features, product recommendations, product variety, customer support, types of customer support, navigability, checkout features, interactivity, visual appeal and layout of the website. Additionally, we identified descriptors for each of the website design attributes. These informed the measurement items utilised in the research instrument in Study Two.

Study two builds on the findings of study one and presents a conceptual model to address the research objective. The conceptual model considers the influence of website design attributes on components of the flow model and the influence of flow components on customer outcomes. The empirical research, undertaken in study two, identifies causal relationships to address the identified research questions: how do website design attributes influence the flow experience in online retail; how does a customer's flow experience in online retail influence customer outcomes? As a result, the conceptual model examines relationships between nine design characteristics and six-flow variables and six flow variables and customer outcomes. This study employs a pre-test, pilot study and full-scale empirical study to explore these components and relationships and to derive the research findings. Structural equation modelling is used to analyse the data provided by a major lifestyle retailer in the UK.

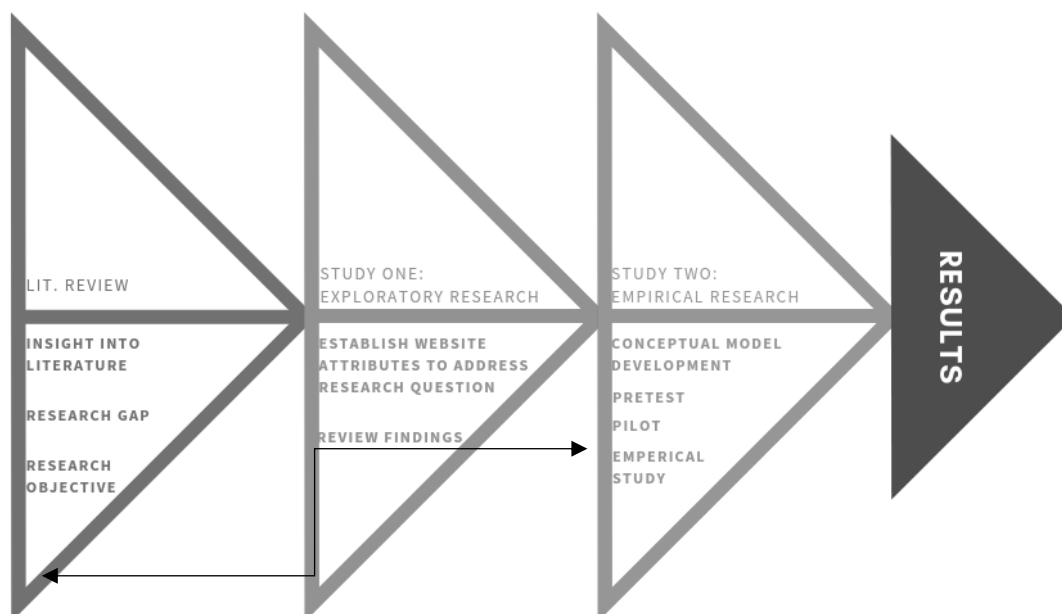


Figure 1: Thesis Structure

1.3 Wider Implications

Operations management typically focusses on the design of service systems. This thesis focuses on the design of online service systems at the point of customer interaction. There is evidence to support that immersion in the virtual environment can augment user effects (purchase behaviour) (Schnack, Wright and Holdershaw, 2017). Immersion is used to establish the extent to which the user is more consciously present in the virtual environment over the physical environment. Cumming and Bailenson (2016), state that to maximise user presence in the virtual environment, one should design an immersive service system. This research allows operations managers and technical managers in the online retail environment to understand the website design attributes that influence immersion. The research has wider implications across academia and operations management practice.

2 Literature Review: Customer Experience, Website Design and Customer Outcomes

2.1 Background

Over the last two decades, there has been a transformation in the economy, with a move from traditional brick and mortar stores to online channels. In the United Kingdom, online shopping is now well-established in the retail economy. In 2015, 77% of all adults in the UK reported making a purchase online, which was an increase of 53% compared to 2008 (Office for National Statistics, 2017). In 2017, online sales increased by 15.9% compared to the previous year; while store sales only increased by 2.3% in the same period (ONS, 2018). In May 2018, online sales grew further by 19.9% compared to the previous year (ONS 2019). Buying online is well established in the modern economy, and it is expected it will continue to snowball (To, Liao and Lin, 2012). Through these statistics, it is evident that online retail is now an essential part of the retailing economy. The Office for National Statistics in the United Kingdom distributes retail into four broad segments: food stores; non-food stores comprising of clothing, household goods, footwear and departmental stores; non-store retailing, consisting of catalogues, mail order and market stalls; and stores selling automotive fuel. For this thesis, the investigation is limited to non-food retail stores in the online context. As food is typically classified as a low involvement category (Munroe and Lee, 1999). Low involvement products require shorter time and effort in search activity compared to high involvement products (Bloch, Sherrell and Ridgway 1986). Low involvement products are further associated with quicker decision making and lower perceived risk (Zaichkowsky, 1985). Involvement is defined as the "perceived relevance" of the product determined by the individual's requirements and interests (Zaichkowsky, 1985). Product involvement is explained further in section 2.3.1.1 of the thesis.

While there has been phenomenal growth and popularity in buying through online channels, the non-food retail industry itself continues to face several challenges. These include an increase in returns, an inability on the part of consumers to accurately judge the goods before purchase and higher perceived risk associated with online shopping. One of the major challenges with the online format compared to brick and mortar stores is that customers cannot physically examine or try the products before purchase (Song et al., 2006). This challenge is particularly relevant to non-food stores where consumers

purchase clothing, footwear and household goods; as a customer may be unable to wholly judge the characteristics and quality of the product before purchase. This inability to ‘try before you buy’ can lead to a reluctance towards making a purchase online; this reluctance is in part caused by a higher perceived risk (section 2.3.1.1) associated with shopping online (Bhatnagar, Misra and Rao, 2000). To overcome some of the challenges associated with online shopping, one way for online retailers to differentiate their online offering, gain competitive advantage and increase online sales is to provide an outstanding customer experience (Pine and Gilmore, 1999; Schwager and Meyer 2007). Not only has there been a conversion from brick and mortar stores to online stores but there has also been a shift in the retail environment in general, with greater emphasis on providing outstanding experiences together with goods and services (Pine and Gilmore, 1999). Over the last two decades, both retailers and consumers have become increasingly experience orientated (Maklan and Klaus, 2011). Experience is considered a crucial part of the service delivery system, sparking the emergence of an “experience economy” (Pine and Gilmore, 1999). By focusing on offering an outstanding online experience, retailers can overcome some of the associated challenges (Pine and Gilmore 1999). As such, many firms are staging experiences around their traditional offering to improve the overall retail offering (Pine and Gilmore 1999). Moreover, it has been widely researched that experience impacts customer outcomes such as loyalty, purchase intent, word of mouth behaviour (Ding et al., 2009, Hoffman and Novak, 2007, Pullman and Gross, 2004) reinforcing the importance from a strategic perspective.

Likewise, marketing practice and research have undergone evolution in the past 25 years, from creating fast moving consumer goods to the creation of memorable experiences (Maklan and Klaus, 2011). Pine and Gilmore (1999) consider experience to be a distinct economic offering, believing that customers explicitly require an experience. Provision of outstanding customer experience in the retail environment is deemed critical to sales (Lucas, 1999), due to the ever-growing competitiveness in the marketplace. Great experiences are shown to lead to desired customer outcomes such as affinity towards a retailer, loyalty and intention to purchase (Ding et al., 2009, Hoffman and Novak, 2011). From a customer perspective, shopping is not the mere procurement of goods, the experience of acquiring these goods also plays a significant role (Pine and Gilmore, 1999). Retailers are increasingly trying to position themselves as a source of memories as their consumers become increasingly experience oriented.

2.1.1 Approach to Literature

Online customer experience is a vast cross-disciplinary topic comprising of various themes and components. To progress further with the study, a review was conducted of existing literature on online customer experience in online retail. To find relevant literature on online customer experience, at first, two databases: EBSCO and Science Direct were selected. These databases were selected as they are readily available through the library available at the university and after careful evaluation of publications available on both these databases. The given databases covered all relevant academic journals on marketing, operations management and internet technology. Following which keywords were decided and an advanced search was run on both the databases to find appropriate articles. A total of 692 articles were obtained. Only Peer-Reviewed articles were included. In addition to the timeframe, the ABS (The Association of Business Schools) journal rankings were also considered, to help check the quality of articles incorporated in the review. An advanced search was conducted to find relevant articles using the keywords:

- Retail OR Shop* or Store* and
- Experience and
- Customer OR Shopper OR consumer and
- Online OR Internet OR Web OR Virtual

In recent times, experience literature in the online environment has diversified to focus on themes such as:

- Experience in the retail banking industry (Fernandes & Pinto, 2019).
- The role of reviews and facebook marketing (Kawaf and Istanbuluoglu, 2019).
- Pricing (Riquelme, Román, Cuestas & Iacobucci, 2019)

2.1.2 Structure of Literature Review

To adequately study online customer experience, the research first examines overall customer experience literature. Thereafter, an examination of the literature on customer experience in the online context is undertaken; explicitly exploring the antecedents of experience and online customer experience frameworks. Subsequently, an exploration is carried out on flow, website design imperatives and customer outcomes. Through an analysis of literature, it is evident that there is a lack of knowledge relating to how retailers can design websites to deliver compelling experiences online. It was apparent from the literature that experience is a significant component of the shopping process for customers and has an impact on customer outcomes, but there is a limited insight into what leads to a great experience online or how to deliver it through website touchpoints. As such, there are a limited amount of studies that analyse website design factors that lead to a compelling online experience. Speck and Elliot (2005); Chiang and Nunez (2007); Park and Stoel (2005); Palmer (2002); Baier and Stuber (2010) and Sasaki, Becker, Janssen and Neel (2011) all address specific website attributes in their research, i.e. product presentation, variety, information, recommendations and navigation. As an example, Ding et al. (2009) study website design features and their impact on online customer experience in the context of financial services. However, their research considers the role of three website attributes and their impact on flow in the context of online financial services.

In this thesis, an investigation is undertaken into the key aspects of online customer experience, specifically exploring website elements that lead to a compelling online shopping experience, that in turn produce desired customer outcomes i.e. satisfaction and purchase intent. While there are a few studies that deal with website features or a set of website design components, however, the existing research studies don't explore a comprehensive set of website design imperatives. Many of the existing studies examine the role of website design features on customer outcomes but do not consider customer experience as the mediating factor. Evidently, users interact with several website features while shopping online, therefore it is essential to study website design fully to be able to accurately judge its impact on the provision of a memorable shopping experience online.

Online Customer Experience	Antecedents of Online Customer Experience	Outcomes of Experience	Website Design Attributes
<ul style="list-style-type: none"> • Anand and Strenthal, 1990 • Webster, Trevino & Ryan 1993 • Webster et al. 1993 • Ghani and Deshpande, 1994 • Hofman and Novak, 1996 • Hoffman and Novak 1996 • Bezoz, 1999 • Dholakia and Bagozzi, 1999 • Hoffman, Novak and Yung, 2000 • Fiore et al., 2000 • Koufrais, 2002 • Novak, Hoffman and Duhachek 2003 • Klein, 2003 • Eroglu, Machliet and Davis, 2003 • Skadberg and Kimmel, 2004 • Pace, 2004 • Sivakumar and Smith 2004 • Richard and Chandra, 2004 • Mathwick and Rigdon, 2004 • Song and Fiore, 2004 • Shang et al. 2005 • Suh and Chang, 2006 • Pine and Gilmore, 2007 • Florshiem and Bridges 2008 • Ding et al. 2010 • Rose et al., 2012 • Wong and Hsiao, 2012 • Susan et al. 2012 • Obada, 2013 • Taylor et al. 2015 • Bilgihan, Kandampully, & Zhang, 2016 • Huang and Chen, 2016 • Kawaf and Tagg, 2017 • Ettis, 2017 • Csikszentmihalyi 1977, 1988, 1989, 1990, 1997, 2000 	<ul style="list-style-type: none"> • Taylor, 1974 • Morgan and Hunt 1984 • Alba and Hutchinson, 1987 • Babin et al. 1994 • Maignan and Lukas, 1997 • Braunsberger and Munch, 1998 • Davis et al 2000 • Ward and Lee 2000 • Pan and Shankar, 2000 • Yoon, 2002 • Chen & Dubinsky, 2003; • Forsythe and Shi, 2003 • Garbarino and Lee, 2003 • Cunningham et al., 2005 • Ha and Perks, 2005 • Park and Stoel, 2005 • Park et al. 2005 • Shang et al 2005 • Christodoulides et al. 2006 • Verhoef et al., 2006 • Florsheim and Bridges 2007 • Kim et al., 2007 • Sääksjärvi and Samiee, 2007 • To et al. 2007 • Martin and Camarero, 2008 • Marganosky and Cube 2008 • Grewal et al 2009 • Close & Kukar-Kinney, 2010 • Jaewon et al. 2010 • Jones and Kim, 2010 • Liao et al. 2011 • Chang, and Tseng, 2013 • Hong and Cha, 2013 • Li et al. 2014 • Sinha, 2015 • Eisenbeiss and Blier, 2015 • Bilighan 2016 • Rose, Hair and Clark 2017 • Sharma et al. 2019 	<ul style="list-style-type: none"> • Darby and Kany 1993 • Bitner et al., 1997 • Huang, Lynch and Ariely, 2000 • Brown et al. 2001 • Wolfinbarger and Gilly, 2001 • Anderson and Srinivasan, 2003 • Korzaan, 2003 • Cyr et al. 2005 • Fassnacht and Köse, 2007 • Kukar-Kinney, Close 2007 • Hernandez et al. 2008 • Huang et al. 2009 • Rajamma et al. 2009 • Verhoef et al. 2009 • Ling et al. 2010 • Close & Kukar-Kinney, 2010 • Huang, Korfiatis & Chang, 2018 • Mokryn, Bogina & Kuflik, 2019 	<ul style="list-style-type: none"> • Jarveena and Todd, 1997 • Reibstein, 2000 • Srinivasan et al. 2002 • Palmer, 2002 • Kim and Kim 2003 • Edwards and Ferle, 2003 • Zhenhui, & Benbasat, 2004 • Mummalaneni, 2005 • Janda and Ybarra, 2005 • Blake et al, 2005 • Park et al. 2005 • Speck and Elliot, 2005 • Chang and Nunez, 2007 • Mulpuru, 2007 • Kim and Niehm, 2009 • Kim and Forsythe, 2010 • Ding et al. 2010 • Baier and Stüber, 2010 • Sasaki et al. 2011 • Chang 2011 • Lee et al. 2011 • Lopez-Miguens and Vazquez, 2016 • Punyatoya, 2019 • Nguyen et al. 2019 • Kautish and Sharma, 2019

Figure 2 Timeline of Literature

The following section presents the literature review, which is divided into two main sections: customer experience, which deals with core literature on customer experience in a general context; followed by customer experience in an online context, exploring antecedents, online customer experience frameworks, outcomes and website attributes as shown in figure 3.

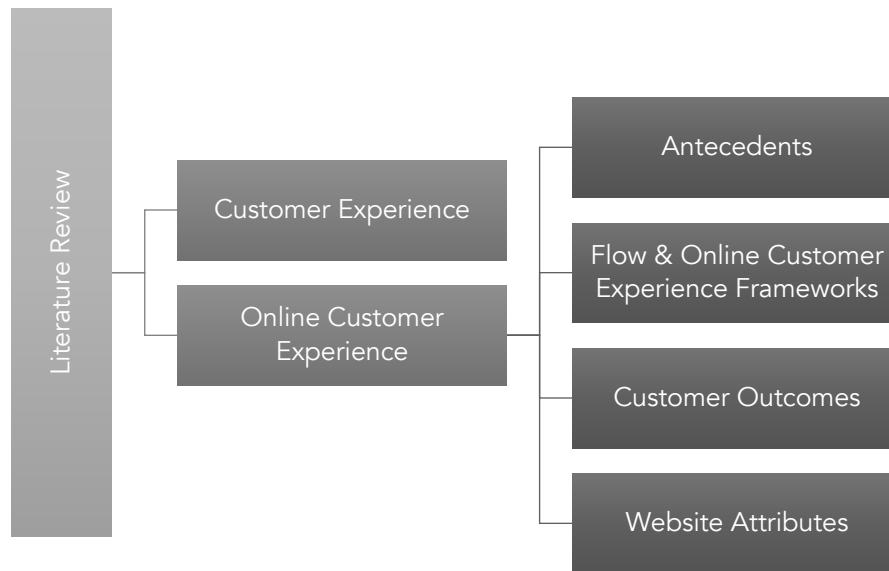


Figure 3 Structure of Literature Review

2.2 Customer Experience

Significance of Customer Experience

Previous research has established that creating a competitive advantage is associated with the longevity of a firm (Gentile, Spiller and Noci, 2007). Recognising this, many scholars promote the notion of focusing on customer experience to obtain this competitive advantage (Kotler and Keller, 2007; Douglas and Craig, 2000, Pine and Gilmore, 1999, Voss 2008, Prahalad and Ramaswamy, 2004, Meyer and Schwarger, 2007 and Verhoef et al., 2009). This focus on customer experience first appeared in the 1990's at a time when the customer-company relationship was growing in prominence (Maklan and Klaus, 2011). Since this time, marketing has shifted focus from creating brands to service marketing, to building customer relationships, to the creation of compelling experiences (Maklan and Klaus, 2011), with customer experience seen as playing a significant role in the success of a firm (Gentile et al., 2007). It may seem that experience is principally linked to “experiential firms”, such as theme parks that are explicitly associated with entertainment (Johnston and Kong, 2011). However,

every good or service entails an experience, and it may be good, bad or indifferent. This presents an opportunity for the firm to engage and involve the consumer (Carbonne and Haeckel, 1994).

Moreover, a great experience is something consumers desire (Lucas, 1999). When customers make purchases, they search beyond the mere product, service or brand; seeking a unique experience (Spring, Mackenzie and Olshavsky, 1996; Vandenbosch and Dawar, 2002). Through this experience, they achieve arousal and pleasure or an exciting emotional experience, which has been found to lead to customer satisfaction (Ismail et al., 2011, Csikzentmihalyi 2000). In this regard, many firms use customer experience as a measure to assess customer satisfaction (Maklan and Klaus, 2013). Besides a significant association with customer satisfaction, researchers stress the importance of customer experience due to its positive impact on loyalty and purchase intent (e.g. Pullman and Gross, 2004, Ding et al., 2009). As presented above, emphasis on customer experience can have various business advantages, such as obtaining a competitive advantage, improving customer satisfaction and loyalty. Additionally, customer's expect experience to be part of the service delivery process, and is, therefore, worth exploring further as a point of differentiation.

Compelling experiences improve satisfaction and loyalty and are also known to assist in the creation of a relationship between the consumer, brand, product and or service (Pullman and Gross, 2004) along with instilling confidence in the consumer (Flanagan, Johnston and Talbot, 2005), preventing substitution (Lucas, 1999) and contributing towards word of mouth behaviour (Maklan and Klaus, 2013). Owing to these benefits, producing an excellent customer experience is a primary goal for most retailers, with many now including it in their mission statement (Verhoef et al., 2009). Dell, for example, focuses on producing computers that deliver the best customer experience (Verhoef et al., 2009). Outstanding customer experience benefits both the firm and the consumer (Gentile et al., 2007). From a management perspective, experience should aim to deliver value to the firm and the consumer by generating profits for the retailer while offering value and satisfaction to the consumer (Verhoef et al., 2009).

Defining Customer Experience

Customer experience may be misconstrued for a service, to provide clarity it is important to acknowledge the differences between products, services, and experiences (Johnston and Kong, 2011). Broadly speaking, a product is a commodity (i.e. a physical object), whereas a service is an activity or process (Johnston and Kong, 2011). Differing understandings of services exist, and there is a general lack of consensus over its definition, a full review would be beyond the scope of this thesis. However, a brief examination is provided to differentiate a service from an experience. From an operations management perspective, service is a process created by an organisation involving significant customer input (Brudney and England, 1983). Services are co-produced (produced collectively involving both the firm and the consumer) and tend to go beyond customer-staff contact (Normann, 2000; Brudney and England, 2000). Predominately, services are intangible with the inclusion of some tangible components (Gummesson, 1987; Bryan and Johnston, 1993). While there is no accepted definition of a service, the following description appears to have some degree of consensus among academics (Johnston and Kong, 2011). A service is a process involving a customer where the customer performs a proactive role in the process (Wild, 1977; Sampson, 2005; Sampson and Froehle, 2006). Although customer experience, like service, includes an activity or a process with intangible aspects; it is different as it is the individual's evaluation of the service process, their interactions and engagement during their journey with the firm and how it makes them feel (Ding et al., 2009, Csikszentmihalyi, 2000; Pullman and Gross, 2004). Therefore, the primary differentiating factor is that experience encompasses personal interpretation by the customer.

While it is essential to establish the difference between experience and service, a close examination of customer experience definitions is needed to comprehend customer experience adequately. Mainly as varying definitions of customer experience exist (see table 2). There are four different viewpoints of the term customer experience: (1) experience as a distinct economic offering (Pine and Gilmore, 1999); (2) experience as the aggregation of interactions with the firm (LaSalle and Briton, 2003); (3) as a compelling experience that which is produced when the customer is fully engaged in the activity with the firm (Gentile et al., 2007); and (4) experience as an outcome of an individual's observation of the activity (Schmitt, 1999). Within these definitions of customer experience there is a discussion of co-creation (Prahalad and Ramaswamy, 2012), touchpoints, i.e. any interaction between the firm and the

consumer (Richardson, 2010) and customer evaluation and subjectivity, as only the customer can observe their customer experience (Schmitt, 1999; Pine and Gilmore 1999).

Touchpoints form a significant part of customer experience (table 2); the following section deals with various definitions within literature that relate to touchpoints. Maklan and Klaus (2013) define customer experience as the perspective, and emotional evaluation of all direct and indirect touchpoints with the firm related to a purchase action. Their definition is relatively specific as they only consider the touchpoints associated to a purchase transaction, whereas La Salle and Briton (2003) take a more holistic approach considering all touchpoints and defining experience as the aggregation of all interactions with the firm. Similarly, Grewal et al. (2009) consider customer experience to comprise of every point of contact that the consumer interacts with the business, product or service. Eventually, all touchpoints with an organisation may or may not lead to purchase as a customer's response to these touchpoints impact purchase decision and return behaviour (Arnold and Reynolds 2009; Liu 2006). The exchanges or touchpoints that produce the experience may be direct or indirect. Direct exchanges commence during a purchase and are typically initiated by the consumer, whereas an indirect contact is a consequence of an unplanned encounter with the firm such as interactions with adverts, social media, representatives or word of mouth (Schwager and Meyer, 2007). Additional definitions that demonstrate the role of touchpoints within customer experience as given by other researchers are further explored; customer experience embodies each characteristic of the firm's offering, i.e. the customer support quality, advertising, packaging, ease of use and reliability (Schwager and Meyer, 2007). Whereas, Swinyard (1993) define experience as the 'service' perception during the customer's interactions with a sequence of touchpoints within the firm. The first definition is holistic but does not consider the customer element; Swinyard (1993) considers customer perception, which as examined earlier is a fundamental component of customer experience. While these customer experience definitions are holistic and consider various customer touchpoints, it is important to acknowledge that there may be an inclination to think primarily of customer support and its associated touchpoints when considering customer experience. Nonetheless, customer experience includes a wide range of touchpoints and must be considered from a comprehensive viewpoint, decisions across different departments in a firm sequentially impact the customer touchpoints and determine the overall customer experience (Maklan and Klaus, 2013; Schwager and Meyer, 2007). In summary, creating a great and

compelling experience entails the effective management of all customer touchpoints (Payne and Frow, 2005).

Customer perception is another vital component of customer experience (table 2); customer experience develops from a sequence of interactions between a consumer, product, brand or service that in succession generates a reaction by the consumer (Verhoef et al., 2009). Lemke (2011) conceptualised customer experience as a personal reaction to direct and indirect interactions with the firm, with the quality of an experience being defined as the customer's perceived excellence of their interaction with the firm. It is crucial to realise that customers seek an experience that is compelling, engaging and memorable (Pine and Gilmore, 1999). A compelling experience offers value to a consumer (Dhebar, 2013) and is intrinsically enjoyable (Novak and Hoffman, 2009). Creating a compelling experience benefits both the firm and the consumer (Poncin, Garnier, Ben Mimoun and Leclercq, 2017) and can be produced through emotional and functional clues in the 'process of customer-company interaction' across multiple channels (Maklan and Klaus, 2013). Firms that combine functional and emotional clues within their offering regularly gain a competitive advantage; Functional clues solve consumer problems or fulfil their goals, and emotional clues evoke an emotional response in the consumer (Berry, Wall and Carbone, 2006). The purchase transaction provides retailers with an opportunity to engage with the consumer emotionally (Carbone and Haeckel, 1994). Starbucks is one such example where customers are offered a compelling experience through functional and emotional clues; offering high-quality varieties of coffee, providing adequate space for respite and private conversation and using round tables, so a consumer sitting alone doesn't feel isolated (Berry et al., 2006). Notably, an experience is also subject to factors that retailers cannot directly control (peer influence, word of mouth) and factors that are within the control of retailers (price, product offering) (Verhoef et al., 2009).

Table 2 Key Definitions of Customer Experience

Author	Customer Experience Definition
<i>Schmitt (1999)</i>	involves the customer and is an outcome of an individual's observation or participation in an event which may be real or virtual.
<i>Maklan and Klaus (2013)</i>	the perspective and emotional evaluation of all direct and indirect touchpoints with the firm related to the purchase action.

<i>Schwager and Meyer (2007)</i>	embodies each characteristic of the firm's offering.
<i>Grewal et al. (2007)</i>	includes every point of contact that the consumer interacts with the business, product or service.
<i>Lemke (2011)</i>	as the personal reaction to direct and indirect interactions with the firm.
<i>LaSalle and Briton (2003)</i>	aggregation of interactions with the firm.
<i>Verhoef et al. (2009)</i>	develops from a sequence of exchanges between a consumer, product, brand or service which in succession generates a reaction by the consumer.

A similar approach that has received attention in the experience literature is the concept of flow. Csikszentmihalyi (1990) introduced the concept of optimum experience, known as flow, in the field of psychology, describing it as a state of effortless concentration. Flow refers to a psychological state of acute concentration and enjoyment on a limited stimulus field (Csikszentmihalyi, 1990). Therefore, flow itself is a cognitive state (Ding et al., 2009) and can be experienced during a wide range of activities such as sports, studying and while shopping (Novak et al., 2009). During an activity, customers experience mechanic, functional and humanic clues within the environment that formulate a cognitive state (Ding et al., 2009). Functional clues relate to the practical quality or functionality of the offering such as a radio working correctly; mechanic clues relate to the sensory presentation of a good or service, e.g. aesthetically pleasing presentation of aisles or the storefront; and humanic clues are related to the behaviour of the retailer, e.g. friendliness of staff (Berry et al., 2006). In 1997, Csikszentmihalyi expanded the definition of flow, describing it as a state that arises from an assortment of factors such as clear goals, feedback, challenges, matching skills, concentration, focus, control, loss of self-consciousness, the transformation of time and the autotelic nature (perceived as worth performing for oneself) of the activity. Flow is significant as it is known to impact customer satisfaction and future customer behaviours (Ding et al., 2009).

Flow offers a distinctive approach to consumer experience (Obadã, 2013) operationalising experience into specific, measurable variables, i.e. control, skill, telepresence, challenge and focused attention. Flow also provides a valuable insight into the enablers of a compelling experience (Obadã, 2013).

Flow research in the online context is particularly widespread (Ghani and Deshpande, 1994; Korzaan, 2003; Kourfrais, 2002; Webster, Trevino and Ryan, 1993). Applying the flow concept to online environments, Hoffman, Yung and Novak (2000) defined flow as a cognitive state occurring during the navigation process. The state is denoted by high degrees of skill and control, challenge, arousal and focused attention, which is improved by telepresence (i.e. when the user is acutely immersed in the virtual environment) (Hoffman and Novak, 2009). The state of flow is known to have a positive influence on a customer's intention to make an online purchase (Ding et al., 2009) and have a positive impact on attitude towards a retailer (Florshiem and Bridges 2007). Customers who achieve flow online are also more likely to return to websites and exhibit loyal behaviour (Ding et al., 2009). Flow in the online context, in particular, is discussed in more detail in the online customer experience section (2.3) of the literature review.

Upon examination of customer experience definitions, it can be concluded that customer experience is a complex construct, with multiple definitions (table 3). However, upon examination of various definitions, some similarities do emerge (table 3). Based on existing literature, we understand memorable customer experience to be the customer perception resultant from an interaction with company touchpoints (indirect and direct) that consequently leads to an inherently enjoyable state.

Table 3 Customer Experience Definition Characteristics

References	Definition Characteristics
Verhoef et al. 2009, Grewal et al. 2010, Maklan and Klaus, 2013, Schwager and Meyer (2007)	the interaction between the company's offering i.e. brand, products or service.
Lemke et al. (2011), Verhoef et al. 2009	the customer's feelings and emotions as a result of their interaction with the company.
Csikzentmihalyi (1990), Ding et al. (2009)	experience triggers enjoyment or happiness for the consumer.
Pine and Gilmore 1996, Novak et al. 2010	experience is strictly personal and observed by the individual.
LaSalle and Briton, 2003; Maklan and Klaus, 2010	experience generated from indirect and direct contacts with the organization.

Types of Customer Experience

In the mid-1990s researchers began to consider a two-dimensional approach to customer experience. Broadly, the dimensions were classified as hedonic and utilitarian ((Nambisan & Watt, 2011) or as 'extrinsic' and 'intrinsic' (Batra, Ahtola 1990), or 'goal oriented' and 'experiential' (Hoffman and Novak 1996). Each classification had significant similarities but employ different terminology, i.e. hedonic or experiential or extrinsic. Based on the nature of the motivation and goal of the consumer, the customer experience and satisfaction vary. Hedonic dimension is denoted by the enjoyment and excitement customers develop from being in contact with the firm's environment, the product or the brand. (Voss, Spangenberg and Grohmann 2003). Hedonic or experiential consumers do not focus on task completion during the shopping process; they derive enjoyment from the shopping process itself (Mathwick, Malhotra and Rigdon 2001). Hedonic experiences can be positive or negative; entertainment and excitement denote positive hedonic dimensions. However, when customers feel frustrated, angry, or bored, this is indicative of negative hedonic experience (Honeycutt, 2005). Utilitarian or goal-oriented dimension, on the other hand, refers to whether consumers found the atmosphere, the product and brand usage valuable. (Mathwick et al., 2001). Utilitarian motivation arises from shopping trips that are prompted by an errand or a chore and start from a task completion perspective (Honeycutt, 2005). In this situation, satisfaction is dependent on whether or not the task is completed (Babin, Hair, Black and Anderson, 1994; To et al. 2007).

Breaking down the concept further, Schmitt (1999) examined experience across five strategic experience elements that shape different types of customer experience: sensory, cognitive, creative, physical and relational experiences. Sensory experiences impact senses such as sight, touch, smell and taste (Gentile et al., 2007). Lush stores are one such example of a retailer providing sensory experiences by actively engaging customers to try their skincare products instore. The retailer also creates experiential demonstrations of its products instore to involve the consumer with their products. Emotional experiences generate consumer emotions in order to create a responsive relationship (Schmitt,1999). Customers undergo emotional experiences when engaging with brands that have a strong emotional link to them (Gentile et al., 2007). Kinder Surprise, for example, evokes an emotional link to childhood for some consumers due to the toys found in the product (Gentile et al., 2007). Physical or pragmatic experiences arise from the practical act of doing an activity (Schmitt,1999). Apple computers, for example, offer a pragmatic experience due to their distinct, aesthetically pleasing

and user-focused design (Gentile et al., 2007). Relational experiences involve the person due to his/her relationship with their own ideal self (an idealised version of yourself that is often the result of the influence of peers or society) (Schmitt, 1999). Examples of relational experiences include Harley Davidson motorcycle clubs where motorcyclists form bonds with other fellow motorcyclists. Cognitive experiences relate to moods and feelings, creating an affective relationship with the firm (Gentile et al., 2007). Examples of this may be Barbie reflecting an image of how a young woman should look. However, not all components are independent of one another, there are overlaps across products and types of experiences, which in itself raises attention to consider a holistic experience (Gentile et al., 2007).

Measuring and designing for customer experience

While there is an understanding of what constitutes customer experience, methodically engineering customer experience remains a challenge for firms (Pine and Gilmore, 1999; Voss 2008). Due to multi-channel retail formats; Verhoef et al. (2009) suggest previous customer experience in brick-and-mortar stores may impact the customer experience online. This is because past experiences influence customer outcomes such as satisfaction and loyalty (Ding et al., 2009, Voss 2008) and therefore likely to shape attitude towards the retailer and shape future experiences. Due to its impact on immediate and long-term business outcomes, such as satisfaction, loyalty, and word of mouth behaviour, customer experience is considered strategically importance to retailers. Hence, it is vital to measure customer experience adequately to ensure careful organisation of customer experience for a retailer. Previously experience was not measured on its own but studied as a remnant of customer satisfaction (Verhoef, 2007). In particular, measures such as SERVQUAL and Net Promoter Score (NPS) were initially used to evaluate customer experience (Maklan and Klaus, 2011). NPS can be used to evaluate the loyalty of consumers and customer satisfaction (Maklan and Klaus, 2011). Reichheld (1996) advocated it as the only measure needed to assess the success of a business from a customer standpoint.

On the other hand, SERVQUAL is a 22-item scale measure of service quality with dimensions including reliability, tangibility, empathy and responsiveness (Maklan and Klaus, 2011). However, both NPS and SERVQUAL do not adequately assess customer experience as it is based on the consumers' subjective assessment of the service process (Maklan and Klaus, 2011). SERVQUAL

cannot be considered an adequate measure of customer experience as: (1) it is too limited and does not measure customer experience holistically (Verhoef et al., 2009); (2) customer experience deals with high involvement on a personal and contextual level and dimensions of SERVQUAL are insufficient; (3) experience may occur during a direct or indirect encounter; (4) and finally SERVQUAL doesn't account for cognitive and emotional elements of customer experience (Maklan and Klaus, 2011). SERVQUAL has additionally been challenged with regards to the validity of its measurements (Maklan and Klaus, 2011).

Based on these four arguments, customer experience is different from service quality and hence warrants a separate scale (Maklan and Klaus, 2011). One such scale is given by Maklan and Klaus (2011), known as the customer experience scale (EXQ). EXQ includes four dimensions, product experience, outcomes focus, a piece of mind and moments of truth (Maklan and Klaus, 2011). These four EXQ dimensions, in turn, impact loyalty, customer satisfaction and word of mouth behaviour (Maklan and Klaus, 2011). Product experience is the consumer's perception of product variety and the ability to compare product offering (Maklan and Klaus, 2011). Outcome Focus is related to reducing the transaction cost incurred by the consumer to sufficiently find the superior product to fulfil their goals (Maklan and Klaus, 2011). Moments of truth is characterised by the importance of a firm's recovery and flexibility when faced with unforeseen circumstances (Maklan and Klaus, 2011). Lastly, peace of mind is related to the customer feeling at ease and in turn having confidence in the firm to fulfil their needs (Maklan and Klaus, 2011). EXQ can enable the successful identification of attributes of customer experience that may impact the business outcomes of a firm. However, a major limitation with Maklan and Klaus's (2011) model is that it was empirically tested with mortgage products and may not appropriately transfer across to other retail organisations, especially as this particular type of product is high risk and requires diligence on the part of the consumer.

Previously, research has concentrated on service design, and experience design research has been limited (Pullman and Gross, 2004). Nonetheless, the design of customer experience is an important aspect to consider. Johnston and Kong (2011) suggest an outside-in approach, looking at consumers and how their experience is shaped at each touchpoint. From this perspective, there are a variety of operative tools to facilitate the design and assessment of experience, such tools include servicescapes (Bitner, 1992), journey maps (Ivens 2007) and walk through audits (Fitzsimmons and Fitzsimmons,

1994). Journey maps are usually presented in the form of a flow chart that describes the experience of the customer as they interact with the company during the process of obtaining the product or service (Liedtka, 2011). A customer journey map is a strategic tool used to track and examine the experience of the customer and; to evaluate the quality of a process or a service (Mangiaracina, Brugnoli and Perego, 2009). David and Norton (2013) described customer journey maps as a strategic document wherein a full description of the significant moments in the client's stages of interaction with the company is presented, allowing businesses to maximise consumer and business metrics for success. Journey maps identify customer needs (Liedtka, 2011). Customer journey maps also empower companies to understand the experience from the customer's point of view (Liedtka, 2011). There are various applications of customer journey maps on the real-world experience. Journey maps are advantageous in assessing the direct encounters as they measure the involvement of customers at a granular level by assessing experience at each direct touchpoint. The limitations of journey maps are that they do not include the indirect encounters or indirect touchpoints.

Summary

In summary, customer experience can be understood from various conceptual interpretations due to its holistic nature; it is multifaceted and may be shaped from a wide variety of direct and indirect touchpoints. Customer experience is even more complex in the prevalent multi-channel environment, as customers may interact with the retailer across various platforms, i.e. online, catalogues and stores comprising of various touchpoints. Nonetheless, customer experience is very much personal; it is reliant on a person's interpretation of interactions with company touchpoints. These touchpoints are vital from an organisation perspective; decisions in one department may impact other touchpoints, thus impacting the overall customer experience. To summarise, customer experience is a customer's interpretation of their interaction with company touchpoints. A compelling experience is one that the customer interprets as inherently enjoyable.

This thesis examines online experience in retail. This is an interesting context from which to study experience due to the colossal shift in the economy, large customer numbers making purchases online and the unique challenges for retailers when designing for customer experience online. In the next section, customer experience, specifically in the context of the online retail environment is reviewed.

This is followed by a review of the antecedents of online customer experience, online customer experience frameworks, customer outcomes and website attributes.

2.3 Online Customer Experience

As discussed, there has been a notable shift in the economy from traditional to online retail. This shift has significantly increased the importance of online customer experience (Kawaf and Tagg, 2017), which is now considered a vital strategic objective of many organisations (Klaus, 2013). While customer experience online is considered significantly important, the knowledge base and research relating to online customer experience is limited and often disjointed (Anteblian, Filser, & Roederer, 2013; Bilgihan, Kandampully, & Zhang, 2016, Maklan and Klaus, 2013). There is a body of literature surrounding motivations to buy online (Mathwick et al., 2001, Tauber, 1972; To et al., 2007). However, much of the experience literature focuses on the antecedents of online customer experience and the outcomes of customer experience (Rose, Hair and Clark, 2012, Kawaf and Tagg, 2017), rather than the experience itself or its components (Kawaf and Tagg, 2017). Moreover, there is an apparent lack of an operational definition of online customer experience.

One of the favoured approaches to online customer experience includes flow also known as the state of optimum experience (Hofman and Novak, 1996; Skadberg and Kimmel, 2004). Flow offers one such holistic approach to online experience. However, not all authors favour flow. According to Kawaf and Tagg (2017), flow theory has its shortfalls, focusing on optimal experience it virtually ignores other experiences where a state of flow is not achieved. Yet, it offers a holistic approach and a benchmark to aim for when approaching online customer experience. As flow itself is only achieved when a customer is genuinely enjoying their interaction with the environment (Csikszentmihalyi, 1990), it can be argued that flow helps businesses identify the state of customer experience that is strategically important from a customer perspective. Flow has been shown to lead to desired customer outcomes, such as purchase intent, loyalty and satisfaction (Ding et al., 2009).

A significant proportion of research in online customer experience examines factors influencing the online shopping experience and consequences of online customer experience (figure 4). Understanding the consequences and antecedents of online shopping experience is beneficial in gaining an understanding of the components of a successful experience online. When discussing factors

influencing online experience it is essential to consider antecedents of online experience, Bilighan (2016) identified eight important antecedents of online customer experience: ease of access to the website, ease of use, perceived usefulness, hedonic and utilitarian features of the website, perceived enjoyment, personalization, social interaction and compatibility across different devices. From these, ease of use and perceived usefulness are constructs used within the popular Technology Acceptance Model (TAM), which is considered beneficial in measuring customer responses to a website (Ha & Stoel, 2009). Additionally, Rose et al. (2017) identified information processing, ease of use, perceived control, skill, trust, perceived risk and enjoyment as antecedents of online customer experience. Their antecedents include TAM constructs alongside constructs of flow.

With regards to flow, researchers argue that customer skill enables control, which leads to flow (Ding et al., 2009, Hoffman, Novak and Yung, 2007). Therefore, if an experience is considered from a flow perspective, skill and control should be considered as components of online experience and not antecedents. It is also important to note that TAM does not explicitly measure customer experience (Kawaf and Tagg, 2017). The technology acceptance model is related to online technology, and as such is not specific to customer experience, TAM measures how users will come to accept and adopt new technologies (Bagozzi, Davis and Warshaw 1992). In addition to the factors mentioned above, there are macro factors that influence online experiences such as price, promotion and economic climate (Grewal et al., 2009). It can be argued that some of the proposed antecedents of online customer experience mentioned above are not accurate antecedents, some are dependent on website features (touchpoints) which are more likely to impact the experience the customer has with an online retailer. In literature (figure 4), there are an array of factors that impact online customer experience, which lead to specific outcomes online. Consequences of a good customer experience include satisfaction, purchase intent, loyalty and word of mouth behaviour (Rose, Clark, Samouel and Hair, 2012, Ding et al., 2009)



Figure 4 An Overview of Online Customer Experience Literature

2.3.1 Antecedents of Online Customer Experience

Specifically, within literature there are five important factors that impact online customer experience i.e. perceived risk, trust, brand significance, customer motivation and macro influencers. Gaining an insight into these antecedents enables a better understanding of customer experience in the online context.

2.3.1.1 Perceived Risk

Perceived risk is a problem frequently affecting online retailers, since buying decisions online are associated with a certain degree of doubt (Cunningham, Gerlach, Harper and Young, 2005). Online shopping differs in comparison to shopping in brick-and-mortar stores; customers are unable to physically examine goods which leads to increased risk in the decision to buy (Cunningham et al., 2005). Online shopping is fundamentally a self-service technology that offers the ease of twenty-four-hour availability (Bitner, 2001). Due to the element of self-service, buying online creates uncertainty related to the purchase transaction with some types of perceived risk being especially higher in the online environment. Perceived risk in the context of online environments is defined as the nature and amount of uncertainty perceived by a customer during a purchase decision (Park and Stoel, 2005). To eliminate or minimise perceived risk, trust is deemed essential. Trust is considered to be a counteractant to perceived risk (Forsythe and Shi, 2003) and is discussed in more detail in the next section. Trust in a retailer is formed when the customer perceives minimal uncertainty associated with buying online (Yoon, 2002). Trust is known to lead to favourable purchase intention, loyalty and

satisfaction (Yoon, 2002) as doubt related to perceived risk is eliminated when the customer trusts the retailer. Hence understanding perceived risk and procedures to minimise perceived risk are crucial in increasing favourable business outcomes.

Types of Perceived Risk

Previous research has identified four types of perceived risk associated explicitly with online shopping: financial risk, product performance risk, psychological risk and time/convenience risk (Forsythe and Shi, 2003).

Financial risk is the concern the customer may fraudulently lose money during an online transaction (Forsythe and Shi, 2003). This includes worry that their credit card information may be misused (Forsythe and Shi, 2003). One of the significant barriers to online shopping is that customers are unwilling to give out their credit card details due to the belief that it is easy to have credit card details stolen (Maignan and Lukas, 1997).

Product performance risk is related to the perception that goods bought online will not perform as well as expected (Forsythe and Shi, 2003). Customers may be apprehensive as they are unable to touch, feel or try on their product ahead of making a purchase (Forsythe and Shi, 2003). Inaccurate information or lack of judgement on the colour of products may further augment product performance risk (Forsythe and Shi, 2003).

A psychological risk is perceived when customers fear their personal information may be disclosed online and as a result have to face humiliation (Forsythe and Shi, 2003). There are significant privacy concerns online; lack of control over who may be able to view or access personal information enhance the psychological perceived risk (Forsythe and Shi, 2003). Privacy concerns tend to affect a customer's intention to make a purchase adversely. Notably, privacy concerns are known to increase with internet use (Liao, Liu and Chen, 2011), acting as a barrier to online purchasing (Hoffman and Novak, 1999). Privacy online encompasses various aspects such as the inability to control how the retailer uses their personal information, spam emails generated by the retailer or third parties and disclosure of customers online shopping habits (Liao et al., 2011). In online retail, personal information is often used to gain a

competitive advantage, but consumers may see this as an invasion of privacy especially when tactics such as remarketing are used to lure customers back to the retail website (Liao et al. 2011).

Lastly, time/convenience risk is the time associated with online shopping and is a consequence of complex web pages that deter consumers from making a purchase (Forsythe and Shi, 2003). This type of risk also encompasses the delay in receiving the good or the inconvenience associated with the delivery of goods (Forsythe and Shi, 2003).

Previous studies established financial and product performance risk to be of greatest significance in the context of online shopping (Babin, Darden and Griffin, 1994; Chen and Dubinsky, 2003; Close and Kukar-Kinney, 2010). Perceived risk reduces the customer's willingness to purchase online but, the type of product being purchased further impacts the risk perceived by a customer (Jones and Kim, 2010). Products can be classified into high involvement and low involvement products; high involvement products encompass fashion, automobiles and furniture while low involvement products may include groceries (Jones and Kim, 2010). Low involvement products are considered to be low risk by customers, while high involvement goods are perceived as high risk (Jones and Kim, 2010). When customers consider online buying to be a high perceived risk, it is difficult for retailers to create trust and satisfaction in the website (Martin and Camarero, 2008). Thus, perceived risk plays a crucial role in understanding customer behaviour and provides insight into the consumer's buying decision process (Martin and Camarero, 2008).

In summary, shopping online is perceived a risk by consumers for three main reasons: One of the main reasons being the inability to accurately judge products online due to an inability to physically examine or try on products (Park and Stoel 2005) thus leading to product performance risk. Secondly, unfamiliarity with the retailer's website interface may facilitate perceived risk (Park and Stoel 2005). Finally, consumers perceive uncertainties with shopping from home due to concerns relating to returning products, credit card security, merchant legitimacy and privacy concerns (Park and Stoel 2005) all which lead to time/convenience risk and psychological risk.

Given that the internet is fundamentally recognised as an information search tool; information can assist the alleviation of perceived risk associated with online shopping (Cunningham et al., 2005). The

role of information in the elimination of doubt, that occurs due to perceived risk is explained in detail below.

Information and Perceived Risk

Perceived risk itself is likely to be more prevalent in customers who seldom shop online (Forsythe and Shi, 2003). Information plays a crucial role in alleviating or lowering perceived risk. For example, online apparel shopping is increasingly popular, yet customers often perceive specific risks associated with purchasing apparel online (Park and Stoel 2005). Sensory information is deemed crucial for online apparel shopping; thus, the lack of sensory information related to fabric, fit, quality and colour of apparel can create uncertainty related to the product (Park and Stoel 2005). This is because visual examination to check fit, materials and colour play a significant role in apparel purchases (Cox and Rick, 1964). In the absence of comprehensive product information, it is difficult for the consumer to accurately judge the product and hence purchase the product (Park and Stoel, 2005). Perceived risk may further ensue when the customer perceives the information provided by the retailer to be not explicit enough to make a judgement about the product (Park and Stoel, 2005). The lack of information, therefore, impacts the perceived risk associated and the consumer's decision to purchase online (Ernest and Young, 2001). One way for retailers to reduce perceived risk is through the provision of associated product information.

As discussed, perceived risk causes uncertainty related to buying online which may influence customer experience as a result. Notably, perceived risk is most likely to be present in customers who only occasionally shop online. Nonetheless, it is crucial for retailers to eliminate associated perceived risk. Two factors, trust and brand loyalty that aid the reduction or alleviation of perceived risk are discussed in the next section of the literature review.

2.3.1.2 Customer Perceptions: Trust and Brand Trust

From a customer perspective, trust in a brand is deemed crucial when obtaining a product or service (Ha and Perks, 2005) as many customers feel anxious or uncertain while making a purchase online (Hong and Cha, 2013). Brand trust is often an outcome of good customer experience in the past and is considered a contributing factor in the increase of brand familiarity, satisfaction and trust (Ha and

Perks, 2005, Liao et al., 2010, Eisenbeiss and Bleier, 2015). Correspondingly, trust can assist retailers in gaining a competitive advantage in the online environment (Choi, Sohn and Lee, 2010). The shift from brick-and-mortar stores to the online environment has led customers to be apprehensive about specific matters such as information privacy, fraud online, failure in the delivery of goods and variation in products shown online (Hong and Cha, 2013). This lack of trust is often an outcome of perceived risk. There is a certain degree of unpredictability online that induces perceived risk, reducing trust in an online retailer (Hong and Cha, 2013). As discussed in the previous section, there are four types of perceived risks mainly associated with online shopping. However, Hong and Cha (2013) believe that customers perceive risk online primarily due to uncertainty related to whether or not their online order will fulfil their objectives or goals. Perceived risk as discussed previously arises due to two elements; uncertainty associated with the online buying and the personal consequences associated with the online purchase (Park and Stoel, 2005; Chang, and Tseng, 2013). Grewal et al. (1998) emphasised perceived risk as an essential factor in purchase decisions of consumers, as customers who perceive a high risk are less likely to convert online (Taylor, 1974). Hence, trust is crucial in online retail since trust has been deemed a solution to perceived risk (Hong and Cha, 2013). Trust is considered even more important in the context of online retail as the human factor is absent (Hong and Cha, 2013). Trust itself is a multifaceted dimension and has various antecedents, stages and categories all of which are discussed below.

Trust is considered a significant variable in the success of a retailer (Eisenbeiss and Bleier, 2015). Morgan and Hunt (1984) defined trust as the perception that the other party will act advantageously. Thus, trust plays a pivotal role in the elimination of anxiety and worry related to making a purchase online, especially when a customer may be purchasing from an unknown website. To induce trust, online retailers have deployed various strategies, such as reviews to help eliminate perceived risk; also known as trust assurances (Li, Jiang and Wu, 2014). Li et al. (2014) researched trust assurances and their role in increasing confidence in a retailer online. They classified assurances into two types, general trust assurances provided by a third party and specific trust assurances provided by the retailer (Li et al., 2014). External parties usually provide general assurances and offer peace of mind to the customer, such as Verisign, Norton Security. While specific trust assurances include all the factors, a retailer can control internally such as warranty and returns policy to delivery guarantees (Li et al.,

2014). Notably, certain products do not often qualify for returns, such as swimwear, and these goods may be associated with a higher risk online.

Nonetheless, generally, retailers who display trust assurances are perceived as being more trustworthy by consumers (Li et al., 2014). However, trust cannot be generated via trust assurances alone. Trust is often a two-dimensional stage. During the first stage, customers tend to have a cursory look around the website, searching for cues on the website to determine the trustworthiness of the retailer (Li et al., 2014). The layout of the website may seem familiar to the consumer, which assist the establishment of trust in stage one. In the second stage, the customer evaluates specific trust related issues such as returns related information and product information to help establish the genuineness of the retailer (Li et al., 2014).

However, trust in the brand is not developed through trust assurances alone. Brand experience, brand trust and satisfaction all play a role in the generation of overall trust (Ha and Perks, 2005). Brand experience, in general, is gained from a degree of exposure to the brand (Braunsberger and Munch, 1998) and is the association the person has with a brand (Alba and Hutchinson, 1987). Brand experience is significant in generating customer trust as the brand's credibility is often previously established (Ha and Perks, 2005). While brand familiarity and brand experience are often used interchangeably despite their diverse nature (Ha and Perks, 2005). Brand familiarity is derived from the amount of brand associated experiences a consumer has undergone (Alba and Hutchinson, 1987). Brand familiarity is crucial as it leads to a reduction in the amount of information search undertaken by a customer (Ha and Perks, 2005). On the other hand, brand trust is the perceived reliability of a brand to fulfil a consumer's needs and is influenced by brand familiarity and experience (Ha and Perks, 2005). In their study, Ha and Perks (2005) found that positive brand experiences lead to brand familiarity; satisfaction with the brand is likely to result in future purchasing outcomes; brand experiences significantly affect trust and brand familiarity significantly affected satisfaction.

Trust is further increased through a feeling of control over the navigation of the online shopping process (Liao et al., 2011). Trust in a retailer can develop before purchase or after purchase in the e-commerce environment and increases over the number of orders, or interactions, with the retailer (Choi et al., 2010). Thus, trust can additionally be divided into cue-based trust and experience-based trust

(Choi et al., 2010). Cue-based trust is generated from a wide variety of factors such as privacy policy, the actual website design, and privacy seals. (Choi et al., 2010). Cues provided by the retailer form the basis for initial trust before the customer has made a purchase (Choi et al., 2010). Further, customers build bonds through repeated transactions with a retailer; thus, experience-based trust is an outcome of previous positive experience with the retailer (Choi et al., 2010). In summary, cue-based trust leads to purchase intention. However, repeated enjoyable shopping episodes with a retailer leads to experience-based trust, which in turn improves customer satisfaction (Choi et al., 2010).

A retailer's offline presence further influences customer perceptions of an online retailer. In order to be successful, it is essential to approach offline and online channels as one consistent and systematic establishment (Jones and Kim, 2010). For example, many retailers now allow customers to pick up orders made online in-store and return goods bought online to an actual store (Jones and Kim, 2010). By implementing a multi-channel strategy, retailers can better recognise the customer-brand relationships across channels and better understand how trust in the brand in a traditional setting may be transferred to the online environment (Jones and Kim, 2010).

When customers trust in the brand, they are likely to be loyal towards that brand (Jones and Kim, 2010). Brand reputation, i.e. the opinion of peers that the brand is reliable and trustworthy, additionally influences brand trust (Jones and Kim, 2010). Over time, a consumer perceives a level of brand predictability, i.e. the customer can explicitly contemplate the service they are likely to receive and assess the quality of products (Lau and Lee, 1999). A consumer's previous experience with the brand determines their brand predictability, as their expectation is based on past experiences (Jones and Kim, 2010). Brand predictability can thus correspondingly impact loyalty of customers. The reputation of the brand also influences the image of the brand, as trust and confidence in the brand are influenced by its reputation (Sharma et al., 2019). Brand reputation can also influence e-WOM, in the online environment consumers also learn about new products through e-WOM. E-WOM is used to define the process of learning about a new product or service through the online community such as e-referrals brand community, message boards, and influencers (Sharma, Bajpai, Kulshreshtha, Tripathi & Dubey, 2019).

Moreover, previous studies have established that consumers enjoy their online shopping activity if they are presented an engaging and interactive website (Park and Stoel, 2005). An engaging website is likely to make consumers stay longer on the website and revisit. Additionally, websites are also expected to be fast, useful, easy to navigate and adequately allow customers to search for required information (Park and Stoel, 2005). Aesthetics is another critical factor as it aids increase in customer satisfaction (Kim, Xu and Gupta, 2007). If consumers perceive the website to be aesthetically pleasing, they are more likely to trust the website and therefore more inclined to purchase from the website (Park and Stoel, 2005).

Other factors that can affect the customer perception of trust include dynamic pricing. Revolutionary mechanisms that allow retailers to implement dynamic pricing, which is the selling and buying of goods at variable prices that adjust based on demand and supply (Garbarino and Lee, 2003). Dynamic pricing may include bidding auctions or making offers; popularly adopted by eBay (Garbarino and Lee, 2003). However, dynamic pricing is perceived as unfavourable with regards to trust, but the effect is shown to be neither major nor significant (Garbarino and Lee, 2003). More broadly, the price is a crucial factor in the purchase decision of a customer (Kim et al., 2012). Perceived fairness of price and trust can both impact customer outcomes online (Kim et al., 2012). Often customers compare price between two vendors online. In their study, Kim et al. (2012) found that customers valued trust while making an online purchase, while price did not significantly affect their purchase intention. Therefore, it is essential to consider trust in online retail as an essential factor while trading in the online environment.

A lack of trust in an online vendor is primarily an outcome of risk or uncertainty associated with shopping online. Online retail has significant difficulty with customers not being able to examine or try on products online physically. Trust can mitigate this challenge, reducing the risk associated with making a purchase online. Today retailers can use increase trust through social media, consistent service delivery and an excellent website that are both aesthetically pleasing and functional; all of which help in increasing brand trust, brand familiarity and brand reputation. Trust in a retailer is therefore likely to influence the online shopping experience.

2.3.1.3 Significance of Brand

Brand and a customer's experience of it is considered critical to the purchasing decision; this is especially true in the context of luxury products (Sinha, 2015). A well-established brand is likely to perform well online due to its ability to reduce perceived uncertainty (Sinha, 2015). As discussed, brand trust is considered an influencer of customer outcomes and is built on brand reputation and predictability (Jones and Kim, 2010). Brand reputation is the perception of others that a brand is reliable and trustworthy (Jones and Kim, 2010). Whereas, brand predictability is the expectation that the product or services provided by a brand will accurately and repeatedly fulfil customer needs and goals (Jones and Kim, 2010). A brand plays a significant role in customer experience as past experiences of a customer shape brand expectations (Jones and Kim, 2010). Moreover, offline trust in a brand is likely to transfer to online and other retail channels; offline patronage can further have a significant impact on customers' online purchase intentions and loyalty towards the retailer (Jones and Kim, 2010). Further, a well-organised online and offline channel by the brand may enhance the overall shopping experience of a customer (Verhoef et al., 2009).

Customers may view or try on products in store and later decide to order them online. While price is considered an essential determinant of online purchase intent; other non-price related factors play a crucial role in the purchase of goods online (Sääksjärvi and Samiee, 2007). The brand offering, familiarity, prior experiences and brand characters may all influence a customer's online purchase decisions (Sääksjärvi and Samiee, 2007). The brand offering that is the selection of goods available online can impact purchase decisions online (Sääksjärvi and Samiee, 2007). However, during an instance of unavailability of products, customers are more willing to switch to another brand with a better product offering (Sääksjärvi and Samiee, 2007).

Furthermore, the brand character also plays a role in customer intentions. The brand character is the look or the feel of the brand (Sääksjärvi and Samiee, 2007). The character of a brand is usually captured through images and graphics used by the brand (Sääksjärvi and Samiee, 2007). Some brands are considered good, clean, hip, etc. A brand character that is perceived favourably leads to positive associations with the brand (Sääksjärvi and Samiee, 2007). Brand characters are very much based on an individual's perception, but brand familiarity is founded on a customer's previous experience with

the brand. Brand familiarity is assumed to have a positive effect on customer outcomes as consumers are likely to purchase from brands that are familiar to them as they are expected to deliver reliable and quality products and services (Sääksjärvi and Samiee, 2007). Ha and Perks (2005) defined brand familiarity as the favourable customer recognition of the brand based on a previous experience with the retailer's website.

Other external factors such as news, blogs and forums can impact customer's brand evaluation. Positive brand evaluation can positively impact brand preference on the internet. Additionally, brand equity is also considered important in gaining a competitive advantage online (Christodoulides, De Chernatony, Furrer, Shiu & Abimbola, 2006) Brand equity encompasses an array of dimensions ranging from the value of the brand to the significance of its trademark (Christodoulides et al., 2006). Previous experience with the brand can have more of an influence compared to product attributes (Ha and Perks, 2005). Brand experience in the online context is defined as a positive encounter with a customer while browsing a brand's website (Ha and Perks, 2005). A good website is thus associated with positive brand experience in the world of e-commerce (Ha and Perks, 2005). Positive brand experiences lead to brand trust, i.e. confidence in the brand to be able to adequately fulfil customers' needs and goals (Ha and Perks, 2005).

Ward and Lee (2000) further examined whether customers exploited brand websites as a source of information online; as consumers are naturally suspicious of goods purchased via the internet and therefore rely on trusted brands. Branding is often used to assure customers of the quality of the products they are purchasing (Ward and Lee, 2000). Browsing and searching for information online can be a challenging task. As a consequence, customers may rely on trusted brand names to reduce uncertainty and save searching time/cost (Ward and Lee, 2000). Customers brand association are rooted in the information provided by the brand online (Davis, Buchanan-Oliver and Brodie, 2000). Branding is deemed essential online as previous positive experience and familiarity with a brand increases the customer trust in the brand.

Thus, it can be concluded that trust is crucial in online retail due to the uncertainty associated with online buying and hence can afford a competitive position online. It is also important to acknowledge that trust is multifaceted and is an outcome of numerous factors.

2.3.1.4 Motivations to Shop Online:

Understanding consumer motivations to shop online is essential when seeking to gain accurate insight into online customer experience (Shang et al., 2005), this understanding can enable the generation of great online experiences. Tauber (1972) was one of first to investigate motivations to buy online. According to Tauber (1972), people shop not only for the utilitarian value (i.e. merely to obtain the product) but also to receive gratification from the purchasing process itself. Online shopping is different from shopping at brick-and-mortar stores; online shopping is assumed to be comparatively less fun (Shang et al., 2005) and is therefore assumed to be more suitable for the utilitarian consumer who is interested predominantly in the procurement of the goods. Broadly, there are two types of motivations to shop online: hedonic and utilitarian motivation (To et al., 2007, Florsheim and Bridges 2008, Shang et al., 2005). Utilitarian customers focus on obtaining the product only, a goal driven motivation (To et al. 2007). Utilitarian consumers seek only to fulfil their needs through the process of shopping (To et al., 2007). Previous research had assumed that customers shop online fundamentally due to utilitarian motivation (Shang et al., 2005). Whereas, hedonic consumers love to shop, and they derive enjoyment from the shopping process (To et al., 2007). Hence, hedonic customers seek emotional stimulation in the online environment (To et al., 2007). Shopping is carried out as a ‘fun’ activity by these consumers. Hedonic consumers take up shopping as part of a search for happiness, fantasy and enjoyment (To et al., 2007).

The characteristics that motivate utilitarian consumers to shop online are selection, information availability, cost saving, customisation and lack of sociability (To et al., 2007). Utilitarian customers find online shopping useful and convenient due to its twenty-four seven availability (To et al., 2007). Online shopping also has a broader variety of products in comparison to shopping at physical stores as there aren't any space restrictions which motivates the utilitarian consumer to shop online (To et al., 2007). Moreover, online shopping allows consumers to customise their products, delivery, packaging, which is regarded as an essential advantage for the utilitarian consumer (To et al., 2007).

While hedonic consumers are motivated to shop online due to its following characteristics - adventure, idea, value, authority and status (To et al., 2007). Hedonic customers wish to encounter the joy of exploration and enjoyment of the shopping process (To et al., 2007). They derive satisfaction from

finding something novel and exciting (To et al., 2007). Hedonic customers enjoy the social aspect and often like to participate in online communities who share the same interest (To et al., 2007).

There are varying opinions pertaining to motivations to shop online. Ghosh (1998) believes convenience, customization, interactivity and information provision are the primary causes for customers to shop online. Whereas, Marganosky and Cube (2008) believe that main motivations to buy online are convenience and time efficiency. While, Falk (1997) believes customers shop online primarily due to the liberty to search. Many consumers visit online stores to gather product information and make purchases, as online shopping allows users to search for products and gather information easily (To et al., 2007). The intention to search online can be similarly categorised into two: goal oriented and exploration-oriented search behaviour (Jamiszewski 1998). Goal-oriented shoppers have a plan in mind or a list before shopping, what they are looking for and what products they wish to buy (To et al., 2007). Experience-oriented consumers do not have an idea per se in mind, their purpose is to search or browse with or without a specific purpose as they derive enjoyment from the shopping process (To et al., 2007).

Utilitarian and hedonic motivations to shop online prompt users to search for products online and influence their purchase intention. However, utilitarian motivation is a more powerful motivator to search online and directly affects purchase intention (To et al., 2007). However, the practical attributes associated with online shopping are not the only motivation to buy online, customers also search for hedonic value (Pine and Gilmore, 1999)

2.3.1.5 Macro Influencers

Besides the motivations, there are a wide variety of factors that impact online shopping experience. According to Grewal et al. (2009), there is a broad range of factors that affect the customer experience. Some of these are factors the firm can control, and others are factors that the firm cannot control. The global economic recession is one of the most significant macro factors that has affected retailers in recent times (Grewal et al., 2009) which has led to lower spending online. Other macro factors include interest rates, employment, inflation and a decline in stock markets (Grewal et al., 2009). The global economic recession caused consumers to be more cautious with their shopping and become more value oriented (Grewal et al., 2009). This has also increased the popularity of low price and quality

alternatives to national brands. Retailers have noticed the change in consumer behaviour and taken to co-branding (e.g. Versace for H&M) or providing private labels (e.g. Tesco Finest) (Grewal et al., 2009). Cobranding has allowed retailers to generate excitement around their offering and, drive customers to their stores (Grewal et al., 2009).

To achieve retail success, it is essential that the firms understand their customers. As discussed previously, experiences are not only resultant from factors that retailers can control but also from factors out of the retailer's control; such as the influence of peers (social media, bloggers) and the objective of shopping (shopping for an occasion) (Verhoef et al., 2009). Customer goals additionally play a vital role in their perception of the retail environment (Verhoef et al., 2009). Consumers who are looking to save money tend to make a strong association with warehouse stores where they can buy discounted items (Grewal et al. 2009). Retailers can devise strategies through signage that allow consumers to make the quick association with the brand (Verhoef et al., 2009). Furthermore, promotions lead to brand switching by 30-45%. (Grewal et al., 2009). Previous research has established that there is an immediate increase in sales of promoted goods (Shankar, Smith and Rangaswamy, 2003).

Pricing is another factor which retailers can control, and it has an impact on customer experience (Grewal et al., 2009). Customer's use the price of a product to judge value and quality, a good that is priced too high may be perceived as poor value and at the same time if a good is priced too low it is perceived as poor quality (Grewal et al., 2009). However, each customer is different; one customer's perception of a high price may be different to another consumer's perception of a great price (Grewal et al. 2009). Many retailers adopt everyday low pricing or high-low pricing, the pricing strategies that retailers use impact their sales (Grewal et al., 2009). Everyday low pricing strategy offers the consumer their lowest prices every day; encouraging the consumer to not wait for sale periods (Grewal et al. 2009). While high- low prices are used by high-end chains; creating aspiration around their offering (Grewal et al., 2009). Retailers who use high-low pricing also tend to have limited stock. Further as discussed in section 2.3.1.2 of the thesis, retailers that use dynamic pricing are perceived as unfavourable from a trust standpoint. Another influencer is discount outlets such as The Outnet which carry luxury items which impacts mainstream retail stores (Kopalle et al., 2009).

It is essential to consider and comprehend antecedents as they form a vital part of literature related to online customer experience. Within this thesis, antecedents are explored as they are likely to impact customer outcomes and the online experience, but these have been widely explored within literature previously. In the following section, specifically online customer experience is explored alongside its frameworks to help understand actual customer experience better.

2.3.2 Online Customer Experience: Frameworks

Fast growth in online retail has evoked interest in understanding compelling online experiences (Obada, 2013) and as a result, online retailers are increasingly focusing on the provision of a compelling experience for their customers (Pine and Gilmore, 2007). The online experience is essential as it contributes to word of mouth behaviour, which is a driver of traffic to the website (Bezo, 1999). The flow construct has rapidly become significant from the perspective of understanding compelling experiences on the web (Novak et al., 2000). Flow offers an operational definition of a compelling online experience given there is a lack of understanding related to the formulation of a compelling experience in the online context (Hoffman, Novak and Yung, 2000). Though some authors (Kawaf and Tagg, 2017) may argue that flow is not comprehensive in the online context, flow theory has successful applications across different sectors, i.e. sports, work, brick-and-mortar stores (Ding et al., 2009) offering validation as it has been successfully applied in the online financial sector.

Further, flow is deemed crucial as most marketers believe that customers will make more online purchases if they achieve a state of flow online (Florshiem and Bridges 2007) and correspondingly impact satisfaction and future customer behaviours (Ding et al., 2009). Moreover, creating a compelling online experience is critical to the creation of a competitive advantage online. Due to flow's impact on favourable outcomes, i.e. purchase intent and loyalty it is considered a desirable consequence of online shopping (Obada, 2013). There has already been extensive research of the flow construct in the online context and its impact on customer outcomes (Ding et al., 2009) (Novak, Hoffman and Duhachek 2003).

Flow has received significant interest in recent times, and there are numerous interrelated definitions of flow with few changes or modifications (Obada, 2013; Novak et al., 2000) much of these are rooted in Csikszentmihalyi's research on flow (1977, 1988, 1989, 1990, 1997). Csikszentmihalyi (1977)

pioneered flow and was first to coin the term; describing it as a state of effortless involvement. Characteristics of this state of flow include (1) clear and distinct goals, (2) temporary loss of self-consciousness, (3) distorted sense of time, (4) actions merging with awareness, (5) concentration on the activity, (6) high degrees of control, (7) balance between skill and challenge and (8) autotelic (perceived as worth pursuing) experience (Csikszentmihalyi, 1977). It is a cognitive state experienced when an individual is intensely involved in an enjoyable activity (Pace, 2004). Hoffman and Novak (1996) applied the traditional flow model given by Csikszentmihalyi (1990) and adapted it to suit online experiences. Due to the interactive nature of the web, flow can be experienced during the navigation process (Obada, 2013). In the context of online navigation, flow occurs during navigation and is (1) characterised by a seamless sequence of responses, (2) intrinsically enjoyable, (3) accompanied by a loss of self-consciousness and (4) self-reinforcing (Hoffman and Novak, 1996). Further, they conceptualise flow as a cognitive state experienced during the navigation process which is denoted by high degrees of skill and control, elevated levels of challenge and arousal, focused attention and is improved by interactivity and telepresence (Hoffman and Novak, 1996). An individual experiences flow when challenge and skill go beyond the individual's daily ability (Sivakumar and Smith 2004). The loss of time, effortless action and the actual experience is exceptional in comparison to other daily events (Obada, 2013).

Similarly, Shang et al. (2005) defined flow as a psychological state in which an individual feels cognitively efficient, motivated and delighted. Flow is intrinsically enjoyable and completely involves a person (Hoffman, Novak and Yung 2000, Ding et al., 2009). Ding et al. (2009) describe flow as a state that was resultant from "significant cognitive involvement." Customers who attain flow are so engaged in the navigation process that there is little room for thoughts not related to the navigation process, and the user focuses solely on the interaction with the web (Hoffman, Novak and Yung 2000). Concentration on the activity of navigating the website is so acute that there is little room to accommodate other thoughts, and events happening in the physical environment often lose significance (Hoffman, Novak and Yung 2000). Obada (2013) consider flow to be a hedonistic construct. Arguably flow is also utilitarian as definitions of flow encompass clear goals which is the foundation of utilitarian motivation as discussed above in section 2.3.1.4 on motivations to shop online.

2.3.2.1 Flow Models

Flow has evolved considerably in the last two decades. In the online context, three similar models of flow exist in the literature. These have formed the foundation of many studies involving flow. These three models are discussed in more detail below:

2.3.2.1.1 Four Channel Flow Model

In the original model given by Csikszentmihalyi (1977), two factors determine flow i.e. skills and challenge. Skill is defined as the ability to perform a task while challenge is the effort required to perform a task (Csikszentmihalyi, 1977). Based on the level of skill and challenge, a given task may have four outcomes namely anxiety, boredom, apathy or flow (Csikszentmihalyi, 1977).

- When challenge is higher than skill it causes anxiety.
- When challenge is lower than skill, boredom occurs.
- When skill and challenge are both low it causes apathy.
- Flow occurs when a task is challenging enough to balance the skill, the challenge is enough, so the individual isn't bored but not so high that the person feels anxious (Csikszentmihalyi, 1977).

2.3.2.1.2 Flow in Human-Computer Interaction

Obada, 2013 consider this to be a transition model that distinguishes flow from the offline setting to the online setting. Ghani and Deshpande (1994) studied flow in the context of computer use in the workplace. The model developed considered the antecedents of flow to be fitness of task (balance between skill and challenge), perceived control and playfulness (cognitive spontaneity) (Ghani and Deshpande, 1994). Flow itself is measured through the enjoyment and concentration constructs (Ghani and Deshpande, 1994). The consequences of flow as a result were focus, learning and increased creativity (Ghani and Deshpande, 1994). Flow is achieved when the user feels in control as skills and challenge harmonise one another (Ghani and Deshpande, 1994). When skills outdo the level of challenge, it results in boredom, negatively influencing flow. An individual's skill leads to control, thus indirectly leading to flow (Obada, 2013).

2.3.2.1.3 *Flow in Online Environments*

Hoffman and Novak (1996) pioneered flow, particularly in the online environments. Hoffman and Novak's flow study is based on extensive past research by Csikszentmihalyi (1977, 88, 89, 90, 97) and other studies on flow (Webster, Trevino and Ryan 1993, Ghani & Deshpande 1994). Before the introduction of flow, the knowledge base surrounding compelling online experience and its creation were deficient (Dholakia and Bagozzi, 1999). Hoffman and Novak (1996) provide an operational definition for flow in an online environment that has both theoretical and practical applications. Additionally, they develop a general model which is specifically applicable in the context of online environments, focusing on navigation on the website. Hoffman and Novak in 1996 established a conceptual model which they empirically test alongside Yung in 2000. In their studies, flow is defined as a cognitive state that is experienced during navigation and is determined by (a) high levels of skill and control, (b) high levels of arousal and challenge, (c) focused attention and (d) enhanced by interactivity and telepresence (Hoffman, Novak and Yung, 2000). This definition is rooted in Csikszentmihalyi's (1977) work which states that optimal experiences are naturally enjoyable, as flow entails complete involvement and all else other than the activity becomes irrelevant resultant from flow. As discussed previously, Hoffman and Novak conceptualisation of flow is founded Csikszentmihalyi's (1997) later work on flow. Flow was an outcome resultant from eight factors (a) clear goal, (b) feedback, (c) challenge balances skills, (d) control, (e) loss of self-consciousness, (f) concentration and focus, (g) transformation of time and (h) the activity becomes autotelic (Csikszentmihalyi, 1997).

Particularly in the online context, consumers who achieve a state of flow exhibit the following characteristics (Hoffman, Novak and Yung, 2000): (1) the user is so intensely involved that thoughts not related to navigation become irrelevant; (2) The focus is wholly on the interaction with the web; (3) Concentration is so acute that the user doesn't consider anything else; (4) events occurring in the physical environment loose significance; (5) self-consciousness disappears; (6) sense of time is distorted; (7) the state of mind upon achieving flow is exceptionally gratifying. When flow is not an outcome like the previous models' anxiety or boredom may be the other outcomes; boredom is experienced when there is a low challenge, but high skills and anxiety is experienced when there is a high challenge but low skill (Hoffman, Novak and Yung, 2000). Hoffman, Novak and Yung's (2000)

flow model comprises of two main dimensions: direct influencers on flow and indirect influencers on flow. Their model is based on extensive piloting, with many of their scales adapted from previous studies.

Direct Influencers on Flow

In the online environment, several constructs directly influence the flow outcome (Hoffman, Novak and Yung, 2000). Skill, control and challenge form the basis for most flow models and are considered to be direct influencers on flow. When the challenge is consistent with a user's skill, flow occurs (Hoffman, Novak and Yung, 2000). Skill is represented by the individual's need for action during the navigation (Azjen, 1988). Control is rooted in the perception of being able to navigate the website (Hoffman, Novak and Yung, 2000).

Further, telepresence is the perception that the virtual atmosphere is more dominant than the actual physical environment (Hoffman, Novak and Yung, 2000) which also is a direct influence on the flow experience. Time distortion is also considered to be a direct influencer. Time distortion is a sensation of time passing without elicited recognition (Hoffman, Novak and Yung, 2000). Finally, focused attention influences flow directly and indirectly influences telepresence; which is the continued attention on a limited stimuli field (Hoffman, Novak and Yung, 2000). Telepresence also leads to greater exploratory behaviour (Hoffman, Novak and Yung, 2000).

Indirect Influencers on Flow

With regards to flow in online environments, there are three indirect influencers on flow, i.e. importance, speed and web start (Hoffman, Novak and Yung, 2000). Importance is the inherent user's interest in the activity which indirectly impacts focused attention (Webster, Trevino & Ryan 1993). Speed represents the speed of the website which indirectly impacts focused attention, telepresence and time distortion (Hoffman, Novak and Yung, 2000). Finally, web start is denoted by the period the user has been using the internet; web start indirectly impacts perceived control (Hoffman, Novak and Yung, 2000). The full model as given by Hoffman, Novak and Yung (2010) is given below (figure 5). Arguably, some of the indirect influencers such as start web are less relevant today as most adults (89%) frequently use the internet (Office for National Statistics, 2018).

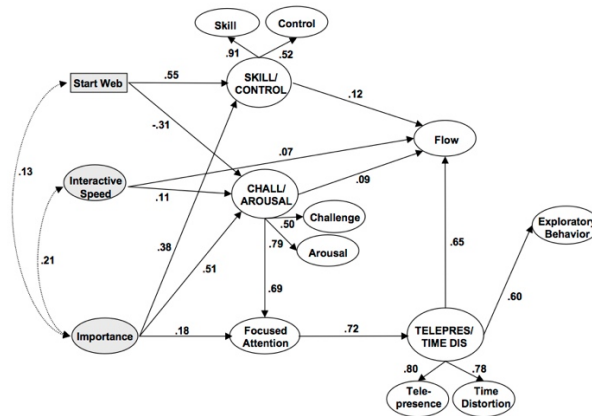


Figure 5 Hoffman, Novak and Yung (2010) Flow Model

2.3.2.2 Flow Constructs in The Online Context

Hoffman and Novak investigated flow through a series of papers (Hoffman and Novak 1996, Novak, Hoffman, Yung 2000; and Novak, Hoffman and Duhachek 2003). They introduced a conceptual model in their first paper (Hoffman and Novak 1996). In their second paper, they validated the conceptual model in an empirical study to establish the flow theory in online environments (Novak, Hoffman, Yung 2000).

In their final paper, they developed the flow construct from the perspective of hedonic and utilitarian consumer motivation specifically in the online context (Novak, Hoffman and Duhachek 2003). The empirical model given by Hoffman, Novak and Yung 2000 is still widely used with minor variations. A compelling customer experience develops from the congruence of skill and challenge along with interactivity, vividness and motivation (Hoffman, Novak and Yung, 2000). This compelling experience is made up of involvement, telepresence, attention and flow. Therefore, for an individual to remain in flow, one must be presented with the level of challenge to suit their level of skill.

Furthermore, flow experience leads to increased control, exploratory behaviour and a positive experience. The conceptual model proposed by Hoffman and Novak (1996) was validated in their empirical work in 2000. Notably, as the user's familiarity with the internet is improved, skill and challenge increased over time; while attention, telepresence and exploratory behaviour decreased over

time (Hoffman and Novak 2009). Hoffman, Novak and Duratek (2003) went on to investigate flow among hedonic and utilitarian consumers. This study reported flow was commonly achieved among utilitarian consumers as compared to hedonic consumers. Utilitarian customers are more likely to buy online, whereas hedonic customers are more likely to indulge in pathological internet use when they achieve a state of flow (Florsheim and Bridges, 2007). Flow is crucial in studying online customer experience as it provides an operational model encompassing several constructs. The various constructs of flow (figure 6) as given by Hoffman, Novak and Yung (2000) are discussed.

2.3.2.2.1 Challenge

Challenge together with skill form the basis for all flow models. Challenge denotes the possibility of “action” or excitement during the navigation process (Hoffman and Novak, 2000). Bridges and Florsheim (2008) define challenge as the perception of one's ability being expanded. A website that lacks sufficient challenge is boring and monotonous to a user (Anand and Strenthal, 1990). Flow is an outcome when there is enough challenge, for users not to feel bored (Csikzentmihalyi, 2000). However, at the same time the level of challenge should not make them uncomfortable or nervous (Csikzentmihalyi, 2000). Retailers must provide adequate challenge to arouse users on a website (Hoffman, Novak and Yung, 2000). A website that fails to provide adequate challenge can be perceived as dull and monotonous (Anand and Strenthal 1990). Flow occurs when a user is adequately challenged but not anxious by the level of challenge (Csikzentmihalyi, 2000).

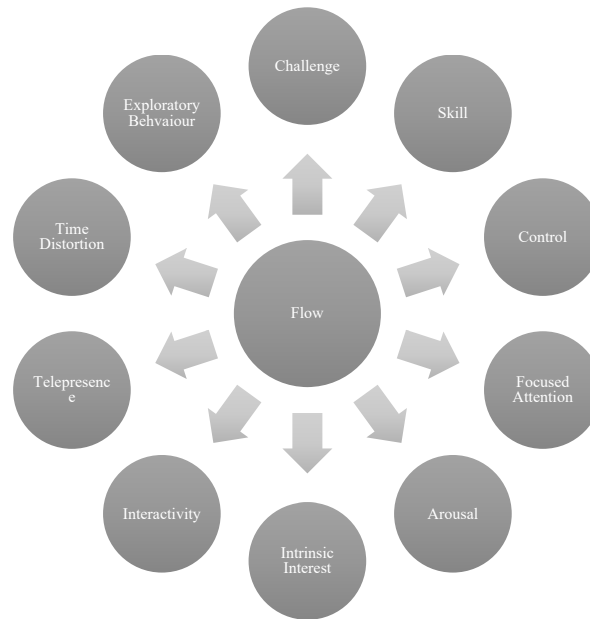


Figure 6 Various Constructs of Flow (Hoffman, Novak and Yung, 2000)

Moreover, Hoffman, Novak and Yung (2000) investigated the impact of challenge on other flow constructs and found that challenge has a positive influence on focused attention (Hoffman, Novak and Yung, 2000). In online retail, customers may find a challenge in trying to make the best possible product decision from all the choices available on a website. Additionally, customers who perceive the activity of searching for goods on a website provides an adequate challenge, are more likely to have a positive attitude towards the website (Koufrais, 2002). Challenge is an essential construct from a retailer perspective as a website that has an optimal challenge is likely to influence customer satisfaction and predict purchase behaviour (Richard and Chandra, 2004; Hoffman and Novak, 2000).

2.3.2.2.2 Skill

Skill denotes an individual's competence to deal with a variety of tasks or challenges encountered during the navigation process (Shin 2006). In the context of online retail, skill is an individual's self-assessment of their knowledge of the web (Florsheim and Bridges 2009) It signifies one's familiarity with the internet (Bridges and Florsheim, 2008) as skill is known to increase with an increase in usage of the internet (Hoffman and Novak, 2009). According to Hoffman and Novak (2000), skill influences control, which is another flow construct. In the context of online retail, skill refers to the previous

experience one has in using retail websites and how experienced they are with the process of online shopping. Skill is deemed vital as customers who possess higher skill levels are likely to have positive cognitive responses and are more likely to be satisfied with their experience with a website (Mathwick and Rigdon, 2004). Florsheim and Bridges (2008) established skill was positively linked to online buying.

Customers who perceive to be skilled at using the internet are more likely to move quickly and effectively; and as a result, purchase from the website. Interestingly, skill is a construct which a retailer cannot directly control as it is based on the individual and their familiarity with the internet. Notably, retailers are taking steps to increase customer's skill with tutorials indirectly.

2.3.2.2.3 Control

Control is the perception that the activity of navigating a website is within the capability of an individual (Hoffman and Novak 1996). Control is grounded in an individual's ability to successfully navigate a website and their understanding of how the website would react to their inputs (Hoffman, Novak and Yung 2000). It is the extent to which an individual can sufficiently perform the activity of navigating a website and completing a transaction. Control ensues when the customer knows what to expect while clicking through the website during their online activity and the responses, they get are consistent with the customer's expectation (Ding et al., 2009). For example, when a customer is involved in buying a piece of clothing, they expect to have control to choose what they buy (e.g. colour, sizes), how they buy it (i.e. deciding how they pay for the products) and how they receive the end product (i.e. how the customer receives the delivery of products). Control can lead to the generation of positive emotional responses which may increase customer satisfaction (Quench and Klein, 1996). From a customer perspective, to enjoy their interaction with a website, it important to feel in control (Wang and Hsiao, 2012). In general, people feel more confident when they perceive more control over the environment. Thus, consumer's perception of control in the online environment has a positive effect on consumers attitude towards the store and intention to purchase (Wang and Hsiao, 2012).

2.3.2.2.4 *Focused Attention*

Focused attention occurs when a user's attention is solely on a limited field; thoughts not relevant to the activity are filtered out (Webster et al., 1993). During focused attention, the user becomes entirely centred on the navigation process as the user loses self-consciousness and becomes more aware of the cognitive process (Csikzentmihalyi, 1997). The focus on the website is so acute that the individual is mesmerised by their interaction with the web (Hoffman, Novak and Yung 2000). In online retail when a customer focuses their attention on the task of shopping; thoughts not relevant to the shopping process are completely filtered out. Focused attention leads to better processing of information and analysis of the products, which leads to better customer decisions. As a result, focused attention leads to higher customer satisfaction (Ding et al., 2009). Consequently, focused attention may also influence the intention to purchase and return to the retailer (Kourfrais, 2002).

2.3.2.2.5 *Intrinsic Interest*

When in flow; a user finds the activity naturally entertaining (Csikszentmihalyi, 1975). They derive pleasure and enjoyment from the activity rather than undertaking the activity for some utilitarian purpose which is known as intrinsic interest (Webster et al., 1993). According to Webster et al. (1993), users are more likely to achieve flow if they are intrinsically motivated. On the contrary, Novak et al. (2003) validated that goal-directed users are more inclined to obtain flow in comparison to intrinsically motivated users.

2.3.2.2.6 *Interactivity*

Interactivity is the degree of communication between the website and the customer in the online environment (Taylor et al., 2015). Interactivity occurs when a user perceives the web pages to load swiftly as an individual enters responses to a website (Ding et al., 2009; Shin 2006). The interactivity of a website affects the user's enjoyment and the level of satisfaction (Ding et al., 2009). Thoughts unrelated to the navigation process are separated; ensuring the user is fully engaged with the online interaction. According to Steuer (1992), users have an interactive experience with the web when web pages load rapidly, and the website responds promptly to user's clicks. Notably, interactivity cannot be controlled by the user alone; it is equally dependent on the retail website.

2.3.2.2.7 *Telepresence*

Telepresence is deemed a vital flow construct occurring during the navigation process where the virtual environment becomes more prominent than the actual physical environment (Hoffman, Novak and Yung, 2000). According to a Song and Fiore (2004), telepresence contributed to shopping enjoyment which led to flow. One of the most significant disadvantages of shopping online in the retail industry is that users cannot assess the items as they would in the real world, telepresence can facilitate an experience similar to the real-world experience (Song & Fiore, 2004). Shih (1998) defined telepresence as the feeling of being in a virtual store comparable to a brick and mortar store. However, telepresence is dependent on the quantity and quality of sensory information about the merchandise and the interaction with the merchandise (Song and Fiore, 2004). Website generated telepresence has a positive effect on consumer attitude towards merchandise (Klein, 2003).

Moreover, Telepresence creates mental imagery involving post-purchase product use (Fiore et al., 2000) as a cognitive state is generated where the user is acutely immersed in the virtual environment (Turkle, 1984). Real world stimuli are blocked out, and the virtual environment captivates the senses (Song et al., 2006). Telepresence can increase the vividness of information (Suh and Chang, 2006). This, in turn, results in positive attitudes towards the retailer and increased intention to make a purchase (Suh and Chang, 2006). Telepresence consequently leads to a greater willingness to purchase (Suh and Chang, 2006).

2.3.2.2.8 *Time Distortion*

According to Novak, Hoffman and Yung (2000), time distortion is an antecedent of flow. A user loses the sense of time and is unaware of the time passing. It is similar to telepresence; as the virtual environment captivates the senses. As a result, the user becomes less aware of the time passing.

2.3.2.2.9 *Exploratory Behaviour*

Exploratory behaviour refers to an individual's curiosity being aroused to further browse the website due to the compelling interaction with the web (Hoffman, Novak, Yung 2000). Positive attitude

towards the retailer increases as they explore the website. When a customer spends more time exploring, they are more likely to make a purchase (Smith and Sivakumar, 2004).

2.3.2.2.10 Arousal

According to Malone (1981), a user's curiosity is stimulated when the user enters a state of flow. According to Webster et al. (1993), a user can be excited by colour and sound. Users tend to be aroused when they are presented with various options and choices (Webster et al., 1993).

2.3.2.3 Alternative Online Customer Experience Frameworks

The flow model has been widely accepted and utilised in the context of online environments. Nonetheless, Rose, Clark, Samouel & Hair (2012) propose an alternative framework for the flow theory. Their framework is founded in the interpretation of the stimuli that customers face on a retail website, which formulate the cognitive and affective perspective (Rose et al., 2012). This, in turn, generates an impression of the website which formulates the basis of online customer experience (Rose et al., 2012). Rose et al. (2012) acknowledge Hoffman et al. (2000)'s conceptualisation of online experience as a cognitive state experienced during navigation. However, their approach differs as they propose an explicit approach to online customer experience by extending the study to measure an active state experienced during navigation. The framework proposed by Rose et al. (2012) additionally considers previous experiences of the customer; recognising online customer experience as the aggregation of repeated interactions with the website. Rose et al. (2012) define online customer experience to be a subjective state, during which the customer engages in the cognitive and affective processing of incoming sensory information which results in the creation of an impression in the customers' mind.

Rose et al. (2012) identify ten antecedent variables which formulate the cognitive and affective experiential state. However, there is a lack of robust definitions for cognitive or affective experiential state. The cognitive state is associated with thinking or conscious mental processing; while the affective state is related to the generation of moods and feeling (Rose et al., 2012). Of the ten antecedent variables, four variables are formative of cognitive experiential state, i.e. speed,

telepresence, challenge and skill (Rose et al., 2012), which are all flow constructs. An affective experiential state is formative of control, aesthetics and perceived benefits (Rose et al., 2012).

Additionally, control is known to have a mediating effect on three variables, i.e. ease of use, customisation (tailoring of the website) and connectedness (ability to share knowledge and engage in online communities) (Rose et al., 2012). While website aesthetics provide sensory stimuli (Eroglu, Machliet and Davis, 2003) which influence the affective experiential state. Perceived benefits also impact affective experiential state, i.e. the perceived benefits of the retailer's product. The cognitive and affective experiential state as a result impact customer satisfaction.

While this model (figure 7) provides an alternative approach, it has limitations as it makes specific assumptions that customers shop online due to a lack of time and therefore desire control. There are, however, some similarities between flow and this online customer experience framework. The framework employs antecedent variables that are firmly rooted in flow. Nonetheless, unlike flow, this framework considers moods and emotions. The affective experiential state employs moods and emotions to determine the customer experience. However, the framework does not consider the customer's other activities in the day may predetermine their mood. While flow only deals with the enjoyment which is resultant from the positive interaction with the website during navigation.

In another study, Ettis (2017) conceptualises flow within two dimensions: enjoyment and concentration. Enjoyment is the degree to which the virtual environment is pleasurable (Ghani and Deshpande, 1994). While concentration is the limited focus on a given field (Ettis, 2017). While flow experiences can be extremely enjoyable, the two-dimensional conceptualisation of flow can be limiting due to the absence of critical flow elements such as control, telepresence, challenge, skill and exploratory behaviour (Section 2.3.2.2). However, it is important to acknowledge, this particular study deals with the role of colour on flow experiences, for which a two-dimensional conceptualisation of flow may be deemed appropriate (Ettis, 2017).

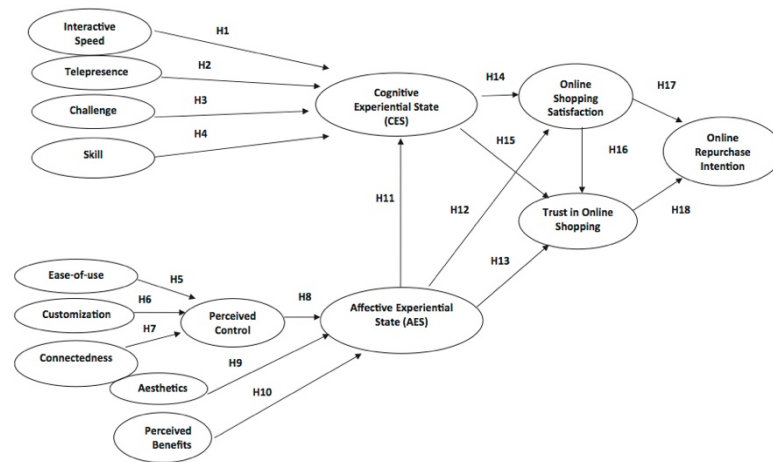


Figure 7 Rose et al. (2012) Online Customer Experience Framework

2.4 Outcomes of Online Customer Experience

2.4.1 Purchase Intent

Considerable research has investigated the role of positive experiences in driving customer satisfaction, both in marketing and management (Bitner, Faranda, Hubbert and Zeithaml, 1997). A compelling experience is essential as it is known to lead to desired customer outcomes such as customer retention, loyalty and trust (Anderson and Srinivasan, 2003) (Fassnacht and Köse, 2007). Correspondingly, a state of flow is known to have a positive influence on a customer's intention to make an online purchase (Korzaan, 2003). Not only does flow have a positive influence on intention to purchase but dimensions of flow also have a positive impact on attitude towards retailer (Korzaan, 2003). Moreover, customers who achieve flow online are more likely to return to websites and be loyal (Cyr and Smith, 2005). By providing online features that are intended to facilitate the achievement of flow, retailers can encourage customers to make more online purchases, return to websites and exhibit loyal behaviour (Florsheim and Bridges, 2008).

One of the outcomes of compelling online experience is an intention to purchase. Purchase intent is an essential variable in predicting actual buying behaviour; individuals who exhibit intention to purchase are likely to possess higher actual buying rates (Huang, Lurie and Mitra, 2009). There is an indication that recommendation systems can influence first-time visitors on a website to exhibit purchase intent (Mokryn, Bogina & Kuflik, 2019). Purchase intention is moreover influenced by customers shopping orientation. Brown, Schwartz and Bowen (2001) found that online shoppers are motivated by convenience. Therefore, customer's shopping orientations are likely to have an impact on intention to purchase (Brown et al. 2001). Shopping orientation denotes the attitude of customers towards the shopping activity and is engrained in the differential motivations to shop online, i.e. information search, alternative product evaluation and availability of product selection (Brown et al., 2001). Additionally, the product type, prior purchase experience and to some extent gender of the shopper are elements that impact intention to purchase (Brown et al., 2001). Below is an evaluation of factors that influence purchase intent - information search, types of shoppers, types of product and prior experience.

Information Search

Online shopping enables customers to undertake extensive information search (Brown et al., 2001). From a customer perspective, information search is known to enhance the process of purchasing a product (Brown et al., 2001). The internet has allowed a reduction in the costs of purchasing goods and provided a new medium to learn about products ahead of purchase (Huang et al., 2009). Thus, the process of acquiring goods online is considered favourable by consumers due to the high degree of information available (Brown et al., 2001). Information search by a consumer is typically conducted across three levels for any product type; i.e. evaluation of product attributes, comparison of pricing and overall assessment of the value proposition (Brown et al., 2001). From a purchase intent perspective, there is existing evidence that convenience motivates the average online shopper. However, online shoppers are further motivated by the opportunity to seek variety and the ability to carry out a price comparison; both influence purchase intention online. (Brown et al., 2001).

Types of Shoppers

The shopping orientation of a consumer further impacts purchase intention. Brown et al. (2001) identified six key shopper types,

1. the economic shopper (concerned with value for money and getting a bargain),
2. the recreational shopper (appreciates and derives pleasure from the activity of shopping whether they make a purchase or not),
3. apathetic shopper (commonly known as the inactive shopper due to dislike for the activity of shopping),
4. convenience-oriented shopper (one who is time-pressed, and shopping preferences are time oriented),
5. ethical shopper (these buyers are different from other shoppers as they exhibit a high degree of loyalty) and
6. finally, there is the personal shopper (one who demonstrates affinity towards valuable relationships with personnel of the retailer).

Notably, there is an overlap among shopping orientations; an individual can be associated with multiple shopping orientations. The shopping orientation of an individual thus influences purchase intent based on the individual's objective. In addition to shopping orientation, product type additionally influences purchase intent (Brown et al., 2001).

Types of Products

As mentioned above, not only do individual's shopping orientation affect intention to purchase online but also the types of product they wish to purchase. Products can be divided into three categories; search goods (products with attributes and qualities that can be assessed prior to purchase), experience goods (product with characteristics and quality that can't be determined prior to purchase), or credence products (products with attributes and quality that can't be assessed even after purchase) (Darby and Kany 1993, Nelson 1974). Examples of a search good include most commodities such as notebooks, laptops. An example of an experience good is a bottle of wine while an example of a credence good is an automobile repair. Based on the characteristics of the products, customers seek different

information for different types of goods. Therefore, purchase and search behaviour is different for different types of goods (Huang et al., 2009). Customers seek information as it assists the alleviation of uncertainty related to the purchase transaction online based on the type of products (Huang et al., 2009). While the internet serves as an essential information source for both experience and search goods; the information that customers seek for each good varies (Huang et al., 2009). Consequently, the purchase behaviour differs for different types of products (Huang et al., 2000).

Consumers tend to spend a similar amount of time gathering information about search and experience goods. However, there are significant differences between browsing and purchasing behaviour across different product types (Huang et al., 2009). In particular, experience goods require a higher depth and lower breadth of information search compared to search goods (Huang et al., 2009). The depth of information search refers to the time spent on the page (Huang et al., 2009). While the breadth of information search refers to the total number of pages visited (Huang et al., 2009).

Additionally, purchasing from the retailer offering information is less frequent when it comes to experience goods in comparison to search products (Huang et al., 2009). The provision of product reviews and videos further facilitate interaction with products before purchase. Reviews and videos have a more significant impact on consumer search and purchase intention for experience goods over search goods (Huang et al., 2009). Mechanisms such as recommendations and reviews can increase the time spent on a website (Huang et al., 2009). Thus, impacting the intention to purchase from a retailer (Huang et al., 2009).

Another factor impacting purchase intent is the display of information. Customers seek information to alleviate the uncertainty associated with buying online. Information that is displayed clearly allows consumers to quickly process information which reduces the uncertainty associated with online shopping (Huang et al., 2009). Additionally, the quantity of information further reduces uncertainty about the goods (Huang et al., 2009), impacting purchase intent.

Prior Experience

Finally, prior experience with online shopping impacts intention to make a purchase (Brown et al., 2001). Hernandez, Jimenez and José Martín (2008) researched adoption versus acceptance of online

purchasing which is known to impact customer's intention to make the first purchase and repeat purchases. They define the decision to make the first purchase as adoption while acceptance is the decision to buy again after making an initial purchase (Hernzadez et al., 2008). They postulate that initial motivation to make a purchase online is different from that of a returning skilled customer (Hernzadez et al., 2008). Adoption and acceptance of the internet are influenced by the perception that the use of the internet will improve an individual's performance without needing any added effort (Hernzadez et al., 2008). Notably, an additional factor that contributes to the adoption of e-commerce is the self-efficacy of the user, i.e. the capability of carrying out a task related to online shopping (Hernzadez et al., 2008). Attitude is another contributing factor to acceptance, those who have a positive attitude towards computers are more likely to accept purchasing online (Hernzadez et al., 2008). Adoption and acceptance both impact purchase intent in the online context (Hernzadez et al., 2008).

It can be concluded that purchase intent is a significant customer outcome from a business perspective for an online retailer. Notably, purchase intent is a multifaceted customer outcome. An array of factors from the shopping orientation of the consumer to the type of product collectively influence purchase intent that are worth considering when approaching purchase intent in the context of online retail.

2.4.2 **Cart Abandonment**

When approaching purchase intention, it is vital to evaluate the factors that lead to cart abandonment. While purchase intent is the positive customer outcome, cart abandonment can be classified as the adverse customer outcome online. Customers often spend a considerable amount of time browsing and adding products to their shopping basket, yet they frequently abandon their cart (Kukar-Kinney, Close 2007). Understanding the factors that lead to cart abandonment help provide an insight into preventing this behaviour and understanding non-purchase behaviour (Kukar-Kinney, Close 2007).

According to a leading provider of eCommerce platforms, 67% of online customers abandon their shopping carts and leave without making a purchase (Shopify, 2015). Interestingly, cart abandonment rates may be higher on mobile, with 'emotionally ambivalent' consumers more likely to abandon cart on mobile (Huang, Korfiatis & Chang, 2018). Overcoming cart abandonment is deemed vital due to retailer benefits such as preventing financial losses and loss of customers (Rajamma, Paswan &

Hossain, 2009). One-way retailers are trying to combat this effect is through discounts and cart emails (Rajamma et al., 2009).

One known cause for cart abandonment is the complicated checkout process online (Rajamma et al., 2009). Another factor that leads to cart abandonment is the waiting time associated with the checkout process (Rajamma et al., 2009). Factors that contribute to the wait associated with the checkout time are slow page downloads, uploads, lengthy and unique formats of forms at checkout. (Rajamma et al., 2009). Customers typically assume online shopping to be less time consuming as they are depicted as convenience seekers and wish to economise on time (Wolfenbarger and Gilly, 2001). However, when the checkout process is more time consuming than their expectation, it becomes an impediment and consequently leads to cart abandonment (Rajamma et al., 2009). According to Nelson (2013) after 10 seconds of waiting, users lose their focus on the website. Thus, the waiting time associated with checkout influences cart abandonment (Rajamma et al., 2009). To combat this issue, retailers are increasingly using techniques to shorten the checkout process by using integration with PayPal, Facebook and Google which shortens the checkout process with pre-population of critical data required to complete the purchase. Likewise, Amazon has included the one click checkout. These techniques are increasingly popular. However, the impact in reducing cart abandonment has not been researched. Further, there is also an indication that consumers may use the cart as a tool to organise their preferences with no intention to purchase (Close & Kukar-Kinney, 2010).

Another reason for cart abandonment is perceived risk. While retailers are exercising caution with privacy seals, statements and reviews to limit the risk associated with online shopping (Rajamma et al., 2009). Nevertheless, retailers require a considerable degree of personal and financial information before the checkout process is complete (Rajamma et al., 2009). As a result, customers can be disinclined to complete the checkout process. Notably, the loss of personal information is the highest at the last stage (Rajamma et al., 2009). Moreover, information such as delivery costs or added taxes is shown at this stage, which in turn makes customers abandon their carts (Rajamma et al., 2009).

In addition to the complicated checkout process, Kukar-Kinney and Close (2007) propose inhibitors that may influence purchase decisions. Customers may wait for a lower price or buy the goods from another retailer. Customers may choose to buy from another retailer due to factors such as free shipping

or other advantages such as loyalty points. Another essential aspect to take into consideration is that customers may not always shop online with the intention of buying and may browse product to alleviate boredom (Wolfenbarger and Gilly, 2001).

Considerable research explores antecedents and consequences of customer experience in the online context (table 4). Research on positive customer outcomes such as satisfaction, repeat purchases and loyalty link it to positive online experience. As discussed previously, an optimum online experience can help intercept, factors that affect and deter consumers from purchasing online. Given the phenomenal growth in the online retail sector and its challenges, it is important to explore website attributes, as it is a primary touchpoint in online retail. The retail environment has changed dramatically, and customers are becoming increasingly experience oriented (Mathwick et al., 2001). Therefore, making it important to understand online website attributes that may impact this experience.

Table 4: Summary of Antecedents and Outcomes of Customer Experience

Antecedent/Outcome of Customer Experience	Definitions
Perceived Risk (Antecedent)	Perceived risk in the context of online environments is defined as the nature and amount of uncertainty perceived by a customer during a purchase decision (Park et al. 2005).
Trust (Antecedent)	Morgan and Hunt (1984) defined trust as the perception that the other party will act in an advantageous manner
Brand Trust (Antecedent)	Brand trust is the perceived reliability of a brand to fulfil a consumer's needs and is influenced by brand familiarity and experience (Ha and Perks, 2005).
Brand Reputation (Antecedent)	Brand reputation is the perception of others that a brand is reliable and trustworthy (Jones and Kim, 2010).
Brand Predictability (Antecedent)	Brand predictability is the expectation that the product or services provided by a brand will accurately and repeatedly fulfil customer needs and goals (Jones and Kim, 2010).
Brand Familiarity (Antecedent)	Brand familiarity is derived from the amount of brand associated experiences a consumer has undergone (Alba and Hutchinson, 1987).
Motivation to Shop Online (Antecedent)	Broadly, there are two types of motivations to shop online: hedonic and utilitarian motivation (To et al. 2007; Florshiem and Bridges 2007; Shang et al. 2005). Utilitarian customers focus on obtaining the product only, a goal driven motivation (To et al. 2007). Whereas, hedonic consumers love to shop, and they derive enjoyment from the shopping process (To et al. 2007).

Macro Influencers (Antecedent)	Macro factors are often factors that the firm cannot control such as interest rates, employment, inflation and a decline in stock markets (Grewal et al. 2009).
Purchase Intent (Outcome)	Purchase intention can be classified as one of the components of consumer cognitive behaviour on how an individual intends to buy a specific brand (Ling et al. 2010).
Cart Abandonment (Outcome)	While purchase intent is the positive customer outcome, cart abandonment can be classified as the adverse customer outcome online.

2.5 Designing for Online Customer Experience

From a retailer perspective, understanding the components of an engaging online customer experience is beneficial from a customer outcomes viewpoint. Developing on the existing understanding, Schmitt (1999) propose the design of experience through the alteration of cues within the environment in which the experience manifests. Relatedly, Pine and Gilmore (1999) position experience as a theatrical state resultant from the customer's interaction with the retail environment. Based on Schmitt (1999) and Pine and Gilmore (1999) findings one can postulate that website stimuli can trigger a customer experience in the online environment (Kawaf and Tagg, 2017). Florsheim and Bridges, 2008 recommend including website features that encourage flow experience to influence desired customer outcomes. While the components of a compelling online experience can be accurately defined by flow, it is crucial to understand website cues that lead to a compelling experience. In the online environment, customers interact with the website. Therefore, it is necessary to understand website attributes and how they affect consumer behaviour to determine how to facilitate an intrinsically enjoyable experience online.

The growth of online shopping has increased the emphasis on effective use of time simultaneously with the rise in the number of customers shopping online (Park & Kim, 2003). One view is that online shopping is increasingly popular due to the importance placed on the time of an individual, as online shopping allows customers to maximise the use of their time (Whillans et al., 2017). Website characteristics are assumed to play a vital role in attracting customers (Punyatoya, 2019). In the physical store environment, shop fronts play a pivotal role in attracting customers, in the virtual environment, the website can help attract a consumer to the store. From section 2.3.1.1 and 2.3.1.2, there is an indication that website features can help alleviate perceived risk and improve trust online.

Consumers can perceive the quality of the website based on the look and feel, combined with the usability of the website (Lopez-Miguens and Vazquez, 2016). A range of factors such as product variety, design, brand power of the website can play a significant role in the augmentation of the online shopping experience. By facilitating an enjoyable experience through interaction with website cues, consumers are likely to feel engaged in their online shopping activity, consequently exhibiting favourable outcomes (Edwards and Ferle, 2003). One such cue is the virtual product experience, i.e. images displayed by the retailer which can influence the overall experience (Zhenhui, and Benbasat, 2004). Several other cues that are implemented by the retailer such as a try on technology can further enhance the customer experience (Janda and Ybarra, 2005). Besides the cues provided by the retailer; the price of the goods together with the brand may lead to the enhancement of customer experience (Janda and Ybarra, 2005).

Blake, Neuendorf and Valdiserri (2005) note that retailers must meet website expectations of customers in order to influence purchase intent. A retailer's website is crucial as it determines their success (Mummalaneni, 2005). Through website features a retailer can improve their online sales; a website that is consumer friendly generates more sales (Mummalaneni, 2005, Tedeschi, 2000). Customer interactions with the website result in emotional responses which in turn lead to desired customer outcomes such as loyalty, affinity and intention to make a purchase (Mummalaneni, 2005). Over time the relationship between consumer and retailers has changed dramatically with advances in website technologies and web personalisation (Kim and Kim, 2003). Many websites are now tailored in accordance to the end consumer, which is considered to be important in enhancing customer experience (Kim and Park, 2003). In 2000, Reibstein conducted a study which ranked product representation as the most critical website feature. Dynamic product imagery can assist in product representation by offering customers detailed product information and an entertaining shopping experience; it consists of videos, animation, rich media, interactive images on screen and the ability to inspect products from various angles (Kim and Forsythe, 2010). Dynamic product imagery can deliver product information in more detail and accuracy in comparison to static descriptions and images; therefore, reducing a customer's perceived risk associated with buying products online (Kim and Forsythe, 2010). Furthermore, the interactivity and customer involvement evoked by dynamic product imagery can enhance the shopping enjoyment and lead to higher buying intention (Kim and Forsythe, 2010).

Another crucial factor in online retail according to Blake, Neuendorf and Valdiserri (2005) is the customer's willingness to try new websites. The innovativeness of a customer determines customer enthusiasm to engage with new websites (Blake et al., 2005). The innovativeness of a customer is defined as the readiness of a person to try a new product or service (Blake et al., 2005). Moreover, those with more exposure and experience with the internet are even more likely to shop online (Blake et al., 2005). Besides willingness, several features are known to attract customers to an online store such as security of the website, vividness, approval by referrer, quality of content, price and recognisability, desirability of the brand and speed of the website (Jarveena and Todd, 1997; Blake et al., 2005; Ding et al., 2009). Correspondingly, Srinivasan, Anderson & Ponnnavolu, 2002 . (2002) identified seven website features that are deemed necessary from customer experience perspective- personalisation, interactivity, provision of incentives for using the website over time, functions that are designed to keep customers informed, reviews and product information, product variety and projecting an image of character.

Other website features identified by Palmer (2002) include navigability, convenience and interactivity. Interactivity is the most common website feature identified by researchers (Blake al. 2005). Chiang and Nunez (2007) emphasised the importance of search and navigation from a customer retention viewpoint. Customer retention is important as it implies that customer will revisit the website to make repeat purchases (Reibstein, 2002). Further, many authors postulated the role of price in online shopping; customers are aware of the differential pricing online and intend to make economic decisions based on the information available (Reibstein, 2002). Online retailers have created a competitive market; therefore, the design of the websites and their features play a vital role in the customer's decision to purchase from the website. Website features play a significant role in attracting customers and retaining customers (Kim and Niehm, 2009). Additionally, many studies look at website attributes concerning perceived quality and customer outcomes (Kim and Niehm, 2009). Researchers have investigated website attributes that attract customers towards a website (table 5), however very few considered how they lead to a compelling online experience or flow in online retail and how this, in turn, impacts their online purchase behaviour when moderated by experience.

In general, there is an indication that website features can play a pivotal role in the online retail environment. Given the significant projected increase in online retail and the challenges faced by

online retailers, it is essential to identify website design imperatives that may afford retailers a strong competitive position. One approach is to focus on providing an exceptional customer experience as a critical characteristic of the service delivery system. Understanding website features are crucial to inform the creation of a compelling online experience. The website is a primary touchpoint in the online environment and therefore worth investigating further. The quality and its features are likely to impact the consumer's experience. Some website attributes that have been explicitly studied in relation to customer outcomes are given below:

Table 5: Summary of Existing Research on Website Attributes

Website Features	Existing Research
Virtual product experience	Zhenhui, & Benbasat, 2004, Park et al. 2005, Cahan and Robinson, 1984
Try on Technology	Janda and Ybarra, 2005
Dynamic Product imagery	Kim and Forsythe, 2010
Product Recommendations	Bauer and Stuber, 2010
Navigability	Palmer, 2002; Chiang and Nunez, 2007; Chang and Chen 2008
Interactivity	Chiang and Nunez, Palmer2002
Product Information	Speck and Elliot, 2005; Kim et al. 2009
Product Variety	Chang 2011

2.5.1 Product Presentation, Information and Variety

Websites that provide a fast presentation, uncluttered screens and smooth search process provide an optimum experience for its customers (Park, Fiore and Song, 2005). Thus, reducing shopping time and reducing the cognitive effort required by a customer (Park et al., 2005). Product information refers to the dimension, validity and type of information on products provided by the online retailer (Speck and Elliot, 2005). Product information can include information about dimensions, fit, style, country of origin, and sizing (Kim, Fiore and Lee, 2009). Reliable product information facilitates better decision making (Speck and Elliot, 2005) therefore impacting positive customer outcomes. Perceived risk associated with online shopping is also known to decrease the increase in information about a product

(Kim et al., 2009). Notably, the provision of excessive information leads to information overload (Sasaki, Becker, Janssen and Neel, 2011).

Product presentation is another crucial website attribute in the online environment as it draws attention through its aesthetic appeal (Cahan and Robinson, 1984). Additionally, presentation influences the consumer's evaluation of products (Kim et al., 2009) facilitating better decision making (Park et al., 2005). DeLong (1999) suggested the more information a retailer provides through the provision of images of goods, the more the customer will be interested in making a purchase from a product presentation viewpoint, three components are deemed crucial for online websites: closest representation of products in end-use; products presented simultaneously with accompanying items and product images from various angles (Park et al., 2005). Product images additionally help decrease uncertainty associated with a purchase (Park et al., 2005). Effective products presentation can evoke positive emotions influencing desired customer outcomes (Kim et al., 2009).

Another website attribute that is important is product variety. Online stores are assumed to have a greater product range and therefore assumed to be able to fulfil customer demand better compared to brick mortar stores (Nguyen et al., 2019). The overall online experience can be therefore enhanced by the online product assortment (Kautish and Sharma, 2019). Product variety refers to the selection of products available on a retail website; including the number of brands and new products (Ganesh et al. 2010) Product variety is defined as the assortment of product categories and the number of products available in each product category (Chang 2011). A greater product variety is associated with customer satisfaction as it increases the possibility of customer's finding a product that suits their needs (Chang 2011). A high product variety not only attracts customer to a website but also enhances the perception of service quality (Park and Kim, 2003).

2.5.2 Product Recommendations

Product recommendations are the accompanying products displayed by retailers along with those the customer is already viewing. Usually, these are complementary items or alternative items to the ones customer is already browsing (Baier and Stüber, 2010). Recommendation system uses historical data and aggregated data to provide customers with recommendations (Baier and Stüber, 2010). Previous

research suggests that 10-30% of online purchases are generated from product recommendations (Mulpuru, 2007).

2.5.3 Navigation

Website navigation and design can play a crucial role in how consumers perceive the retailer and the information provided (Chiang and Nunez, 2007). A poorly designed website can be a source of stress to customers due to the poor consumer experience it generates (Chiang and Nunez, 2007). The website should provide features that enhance the information search activity, such as: category descriptions, menus and an on-website search engine to lead consumers to the products of interest quickly (Chang and Nunez, 2007). Navigability ensures customers smoothly progress to relevant content.

Navigability refers to the extent to which a website is easy to use, intuitive and straightforward (Chang and Chen 2008). It refers to uncluttered screens, clear organisation and seamless movement on a website (Speck and Elliot, 2005). An easy to use website is effortless to navigate for customers (Speck and Elliot, 2005). Navigability additionally helps customers feel more in control with their shopping process. Thirty per cent of customers leave a website because they find it difficult to navigate (Schaffer 2008).

2.5.4 Information Search and Customer Outcomes

Informational Social Influence

Previously, we have established the importance of information in the online context (Section 2.3.1.1). Information is significant as customers rely on the information provided online by a retailer to make purchase decisions (Sasaki et al., 2011). Furthermore, information from friends and peers affects the decision-making process (Lee, Shi, Cheung, Lim & Sia, 2011). When making a purchase decision, customers also have access to an array of information provided by those who may have previously purchased the products in the form of reviews and forums (Lee et al., 2011). The availability of such information on a website is also known as an informational social influence; the acceptance of information from a person who is unknown to the consumer (Lee et al., 2011). Informational social

influence is of particular importance when the customer is faced with time restrictions, knows little about the product, perceives risk in his purchase decision or is uninterested in general (Lee et al., 2011).

Perceived Information Quality

Additionally, the quality of information is essential in attracting customers to the website (Kim and Niehm, 2009). In the online environment, retailers can showcase product-related information to their customers (Kim and Niehm, 2009). Notably, customer's perception of the quality of information is crucial as it determines purchase intent (Kim and Niehm, 2009). Perceived information quality is the customer's assessment of the quality of information provided by the retailer and an evaluation of the perception of the accuracy of the information (Kim and Niehm, 2009). Information that is perceived as helpful from a customer perspective influences their decision making (Kim and Niehm, 2009). As the information provided enables the customer to assess the product accurately and consequently assess how the product will fulfil their needs based on the information provided (Kim and Niehm, 2009). Perceived information quality is additionally beneficial in acquiring new customers and retaining them as loyal returning visitors (Kim and Niehm, 2009).

Attitude Towards Retailer

In some instances, customers undertake additional information search dependent on their attitude towards the retailer, to determine the capability of goods to fulfil their needs (Barber, Ismail & Taylor, 2007; Seock and Norton, 2007). Information search enables customers to overcome uncertainty associated with purchasing online and establish confidence in making a purchase (Barber et al., 2007). Consumers consciously seek information before making a purchase (Barber et al., 2007) to facilitate better decision making. Users may search for information on a variety of sources, such as blogs, retailer websites or newspapers (Barber et al., 2007). When a customer's attitude towards a retailer is favourable, information search is solely carried out on the retailer website. However, when a customer's attitude towards a retailer is unfavourable; customers may search for information on the retailer's website but purchase from another website that they perceive favourably (Seock and Norton, 2007).

Shopping Orientation

Customer's shopping orientation affects the manner in which they undertake information search online (Seock and Bailey, 2008). Convenience users are more likely to purchase online compared with those in need of social interaction (Seock and Bailey, 2008). Shopping orientation (Section 2.4.1) determines whether a customer will spend more time online searching for product information or other information such as promotions (Seock and Bailey, 2008). Furthermore, the age of a consumer plays a role in the way in which they carry out information search. For example, Older consumers have more experience in evaluating products, therefore, spend less time searching for information (Wan Nakayama and Sutcliffe, 2012) The type of goods in question also influence information search, i.e., search, experience or credence goods (Wan et al., 2012). Search goods are commodities that customers can adequately assess the quality of ahead of purchase (Wan et al., 2012). When the quality of goods can only be judged after purchase or use, they are classed as experience goods (Wan et al., 2012). In the case of credence goods, consumers may not be able to judge the quality of them even long after purchasing (Wan et al., 2012). Consumers have different approaches to evaluating products ahead of purchasing various types of goods (Wan et al., 2012).

There is a variation in the search undertaken for different types of goods because there are various kinds of risks associated with distinct product classes (Girard and Dion, 2010). According to Girard and Dion (2010), perceived risk is dependent on the type of products and the uncertainty associated with product information for each product type. In the case of experience goods, consumers spend more time evaluating and finding information to judge the goods prior to purchase accurately.

For credence goods, the consumers may spend significant time evaluating the information but may be unable to judge the goods accurately prior to purchase (Girard and Dion, 2010). In a previous study, Girard, Korgaonkar & Silverblatt, (2003) found that consumers were more willing to purchase search goods online compared to experience goods. This is primarily due to the perceived information quality and uncertainty associated online with experience goods. There are, however, some varying perspectives on search and experience goods; as some authors believe experience goods are favourable in online retail. The internet allows consumers to gather information from others who have experienced

these goods previously (Huang et al., 2009). Product reviews can often enhance the experience of buying experience goods online (Huang et al., 2009).

Information search online can also be further subdivided into depth and breadth (Huang et al., 2009). Depth refers to the time spent on a single page searching for information while breadth refers to the number of pages one searches for information (Huang et al., 2009). The depth of information search is likely to be greater for experience goods compared to search goods. Search attributes such as colour, price, size, etc. are easy to obtain and process online (Huang et al., 2009). Reading information about experience goods such as reviews and seeking alternative sources can take more time (Huang et al., 2009). The depth and breadth of information search undertaken can remove uncertainty associated with the purchase of an experience good (Huang et al., 2009).

Search Engines

The provision of information online by a retailer can also lead to free-riding difficulties. Consumers may use a website to search for product-related information and after that use search engines or promotional website to locate the same product elsewhere cheaper (Huang et al., 2009). Free riding behaviour is more common in search goods compared to experience goods (Huang et al., 2009). To accurately portray information related to experience goods, retailers can deploy mechanisms for communicating experience attributes (Huang et al., 2009). These can be forums, customer reviews which help customers evaluate the experience of others prior to making a purchase (Huang et al., 2009). The experience can also be further enhanced through multimedia content such as videos and images of the products (Huang et al., 2009). It is also beneficial to understand how consumers undertake search online.

Consumers may become more price sensitive as they can search for a reasonable price online (Su, 2008). This can primarily be attributed to search costs being low on the internet and the prevalence of search engines (Su, 2008). Search costs are almost zero in the context of online shopping (Kumar, Lang & Peng, 2004). Search engines provide consumers with the advantage of a high degree of information available at their disposal; however, the only drawback with online search engines is the impersonal nature (Kumar et al., 2005).

The literature on website features is disjointed and explores the individual impact of website design features (product information) on customer outcomes (purchase intent). Current website literature is related to its impact on customer outcomes such as purchase intent, attitude towards retailer and its impact on the elimination of perceived risk. While some website design attributes are explored individually in literature, there is lack of a complete set of website attributes exploring collective impact on website experience and outcomes. This is vital as customers interact with a range of website features and therefore are likely to contribute to the overall online experience.

2.6 Research Objective

Based on the above assessment of literature on online customer experience in retail, three distinct overlapping themes exist:

- (1) online customer experience,
- (2) website attributes, and
- (3) customer outcomes

Through an evaluation of customer outcomes literature, it is evident that customer experience plays a significant role in influencing crucial customer outcomes such as trust, loyalty, satisfaction and intention to purchase. Flow provides an operational definition to adequately study online customer experience. Additionally, there is an indication that website attributes affect customer outcomes; particularly purchase behaviour. However, there is a lack of a body of knowledge examining the influence of website design characteristics (a vital customer touchpoint) on online customer experience.

Thus, the aim of this research is to narrow this research gap and establish an understanding into website design features that lead to an optimum experience online which consecutively leads to desired customer outcomes. A memorable or great shopping experience is measured using the flow construct. The research also aims to investigate and understand whether customers who achieve flow through these website attributes are satisfied and exhibit purchase intent. Similar research has previously been conducted in the financial sector (Ding et al., 2009) examining three website features and their influence on flow which in turn lead to consumer satisfaction.

The research questions for the empirical research are:

RQ1: How website design attributes influence the flow experience online?

RQ2: Subsequently, how a customer's flow experience online influence customer outcomes?

RQ3: Are customer outcomes online mediated by the flow experience?

To address the above-mentioned research questions, given the current knowledge base two studies were undertaken. The aim of the first study was to identify and reaffirm website design attributes that are crucial to consumers while shopping online. There is currently limited literature on website attributes. The study evaluates real-time customer journeys of six participants to adequately determine important website design attributes. Given the research question for the empirical study, the research objectives for the preliminary research study are:

RO1: What website attributes are important to a customer in online retail?

RO2: What are the associated characteristics for these website attributes to inform the measurement items for the same?

The second study formulates a conceptual model and related hypothesis based on causal links between website attributes (identified in study one and literature) and flow, and flow to customer outcomes. The study establishes findings through a pre-test, pilot and full empirical research. The stages followed in this thesis are depicted in figure 8.

Summary

In general, the literature on online customer experience in online retail can be organised into four distinct themes: (a) frameworks of online customer experience, (b) antecedents of online customer experience (c) outcomes of customer experience and (d) the effect of website features. In the early 1990s, due to the new online format, literature initially focused on perceived risk and mitigating it with brand and trust. The focus then shifted to the role of online customer experience as a differentiating

factor. Flow is widely researched in the context of online customer experience. Csikszentmihalyi coined the term flow in 1977, the role of flow and its influence on customer outcomes in online environments established in the 2000s. Website features were additionally explored in relation to their impact on customer outcomes and antecedents. While there are strong links among the four distinct themes, knowledge base evaluating the impact of website features on customer experience is absent. Thus, deriving the research objective for this thesis.

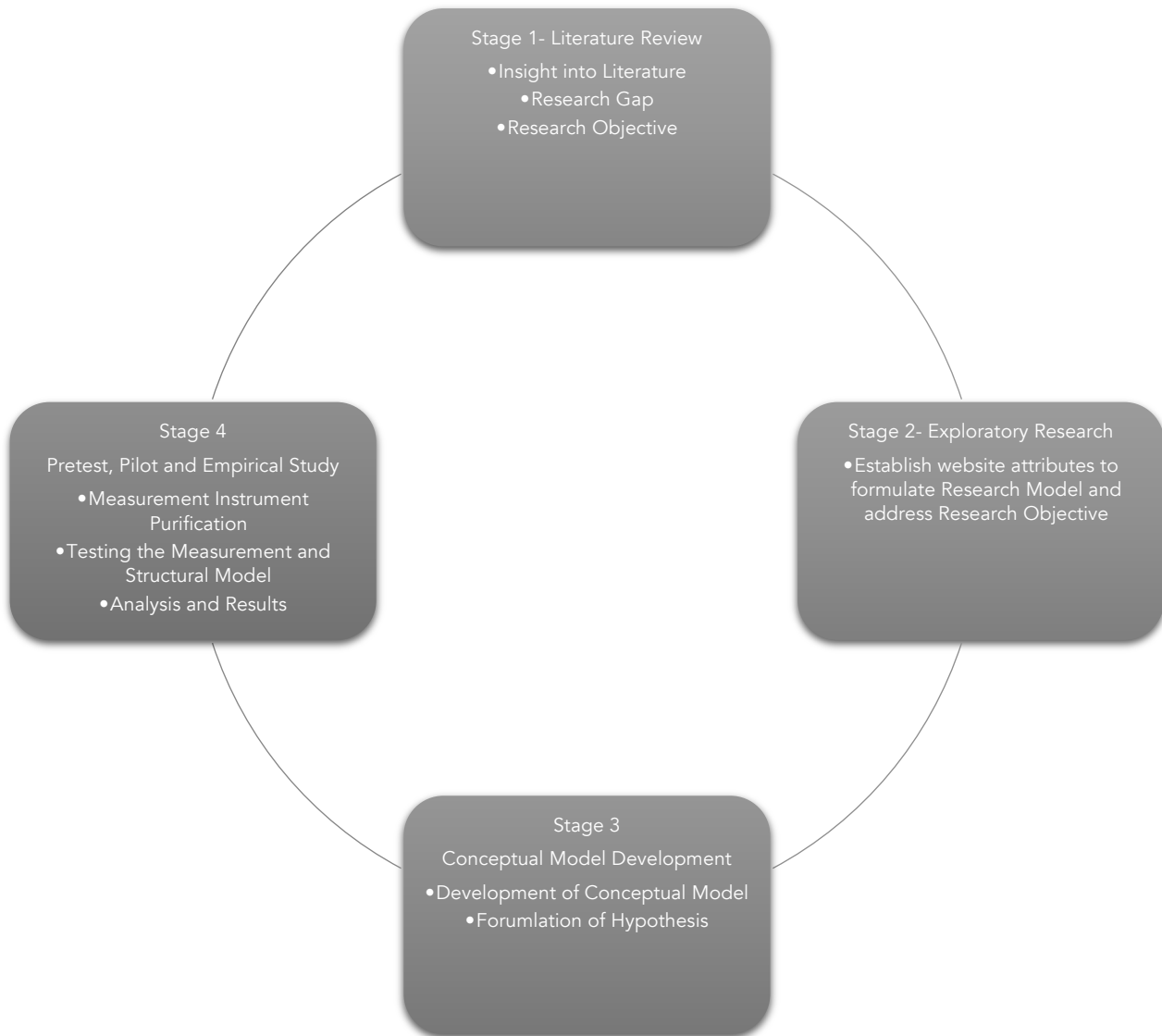


Figure 8 Thesis Overview

3 Study One – Preliminary Exploratory Research exploring Online Customer Journeys

This chapter presents the first study of the thesis to address the overall research objective raised in section 2.6; to investigate how website design attributes influence the creation of an optimum shopping experience online. However, the inherent knowledge surrounding website attributes for experience is limited; therefore, justifying the need to conduct a preliminary study. This initial research aims to identify website attributes before the comprehensive empirical research. Given the limitations within literature surrounding the current body of knowledge, the main objective of this study is to further improve understanding of website attributes that are crucial for customer experience when making a purchase online as well as deriving measurement items.

Experiences are a consequence of interactions between the consumer and the retailer, its systems and processes (Bitner et al., 1997). There are a variety of tools to measure customer experience as a result of customer interactions with the firm's touchpoints (Nasution, Sembada, Miliani, Resti & Prawono, 2014) such as experience audit (Berry et al., 2002), servicescapes design (Bitner 1997; Lin, 2004) customer journey mapping (Johnston and Kong, 2011; Shaw and Ivens 2002) and service enabled customer experience (Gopalini and Shick, 2011). The study employs customer journey mapping (CJM) to examine online customer experience. CJM helps determine website attributes that are crucial to online customer experience when making a purchase online. In this study, real-time online shopping experience of six participants is examined through customer journey mapping; which are employed to facilitate the design and assessment of overall experience (Bitner, 1992; Ivens 2007). Customer journey mapping offered a comprehensive technique to study the experience of a customer as it enabled the examination of a real-time shopping experience which allowed the successful identification of significant website features that are vital to customers when making a purchase online. Additionally, through the examination of online customer journeys, the study additionally provided insight into the role of website attributes and their influence on the customer's decision-making process.

In addition to the primary objective, to identify key website design characteristics that contribute to an optimum shopping experience, the objective of this study was also to define measurement items for the identified website attributes. The identified measurement items were employed in study two.

The latter study presents a conceptual model based on causal relationships within literature, that website features lead to optimum experiences which in turn lead to desired customer outcomes, i.e., satisfaction and intention to purchase. This chapter presents the research objective, followed by the methodology, related literature relevant to this study and analysis and results.

3.1 Research Objective

The research objective for study one is rooted in the overall research questions for this thesis and is raised from the gaps in knowledge surrounding website attributes that are crucial in online retail from a customer experience perspective. Throughout section 2.5 of the literature review, it is apparent that the existing knowledge base details few website attributes that may be deemed crucial from an online experience perspective. As, the research relating to website attributes originates from a few research papers by Speck and Elliot (2005); Chiang and Nunez (2007); Park et al. (2005); Palmer (2002); Baier and Stuber (2010) and Sasaki et al. (2011) all which address some website attributes i.e. product presentation, variety, information, recommendations and navigation. Study one, thus, presents a need for additional investigation into website attributes to systematically ascertain a complete set of website attributes that are relevant to the online experience. Moreover, the current literature dates as far back as 2002 and as technology is changing rapidly it is crucial to establish website attributes prior to the empirical research; to address the overall research objective.

Notably, Mummameni (2005) postulates that a retailer's website determines its success, as customer interactions with the website translate into emotions which in turn impact customer outcomes. There is a degree of understanding relating to website features and their impact on a customer. Product information for instance presented on a website assists the customer to overcome uncertainty that may be associated with making a purchase online thus helping the customer to establish confidence in making a purchase online (Barber et al., 2007). Nonetheless, as established previously there remains a gap in literature related to website attributes due to limited research. Due to this gap in knowledge surrounding website attributes in online retail, this study has the following objectives:

RO1: What website attributes are important to a customer in online retail?

RO2: What are the measurement items for website attributes?

3.2 Research Methodology

This section is specifically related to the research methodology implemented to address the above-mentioned research objective. This section explains and substantiates the methodology employed to investigate the research objective and overall research question. The research method is used wholly to describe the technique of data collection (Bryman and Bell, 2007). While, methodology is used to combine the method of study (survey, interviews) and its philosophical positioning that informs the method (objectivism, realism) (Bryman and Bell, 2007). By understanding the distinctive elements of the research paradigm, one recognizes the philosophy behind different theories and how they apply to research (Bryman and Bell, 2007).

A research paradigm formulates beliefs that guide research, the basis of which are three fundamentals: ontology, epistemology and methodology (Denzin and Lincoln, 1994). The research paradigm is deemed essential to understand, to undertake informed research (Saunders, Lewis, and Thornhill, 2003). Additionally, the paradigm impacts methodology (Saunders et al., 2003). Within the three fundamentals (ontology, epistemology and methodology), methodology should be considered secondary as fundamental philosophical beliefs guide the investigation (Saunders et al., 2003). Equally, it is important to note the philosophical commitments one makes through the choice of research as the research philosophy helps to grasp the researcher's view of the world and correspondingly what they are inferring (Saunders et al., 2003). Within the three fundamentals, ontology is related to the nature of reality and its underlying postulates while epistemology is concerned with the what is adequate knowledge within a discipline or a field of study (Saunders et al., 2003). This section explicitly addresses the research paradigm (the epistemological and ontological assumptions) and the specific methods utilised within the research. The research onion given below reveals the entire philosophical and methodological spectrum which should be considered when undertaking research. Saunders et al. (2003) recommend different layers be examined to help establish a research philosophy and to select the appropriate method.

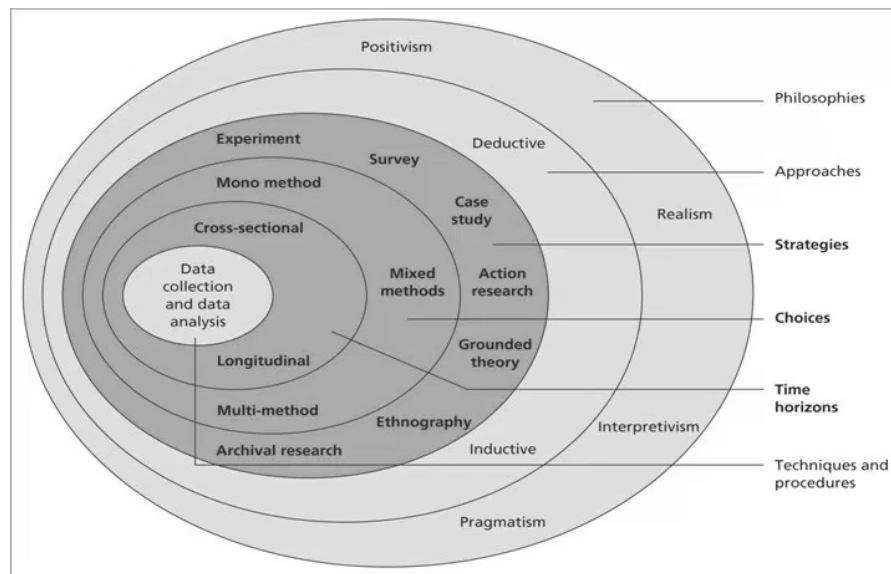


Figure 9 Research Onion (Saunders et al. 2013)

3.3 Research Philosophy

This section is related to the different philosophical approaches that underpin the approach to research. As mentioned previously, understanding the research paradigm and determining the appropriate philosophical standpoint is paramount, as this informs the methodology (Lincoln, 1994). Questions of ontology cannot be separated from issues related to the conduct of business research as ontological and epistemological assumptions, and commitments feed into the way in which the research question is formulated and investigated (Bryman and Bell, 2007). Research philosophy is moreover deemed crucial, to undertake informed research (Saunders et al., 2003).

3.3.1 Ontology

Ontology is related to the nature of reality and raises questions about how the world operates, and the commitments held to particular views (Saunders et al., 2003). As such, ontology denotes the researchers' view of reality (Saunders et al., 2003). Whether this reality is objective or in fact derived from perception; with actions of individuals described as objectivism and constructivism (Bryman and Bell, 2007). Similarly, realism is the assumption that reality exists independently of human

observation while relativism is the assumption that reality is simply formulated through the human mind. As a result, ontology is crucial as the ontological perspectives underpin the study and the manner in which it conducted (Bryman and Bell, 2007).

3.3.2 Epistemology

Epistemology is linked with what is deemed acceptable knowledge within a discipline or field of study (Bryman and Bell, 2007). It is concerned with the nature of knowledge and encompasses the origin of this knowledge (Saunders et al., 2003). Epistemology additionally clarifies the association between nature and reality (Bryman and Bell, 2007). Notably, the reality is signified by factors the researcher believes to be true or real; which addresses how the world is perceived (Bryman and Bell, 2007).

Positivism and intepretivism are suggested within the paradigm to conduct a scientific investigation (Saunders et al., 2007). As epistemology concerns itself with what is or should be deemed acceptable knowledge within a subject/discipline. A principal theme is whether or not the social world can be studied according to uniform principles, procedures and ethos, thus associating positivism and epistemology (Bryman and Bell, 2007).

3.3.3 Positivism

The principal belief of positivism is that only phenomena that can be established by the senses can be deemed acceptable knowledge (Bryman and Bell, 2007). The basic foundation of positivism is that the world is external and objective and thus the researcher should focus on facts (Johnston and Durbly, 2003). The commitment of this school of thought is to formulate hypotheses that can be evaluated to formulate explanations with knowledge collected through the assembly of facts (Bryman and Bell, 2007). Within positivism, there is a distinct division between scientific and normative statements with the former believed to be the accurate realm of the scientist. Positivism itself has been the fundamental philosophy associated with scientific endeavours and impacts how one evaluates truth (Johnston and Durbly, 2003).

3.3.4 Post- Positivism

Post-positivism deals with the relationship between social reality and knowledge creation (Bryman and Bell, 2007). However, definitions vary hugely with some authors believing post-positivism to be a subset of positivism or consider it to differ significantly from positivism (Bryman and Bell, 2007). Prasad (2005) clarifies that post-positivism comprises three primary beliefs:

- Theories are detached from people as people suggest notions, but the context in which we operate is different
- Theories are influenced by numerous researchers who intermingle with each other's notions; challenging or building upon the notions.
- Post-positivism consists of various intellectual traditions such as critique.

The first belief of post-positivism does indicate similarities between post-positivism and positivism.

3.3.5 Critical Realism

Critical realism shares an ontological realism with positivism. However, it differs vastly from any post-positivist approach. While the foundation of positivism is that our senses establish knowledge, critical realism postulates that knowledge that cannot be established or measured by our senses may still be real (Johnston and Durbly, 2003). Critical realism signifies two implications; first, it implies that conceptualisation is simply a way of knowing reality (Bryman and Bell, 2007). Bhaskar (1975) asserts that “science then is a systematic attempt to express in thoughts the structures and ways of acting that exist independently of thought.” A second implication is that critical realists, unlike positivists, are entirely satisfied to acknowledge their definitions of theoretical terms are not directly acquiescent to the observation (Bryman and Bell, 2007). Thus, hypothetical entities account for predictabilities in nature or social order (Bryman and Bell, 2007). Critical realism is considered critical as it enables the identification of generative apparatuses introducing the possibility of change that can change the status quo (Bryman and Bell, 2007).

Critical realism differs from positivism in four ways (Johnston and Durbly, 2003):

1. Social and natural reality cannot be fully established through observation, this requires comprehension through a process of theorisation.
2. The manner in which observations are expressed are not theory neutral as they are influenced by one's social-political perspective. Further the manner in which reality is expressed serves as an interpretive lens.
3. Science is not a consequence of scientific practices but rather a legitimisation of practices that are considered scientific
4. Causation is not fully articulated through a constant concurrence of events as in positivism but rather it can ensue in regular events. The latter is studied through a process that involves describing the phenomenon, a description of the assumed underlying mechanisms or the structure that causes the phenomenon followed by testing the causal relationships (Johnston and Durbly, 2003).

3.3.6 Intrepretivism

A different epistemological approach to positivism is intrepretivism (Bryman and Bell, 2007), embracing the view of the writers who have been dealing with the application of a scientific model to the study of the social world. Intrepretivism postulates that different intellectual traditions sway views. Intrepretivism argues that the subject matter of social sciences is different from that of natural sciences thus requiring a different research logic (Bryman and Bell, 2007). The crucial point is that the task of causal explanation is undertaken concerning the 'interpretive understanding of social action' rather than an external force that has no meaning for those involved in social action (Bryman and Bell, 2003). One such concept is phenomenology concerned with how the individual interprets the world and how to filter out preconceived notions of his grasp of the world (Bryman and Bell, 2007).

3.3.7 Suitability of Critical Realism

Given the understanding of the research paradigm, it can be argued that critical realism is a suitable paradigm to address the research objective for three primary reasons. First, it can be argued that critical realism can provide a paradigm that captures the apparent unobservable nature of key elements within the study. Within the critical realism paradigm, it is believed that things that cannot be measured or observed by our senses may still be real (Johnston and Duberly, 2000). Experience is real; however,

one cannot measure another's experience through our senses, yet it occurs. In Section 3.3.5, critical realism establishes that reality cannot be fully measured through observation alone.

Further, the data analysis technique used within the study, i.e. structural equation modelling employs a set of observed and latent variables to draw results supporting the suitability of critical realism paradigm to this research. Secondly, another essential basis of realism is the process of conceptualisation to establish reality. Within this research causal links from study one and literature form the basis of the conceptual model pertaining to the research question, i.e. how website design can impact the customers' experience of flow which in turn leads to desired customer outcomes. Thirdly, critical realism postulates that reality is established through theorisation. The key experience framework used with the study i.e. the flow framework is established through theorisation. Similarly, the conceptual model is established through theorisation.

3.4 Research Design and Data Collection Procedure

The research methodology for study one is designed to explore significant website design features. Evaluation of customer journeys was undertaken to determine notable website features from a customer experience perspective. Study one specifically addresses the following research objectives:

(1) What website attributes are essential to a customer from a purchase perspective in online retail?

Since research on website attributes is limited, specifically from an experience perspective, an exploratory approach is taken to the first study in the thesis. The thesis presents preliminary research conducted with six participants to operationalise website attributes and to determine measurement items. The primary objective of this research was to investigate website design imperatives that were vital from a customer perspective. Additionally, to help inform website attributes for study two to address the overall research objective of this thesis. Customer journeys were constructed at the core of this investigation. Customer journey maps offer an ideal representation of customer experience as they are often used to track and analyse the experience of the customer and to evaluate the quality of the experience (Mangiaracina et al., 2009). Customer journey analysis allowed the study to take a more customer-focused approach as they allow profiling and understanding from a customer perspective and helps comprehend customer needs (Whittle and Foster, 1989). Customer journeys are the process

customers go through with the retailer's touchpoints while the customer journey map is a tool utilised to evaluate the experience as a result of interactions with the touchpoints. Customer journey maps broadly include different phases of a shopping exercise while providing a more customer-centric approach (Buttle 2003). Customer journey mapping itself is a linear, time-based, depiction of the main stages that a customer goes through while interacting with the retailer (Richardson, 2010). While there are numerous applications of customer journey maps, Mangiarancina et al. (2009) proposed the first structured customer journey map with a particular focus on e-commerce. A customer journey map in the context of electronic commerce can be divided into five critical stages, i.e. site entering and landing, product discovery, product selection and personalisation, shopping cart and checkout. These are explained in more detail below as given by (Mangiarancina et al., 2009)

- Site entering and landing: A customer can enter the website through a variety of routes such as search engines, newsletters and marketing campaigns.
- Product Discovery: At this stage, the customer familiarises themselves with the website and begins browsing products.
- Product Selection: Customers assess the products of interest through imagery, product information and reviews
- Cart Management: Thereafter, the customer adds products to the cart and views the entire cost including taxes and shipping
- Checkout: Finally, the customer inputs information about themselves and completes the transaction.

Integrating customer journey mapping into this study, each respondent was required to take part in a shopping exercise on a specified online website. The participants' user behaviour was recorded using usability software. Their interactions with the website (recording mouse movements on the website) and video of their face was captured. The objective of using usability software to capture this information was to validate the responses of each respondent. Additionally, the objective of this exercise was to uncover any hidden website attributes that may have been overlooked during the interviews. All participants' interview responses were cross-referenced with the recordings of their sessions.

Prior to visiting the website, the respondent was asked to loosely note down an item they would be shopping for during the session together with their current mood. They were asked to make a shopping list of three items to ensure they had a goal in mind before undertaking the shopping activity. The rationale behind noting the mood at the start of the session was to determine how interactions with the website impacted the respondents' mood along the customer journey. They were then required to follow a task list and were given a gift voucher to complete the transaction. A gift voucher was provided to ensure that respondents complete the purchase transaction and thus the final stage of the customer journey i.e. checkout; allowing the sessions to be a close representation of a real-world shopping experience. The study itself was qualitative in nature involving six students. Each session was divided into two parts, a website session followed by a semi-structured interview. The session required the respondent to follow the task list and complete checkout online. While the second part included outlining emotions together with a semi-structured interview about their online experience. An overview of the research is presented below followed by the in-depth structure of the session and the rationale.

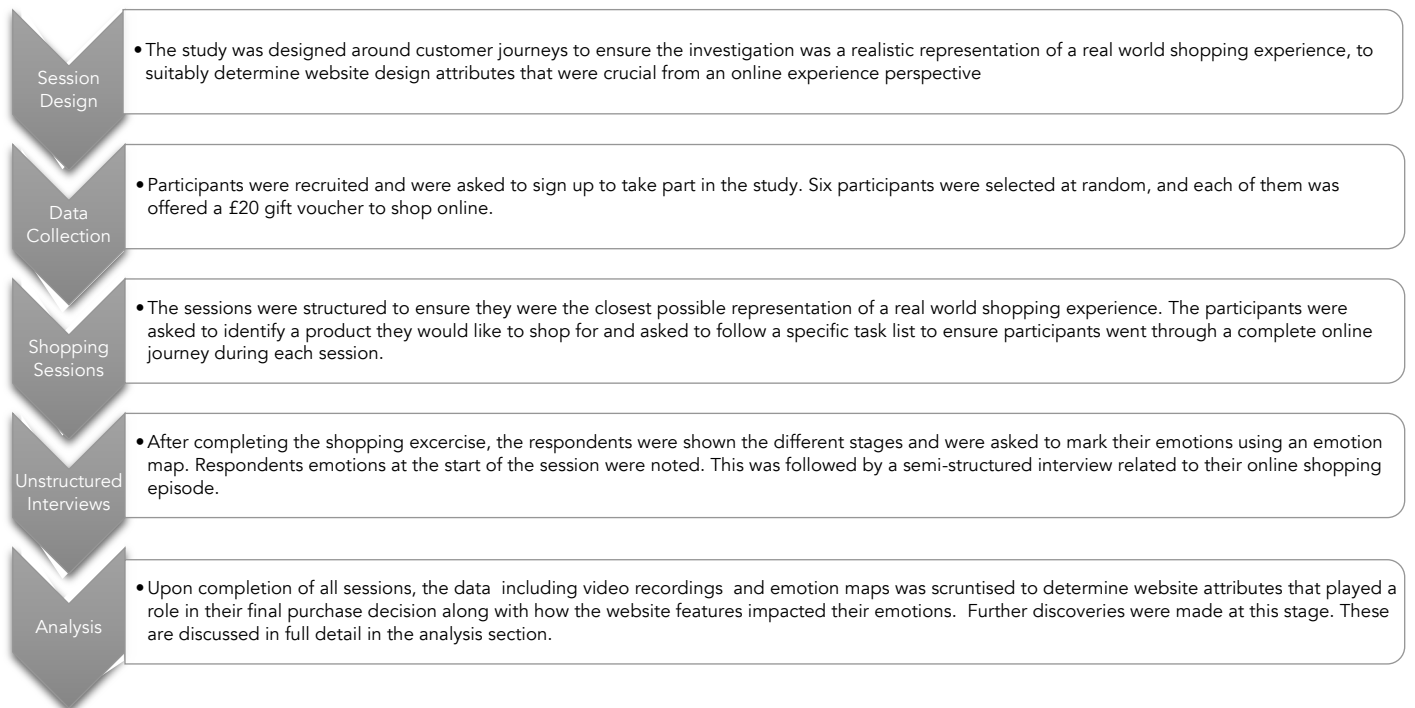
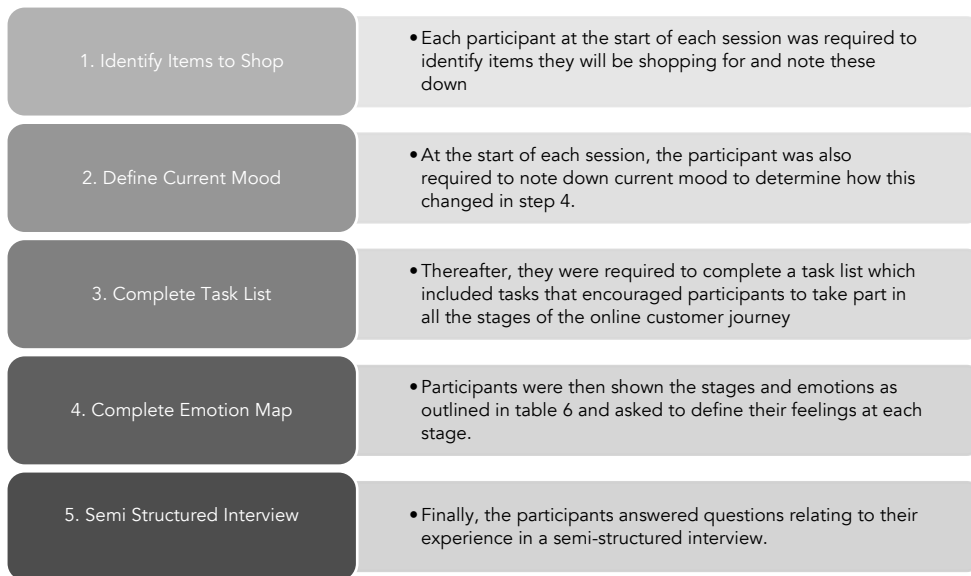
3.4.1 Structure of the Sessions

Six participants were recruited to take part in the preliminary research for study one from an operations management class. Qualitative research experts argue that there is no straightforward answer to the sample size (Baker and Edwards, 2012). Sandelowski (1995) suggests a sample size large enough to allow discovery of new knowledge related to the phenomenon under study, but small enough to allow 'deep, case-oriented analysis'. In this particular research study, a sample size of six was deemed appropriate to suitably address the research objectives and to allow 'deep, case-oriented analysis'. Further, no new information was thought to be extracted by a greater sample size.

The session followed a five-step approach as depicted in figure 9. Each of the participants was given an overview of the structure of each session. At the start, the participants were required to select their current emotion from a table of emotions (table 6). They were also required to choose up to three items they would be shopping for during the session. Thereafter they were provided with a task list to complete on one of two websites (ASOS or Next). We adopted the five stages of the online customer journey proposed by Mangiaracina et al. (2009) to formulate the study's task list; ensuring participants

completed the entire customer journey. The two websites utilised in these sessions were selected from an index report on the Top 500 retail websites in the UK given by Sitemorse, a digital web auditing firm (Sitemorse, 2010).

Figure 10 Structure of Sessions



The participants' interactions with the website along with a video of their face were also recorded during the session using web usability software. The participants were also asked to make a shopping list consisting of three items. The justification behind this was to ensure that the participants spent a reasonable amount of time interacting with the website. It is important to acknowledge that not all users will have a shopping list in mind, but they may have a brief idea of what to search for or may just be browsing even if they don't have a purchase goal in mind. Motivations to shop online are discussed in section 2.3.1.4 of the thesis. Based on motivations customers can be divided in two; Utilitarian customers typically shop with a product goal or objective in mind while hedonic customers enjoy the shopping activity and carry out shopping as a fun activity with or without a goal in mind (To et al., 2007).

After making their shopping list, the participant was required to log on to a given online website and commence shopping for items on their list. They could check out one piece of their choice using a gift voucher provided as an incentive to take part in the study at the end of the session. Participants were made aware that their computer screens were being recorded and to not enter any personal or financial information. The task list (Appendix 7.2) encouraged participants to engage in all the different stages of the customer journey.

Further, the participant was required to describe their emotions at each stage of the journey by selecting from a set of emotions. The set of emotions employed in the study were taken from Steenkamp and Laros (2003) hierarchy of consumer emotions. The rationale was to evaluate how customers emotions shift during the shopping activity and gain some insight into cart abandonment (Section 2.4.2). Further, the aim was to accurately determine how website features impacted customer emotions during the shopping activity. From literature (Section 2.2), we understand that customer experience is characterised by the customer's feelings and emotions as a result of their interaction with the company (Lemke et al. 2011, Verhoef et al., 2007). Emotions can broadly be classified in negative and positive emotions (Laros and Steenkamp; 2003). We used a combination of positive and negative emotions. By associating a negative or positive emotion to each stage, we can gain an insight into the website attributes negatively or positively impacting the customer experience of the participant. The emotion map used in this study is presented in table 6.

Table 6 Emotion Map used during the sessions

1. Entering the website	2. Browsing the website	3. Assessing the Products	4. Managing the Cart	5. Check out & Order Setup
Frustrated Worried Happy Helpless Optimistic Contended Passionate Pride Embarrassed	Frustrated Worried Happy Helpless Optimistic Contended Passionate Pride Embarrassed	Frustrated Worried Happy Helpless Optimistic Contended Passionate Pride Embarrassed	Frustrated Worried Happy Helpless Optimistic Contended Passionate Pride Embarrassed	Frustrated Worried Happy Helpless Optimistic Contended Passionate Pride Embarrassed

Thereafter the participants took part in a semi structured interview (Table 7), where they were asked about their shopping experience, website design, likes and dislikes of their shopping process.

3.4.1 Sample

Participants for this study were recruited in an operations management lecture where undergraduate students were asked to sign up to take part in the study. Six participants were selected at random from thirteen that expressed interest, and each of them was offered a £20 gift voucher to take part in the session. Each participant was sent an email inviting them to come and take part in the study at the research centre, two selected participants cancelled, so a further two participants were invited. Each participant took between one and two hours to complete each session. Thirty to forty minutes were spent solely on the website. The justification behind recruiting university students was that they are known to be unusually heavy internet users with easy access to the internet and hence known to have experience in shopping online (Yoo-Kyoung and Marjorie, 2007, Kim and LaRose, 2004).

Table 7 Interview Questions (Study One)

Part A – Overall Experience	
1	How was your shopping experience? Did you enjoy shopping online or not?
2	Was there any aspect of your experience with the website that you particularly liked?
3	Anything with the website that you disliked or weren't happy with?
Part B - Specific Website Attribute Related Questions	
1	What did you think of the product variety?
2	Did you think there were too little products to choose from?
3	Where their things on the website similar to those on your shopping list?
4	What did you like or dislike about the product presentation?
4	Was there enough information about the products on the website? Eg materials,
6	How easy or difficult was it to find the information on returning items purchased using a gift voucher easily?
7	Were there many ways to contact customer support?
8	What do you think of product recommendations on the website?
9	What did you like or dislike about the customer services section?
10	What aspect did you like or dislike about navigating thru the website?
11	What did you think of the visual appeal of the website? Example layout, graphics
12	Do you think you will use this website in the future to make purchases?
13	Were the products you wanted available in stock? How did you feel about the lack of product availability?

3.5 Related Literature

Shopping has radically changed over time and now includes a multitude of touchpoints; customer journeys thus allow researchers and retailers to adequately understand customers shopping habits, behaviours and influences (McNeal, 2013; Lemon and Verhoef, 2016). Customer journeys encapsulate the full sequence of encounters the customer interacts with the firm during which the customer makes judgements, which contribute to overall customer satisfaction (Bitner, 1990). Customer journeys can include a sequence of interactions across the brick and mortar store and in the virtual world (Norton and Pine, 2013). It is essentially the series of events, “that customers go through to learn about, purchase and interact with the company’s offerings” (Norton and Pine, 2013 pp12). Customers interact with the firms through a variety of touch points such as social media, showroom and website making the customer journey even more complex (Lemon and Verhoef, 2016). Customer experience is due to be even more complex to manage in the future due to the involvement of several touchpoints (Marketing Science Institute, 2016). Nonetheless, customer journeys are deemed crucial. Through the evaluation of experience at each touchpoint, one can gain an insight into how the overall experience can be improved (Schmitt, 2003).

The following section describes relevant concepts to this study and frameworks including customer journey mapping, the buyer’s decision-making process and hierarchy of customer emotions. The rationale for including literature in this study is two-fold; one is to ensure that related concepts and models used to formulate the research design are adequately explained and second to provide the reader with an understanding of the concepts to effectively grasp the findings.

3.5.1 Customer Journey Mapping

A customer journey map is a tool which depicts the sequence of events the customer may interact with the firms’ touchpoints during purchase (Rosenbaum, Mama, and Algom, 2017 Mangiaraciana, Brugnoli and Perego, 2009). The customer journey map can consist of a chain of touchpoints that include interactions with a brand both online and offline (Skinner, 2010) Previously, companies considered a simple linear approach to customer journey maps which included primarily three stages; initial awareness, research and finally purchase (Richardson, 2010). However, increasingly retailers are acknowledging that the path to purchase is non-linear (Richardson, 2010; McNeal, 2013) and the

notion that online media can lead to offline sales has also become increasingly popular (Skinner, 2010). Thus, by examining customer journey maps retailers can consider various consumer factors that affect the purchase decision, and this can help retailers to gain insight into customer processes, understand customer needs and design their offering accordingly (McNeal, 2013).

David and Norton (2013) described customer journey maps as a strategic document wherein a full description of the significant moments in the client's stages of interaction with the company are presented, allowing businesses to maximise consumer and business metrics for success. It is recommended that a customer journey should always be based on actual customer behaviour (David and Norton, 2013) as this enables firms to draw attention to the customer's needs by understanding it from the customer's perspective (Liedtka, 2011). Customer journey mapping shares theoretical foundations with blueprinting; an approach developed to improve the overall service delivery (Lemon and Verhoef, 2016; Bitner et al., 2008). A service blueprint typically maps out the complete service delivery route from back office to internal operations to front facing services (Bitner et al., 2008). Service blueprinting and customer journey mapping while sharing theoretical foundations are different. However, service blueprinting is not entirely customer focused (Lemon and Verhoef; 2016). Customer journey mapping unlike service blueprinting requires active customer inputs to be accurate (Lemon and Verhoef, 2016). While literature on customer journeys and customer journey mapping is limited; we can conclude that customer journey maps have the following characteristics based on existing literature: (1) are sequential in nature (Anderl, Schumann and Kunz, 2016); (2) depicts all possible touchpoints the customer may interact with during their interaction with the firm (Rosebaum et al., 2017); (3) is often visually depicted through a simple diagram or in the form of a flowchart (Liedtka, 2011; Rosebaum et al., 2017; Richardson, 2010); (4) the endpoint is often a purchase transaction (Rosebaum et al., 2017); and (5) are always depicted from the customer's perspective (Lemon and Verhoef; 2016).

Verhoef and Lemon (2016) depicted the online customer journey map in three broad stages, i.e. pre-purchase, purchase and post-purchase. Pre-purchase encompasses all interactions with a brand, category or environment before the actual purchase transaction (Lemon and Verhoef, 2016). This stage is characterised by needs recognition, search and consideration; Lemon and Verhoef (2016) integrated the consumer buying decision journey into the customer journey map. Needs recognition is a vital part

of the customer's buying journey, i.e. when the customer becomes aware of their requirement for a product (Huang and Christopher, 2003). Pucillini et al. (2009) and Verhoef et al. (2009) emphasised the importance of incorporating the customer buying decision process into the customer journey map to make it more comprehensive. The consumer buying decision process is explained in more detail in section 3.5.2 of the thesis. The second stage comprises all interactions with the brand and the firm's environment during the actual purchase (Lemon and Verhoef, 2016). There is an overall indication that the retail environment and clues affect the purchase decision (Berry, Carbonne and Haeckel, 2002). The last stage is post-purchase in Lemon and Verhoef (2016)'s customer journey map. In this stage, the actual product becomes the critical touchpoint. The interactions with the product formulate the customer experience (Lemon and Verhoef, 2016). Furthermore, Lemon and Verhoef (2016) identify four types of touchpoints: (1) Brand-owned touchpoints are owned by the firm such as advertising, website, store and anything the firm may influence; (2) Customer-owned touchpoints include anything the customer is responsible for such as payment method; (3) Social and External touchpoints such as peers and (4) Partner owned touchpoints can be app stores, google ad networks, email marketing providers. Verhoef and Lemon (2016) describe partner owned touchpoints as any that are jointly managed by a firm and those who provides services to the firm. On the other hand, the simplest form of depicting a customer journey includes three stages (1) Awareness (becoming aware of a need for a purchase), (2) Research (research of the product) and (3) the Purchase (Richardson, 2010).

However, the limitations with the above depictions of a customer journey map are that they are quite broad and can be quite often left to the researcher's interpretation. Furthermore, the final stage as proposed by Lemon and Verhoef (2016), i.e. the post-purchase phase may have external factors that influence the experience which may not be related to the actual performance of the product. E.g. a product may not function suitably due to the improper use rather than it being an outcome of the quality of the firm's product. The variables and time associated with the evaluation of the post-purchase stage are widespread. A longitudinal study would be required to make an accurate judgement.

In this research, we are primarily interested in customer experience in online retail. Thus, we consider the online customer journey map proposed by Mangiaracina et al. (2009) as a guiding model in this research. While there are overlaps in the stages in the customer journey proposed by Lemon and

Verhoef (2016), Mangiaraciana et al. (2009) and the traditional model of awareness, research and purchase (Richardson, 2010 (figure 11)). We deemed the model proposed by Mangiaraciana et al. (2009) more comprehensive and relevant in this instance compared to other models as (1) it is specific to online retail; (2) it contains the key stages involved in an online customer journey and; (3) it includes defined steps involved in an online customer episode.

While, other iterations of the customer journey maps are quite broad and thus leave a margin for researchers own interpretation of the sequence of events. The research can risk exhibiting suitable reliability and validity. Mangiaracina et al. 2009's online customer journey map allows us to take a more precise approach in the evaluation of the online experience. Moreover, the customer journey maps for different channels can vary significantly and can involve different stages. For example, in the consumer electronics context, the journey is more complicated and includes a higher degree of research thus the path to purchase is varied (Richardson, 2010). Therefore, the model proposed by Mangiaraciana et al. (2009) is suited to this particular research study in online retail. Nonetheless, we acknowledge that all three depictions of the customer journey map do have underlying shared characteristics as shown in figure 11.

Introduced previously, Mangiaraciana et al. (2009) propose five key phases that consumers are involved with while making a purchase on an online website. These are explained in more detail below:

3.5.1.1 Stage 1: Site Entering and Landing

This stage deals with how the user enters the website; many factors influence the customer's decision to visit a website such as marketing, search engines, emails and peers (Mangiaraciana et al., 2009). According to consumer barometer by Google (2017), nine per cent of consumers hear about a product from their peers and eight per cent from marketing channels. Once the customer enters a website, the first interaction is typically with the homepage (Mangiaraciana et al., 2009).

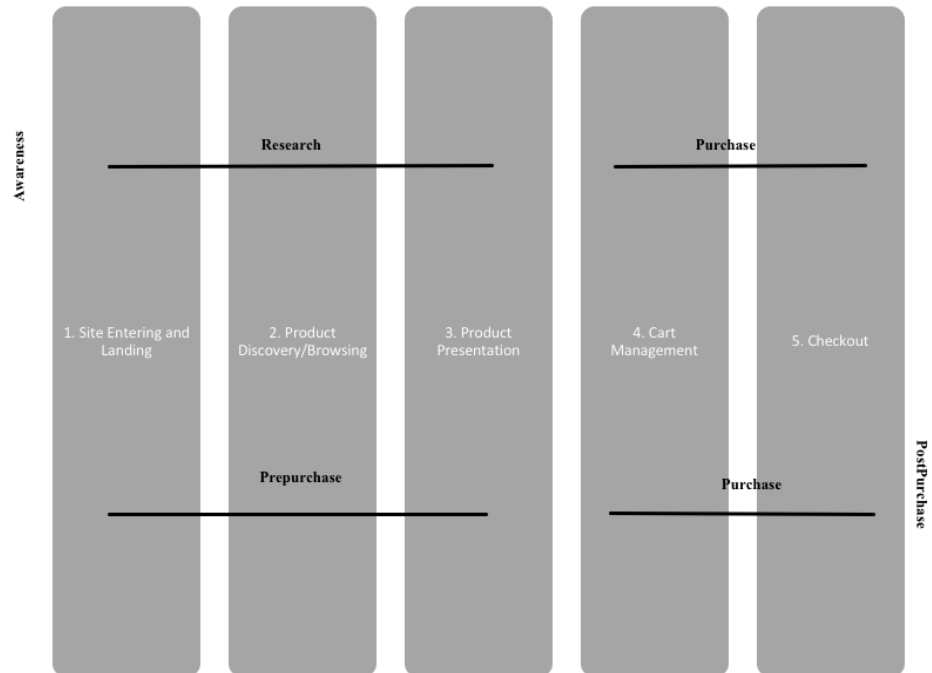


Figure 11 Overlaps in Customer Journey Mapping Models in Literature



Figure 12 Online Customer Journey Stages- Mangiaraciana et al. (2009)

3.5.1.2 Stage 2: Browsing Products

After that, the consumer familiarises themselves with the website and begins the search process for products (Mangiaraciana et al., 2009). Based on motivation, consumers are broadly classified as

hedonic or utilitarian (Section 2.3.1.4). Browsing in hedonic customers is motivated by pleasure or fun (Nsairi, 2012). While utilitarian consumers tend to have a task or objective in mind that they wish to fulfil (Florshiem and Bridges, 2006). While browsing products, the consumer interacts with search and product categories to narrow down a selection of products (Mangiaraciana et al., 2009). Additionally, consumers may use filtering to suit their requirements to filter products by size, price, brand and colour (Mangiaraciana et al., 2009).

3.5.1.3 Stage 3: Product Presentation

In Section 2.5.1, we established product presentation influences customers' evaluation of products and facilitates better decision making online (Park et al. 2005). Product Presentation also helps reduce the uncertainty of purchase (Kim et al. 2009). Product display is essential at this stage as customers cannot physically examine the products online (Kim and Forsythe, 2007).

Product attributes such as information, images and reviews all play an essential role in the purchase decision (Kotler and Keller, 2012; Kim and Kim, 2004). Users interact with images, videos, information and reviews to narrow down on products to purchase (Mangiaraciana et al., 2009). Additionally, the consumer can customise products by size and colour (Mangiaraciana et al., 2009).

3.5.1.4 Stage 4: Cart Management

Cart management is deemed a critical stage in the online customer journey, as there is known to be a high dropout rate at this stage (Mangiaraciana et al., 2009). As discussed in section 2.4.2, 67% consumers abandon their carts online (Rajamma et al., 2009), primarily due to the associated waiting times and complicated input fields (Kukar-Kinney and Close, 2007). One of the factors that impact online cart management is perceived risk (Section 2.3.1.1.). Buying decisions online are associated with a certain degree of uncertainty (Cunningham et al., 2005) discouraging customers from making a purchase online.

At the cart management stage, several other factors can impact the user such as voucher codes, delivery cost and taxes (Mangiaraciana et al., 2009). Moreover, upselling occurs at this stage which further

impacts the decision as retailers often display recommended or related product within the online cart (Mangiaraciana et al., 2009).

3.5.1.5 Stage 5: Checkout Process

The final stage of the online customer journey is the checkout process. Several factors impact checkout such as the number of forms, input fields and pages (Mangiaraciana et al., 2009). Safety and ease of completing the checkout are important variables at this stage (Mangiaraciana et al., 2009). If the consumer perceives a financial risk at this stage, i.e. is the risk of financial information being misused as discussed in section 2.3.1., the consumer may not complete the purchase (Forsythe and Shi, 2003). Trust can also play an essential role in mediating risk; retailers may employ cue-based trust at this stage through privacy seals, reviews etc. In Section, 2.3.1.2; we established cue-based trust is generated from a wide variety of factors such as privacy policy, the actual website design, and privacy seals. (Choi, Sohn and Lee 2010). Cues provided by the retailer form the basis for initial trust before the customer has made a purchase (Choi et al., 2010)

Additionally, the retailer may provide options to choose different delivery and payment options, which add value to the customer experience as it offers more choice to the consumer (Mangiaraciana et al., 2009).

3.5.2 Consumers Buying Decision Process

Lemon and Verhoef (2016) emphasised the importance of integrating the consumer decision-making process with the customer journey. Puccillini et al. (2009) further emphasised the importance of including the buying decision process when exploring customer experience. The customer's buying decision process is an overlapping concept with a customer journey as the buying decision process includes factors that the customer considers before and during the process of making a purchase. It provides more insight into the customer's decision-making process by providing an understanding of what influences customers while making a purchase (Lemon and Verhoef, 2016). Five known factors that the customers take into consideration while deciding to buy a product as depicted in figure 13, i.e., needs recognition, information search, information evaluation, purchase decision, post-purchase behaviour (Huang and Christopher, 2003). Each of these is explained below:



Figure 13 Consumer's Buying Decision Process

- Needs recognition ensues when the customer becomes aware of a need or requirement for a product (Huang and Christopher, 2003). The need to purchase a product may occur from marketing channels, peers or word of mouth (Lemon and Verhoef, 2016).
- During the information search stage, customers find information to adequately prepare to purchase from various sources such as peers, commercials, websites, blogs etc. (Kotler and Armstrong, 1996). A consumer can find information from a variety of sources such as forums, peers, social media and blogs, which all impact the consumers' decision to purchase from the retailer (Lemon and Verhoef, 2016).
- Furthermore, they evaluate the information provided, and this is believed to be a crucial stage as typically the customer's goal is to obtain the best quality product limited to a certain price range (Huang and Christopher, 2003).
- Thereafter, considering various factors, customers choose to purchase a product finally. Additionally, during the purchase decision stage, the customer will reflect on whether they want the product and consider price-quality value (Huang and Christopher, 2003).

3.5.3 Customer Emotions During the Online Shopping Process

In Section 2.2, we establish the customer's feelings, and emotions as a result of their interaction with the retailer's touchpoints characterise customer experience (Lemke et al., 2011; Verhoef et al., 2007). Furthermore, in Section 2.4, we establish that website features can evoke positive emotions which in turn influence desired customer outcomes (Kim et al., 2009; Mummalaneni, 2005).

Customers experience emotions when interacting with a website and as a result, elicit behaviour which is explained in the form of purchase decisions and consumption (Park et al., 2005). Customer emotions are an integral part of service experience; as customers are actively involved in the service encounter (Tumbat, 2011). Understanding emotions and feelings are therefore connected with explaining consumer behaviour (Èthier et al., 2006). All service encounters aim to produce an emotional state in the customers (Tumbat, 2011). While emotions are involved, multifaceted experiences (Èthier et al., 2006), emotions can be broadly divided into two categories; positive and negative emotions (Laros and Steenkamp, 2002)

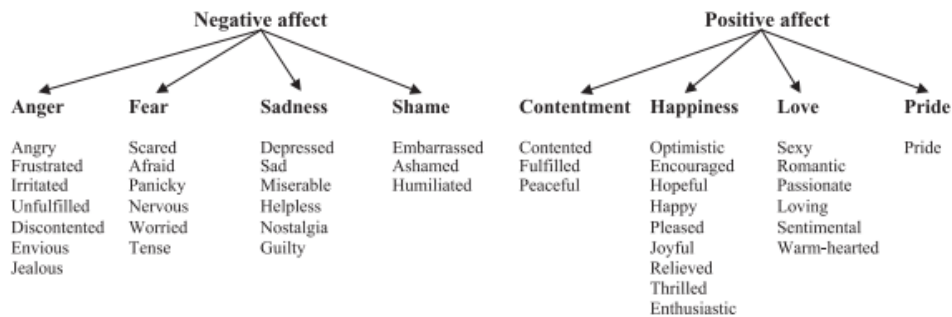


Figure 14 Hierarchy of Consumer Emotions, Laros and Steenkamp (2003)

Laros and Steenkamp (2003) proposed a hierarchy of consumer emotions (figure 14); negative emotions were broadly grouped into anger, fear, sadness and shame. While, positive emotions were grouped into contentment, happiness, love and pride. The hierarchy of emotions presented by Steenkamp and Laros (2003), draws on previous literature by Shaver et al. (1987) and Storm and Storm (1987). Each proposed primary emotion consists of secondary levels within each specific emotion (Figure 14). Specifically, positive emotions have been known to enhance behaviour and lead to a positive outcome (Park and Stoel., 2005). Customers may encounter a broad range of emotions while choosing products and interacting with the service provider (Park and Stoel, 2005). For example, moving objects (e.g., product videos) may evoke a positive emotion in a customer (Park and Stoel, 2005). A variety of emotions were identified and employed to gain insight into customer behaviour within this study.

3.6 Analysis and Results

This section deals with the analysis and findings of study one. As examined within section 3.5.1 of the literature, the online customer journey is often depicted as a linear process. However, results of study one indicate customer journey maps consider a non-linear approach, integrating the consumer's buying process. Pucillini et al. (2009) and Verhoef and Lemon (2016) also supported the inclusion of the buying journey in the examination of customer experience. A holistic approach can be formulated by including the consumer's buying process as customer journeys explore customer experience over a series of touchpoints that lead to purchase.

Customer journeys include a series of touchpoints where the customer interacts with the firm formulating the customer experience (Bitner, 1990). Customer buying decision process provides insight into what influences the customer to make a purchase (Lemon and Verhoef, 2016). Examining both the customer journey and customer buying decision process together can provide a greater insight when examining customer experience through customer journey maps. Allowing the researcher to understand what influences the customer, and further understand the impact of the firm's touchpoints on the customer decision making process.

Further, it can also provide more insight into what influences the customer at different stages of the customer journey which provides an understanding of factors that ultimately result in a purchase transaction. Other findings that emerged during analysis were related to the influence of perceived risk and an indication of the influence of website design attributes on the overall experience. Understanding perceived risk (section 2.3.1.1) is crucial as it can provide additional insight into why customers exhibit non-purchasing behaviour. The findings indicate that website features such as product information and presentation enhance the overall experience and thus influence the purchase decision. The findings are explained in detail below:

3.6.1 Finding 1

To address the research objective for study one: (a) What website attributes are important to a customer from a purchase perspective in online retail? also, (b) What are the associated characteristics for these website attributes to inform the measurement items for the same? The interviews were transcribed

(Appendix 7.1). The interview transcripts were then coded by theme to derive measurement items and draw relevant findings. Initially, the codes were related to a website attribute to help address the research objective. Table 8 outlines the website attributes that influenced the respondents during their online customer journey and how the respondents described the website attribute. The number displayed in brackets in table 9 is the respondent identification number. From Table 8, 16 measurement items were derived for study two; further discussed in section 4.2 of the thesis.

Table 8 Website Design elements and descriptions for use in Study Two

Website Attribute	Descriptors from Interview Transcript
Product Variety	<ul style="list-style-type: none"> • Loads of Products (1) • Few Products similar to those I was looking for (1) • Expected more products like my shopping list (1) • Good product variety (2) • Similar things to my shopping list (2) • More products than I expected (4) • Just Right (5) • Liked the product range (6) • Good range (6)
Product Presentation	<ul style="list-style-type: none"> • Catwalk feature was quite nice (1) • Would have liked to see a closer image (1) • Would have liked a closer look at the material (1) • Having all the similar styles at one place was nice (2) • All the different collection together was nice (2) • Confusing as each different colour of the same product was placed as a different product (2) • Only one view of jewellery items (2) • Couldn't see back and front (2) • Each thing was shown on a model (2) • I liked the catwalk (3) • All the models were western, I am Asian, so I don't know whether they will (3) • Some products were not displayed on a model (4) • Fit is important (4) • Looking at all the items at once (5) • Disliked that there was only one picture for each jewellery item (5) • liked when there were different photos and angles (5) • They gave a face look of the makeup (6)
Information on Products	<ul style="list-style-type: none"> • Quite a bit of Information (1) • Didn't look exactly (2) • The information was helpful (3) • Not a great deal of information (4) • Such as inseam (4) • Wasn't enough (5) • Wasn't obvious (5) • Lack of product information was the reason for not purchasing some items
Visual Appeal	<ul style="list-style-type: none"> • Relatively Plain (1) • You are there to shop so it doesn't really matter (1) • More colourful on the trends page (1) • Liked how they had everything by similar style on one page (2) • Liked the font (4)

Future Purchases	<ul style="list-style-type: none"> • Most likely (1) • Yeah (2) • There was more stuff I liked (2) • Yes, I think so (3) • Yeah (4) • Yeah (5)
Layout	<ul style="list-style-type: none"> • Dislike when product pop up (4) • Traditional (5)
Specific Website Features	<ul style="list-style-type: none"> • Enjoyed looking at what's in fashion in the trends section (1) • Liked saving items, so you can go back to them (3) • Also, being able to see the products I saw before (3)
Out of Stock Products	<ul style="list-style-type: none"> • Website displayed products that they didn't actually stock (1) • Clicked on Products but weren't available on the website (1) • Disliked they showed products that were not available in my size even though i had filtered by size (3) • Frustrated as more than 5 products were out of stock (3)
Checkout Process	<ul style="list-style-type: none"> • A bit frustrating (1) • Gift vouchers a small form, difficult to find (3) • Load of details that I didn't think they needed. Like such as address, as I was ordering in store. (4)
Customer Support	<ul style="list-style-type: none"> • Easy Access (1) • Chat feature kept popping up for help (1) • Not as easy as I suspected (2) Not intuitive
Filter Options	<ul style="list-style-type: none"> • Used Price low- High quite often (1) • It was easier (1) • Filtered by size (3) • Easy to filter by various details, such as price, size (3)
Navigation	<ul style="list-style-type: none"> • Trying to scroll up and down was a bit hard (2) • Sliding between pages was good (2) • Easy to filter (3) • I like opening many tabs at once (4) • Liked that you could filter by size, colour etc (5) • Sometimes it gets stuck (6) • Quite Straightforward (5)
Delivery	<ul style="list-style-type: none"> • One product took two weeks, so decided against it (2) • Worried, that I won't receive similar products (3)
Checkout Process	<ul style="list-style-type: none"> • Avg. Time Taken to complete checkout - 5.21 min • Avg. Pages before Order Completion - 7 • Avg. Fields to complete before Order Completion - 24

3.6.2 Finding 2

Through an examination of the interview transcripts, there is an indication that the customer's buying decision process is an essential factor that affects the customer during their online customer journey.

The findings are rooted in the interview transcripts as outlined in Table 9. There is an indication that there is an overlap with the respondents buying decision process and customer journeys.

As an example (Table 9): information evaluation (section 3.5.2.) plays a vital role for the consumer in deciding to purchase a product. Respondents evaluated information, presentation and videos of products to determine a purchase decision. When their evaluation of information was not satisfactory, the respondents did not make a purchase. Similarly, information search was based on the respondent's own needs, and consequently carried out information search that was specific to their own needs. For example, filtering by size. Hence suggesting the need to consider the consumer decision-making process along with the customer journey map.

Table 9: Buying Decision Process Indicators in Interview Transcript

Buying Decision Process Stages	Indications from the Interview Transcripts
Needs Evaluation (when the customer becomes aware of a need or requirement for a product)	NB: Occurs at the start of the session when respondent notes items they will be shopping for. Each participant identified three items to purchase at the start of the sessions
Information Search (customers find information to adequately prepare to purchase)	<ul style="list-style-type: none"> • Evaluated Trends within the website, to determine current fashion (1) • Searched for different products (2) • Searched for information on returns (2) • Saved items of choice, filtered by size (3) • Searched for products that matched needs (3) • Opens different products in tabs • Looked at all items at once (5) • Couldn't find items from shopping list (6)
Information Evaluation (the customer evaluates the information provided to facilitate decision making)	<ul style="list-style-type: none"> • Evaluated product information of the product (1) • Compared different products to insure made correct purchase decision (2) • Evaluating products from different angles (2) • Evaluated product videos (3) • Product information on dimensions was critical to purchase decision (4) • Product Presentation a model was a big factor (4) • Absence of different angles of product images was deterrent (5) • Information wasn't obvious (5) • Information played a pivotal role in final purchase decision (6) • Two weeks to ship influences purchase decision (2)

Purchase (the customer may reflect on whether they want the product and consider price-quality)	NB: All participants were required to purchase in this session using the provided gift voucher
Post -Purchase (Based on previous experience; determine post purchase behaviour)	<ul style="list-style-type: none"> • Will use for future purchasing (1) • Will use the website in future (4) • Will use the website in future (5) • Might use the website in future (6) • Will use in future as liked further products (2) • Might use website in future (3)

3.6.3 Finding 3

Through an analysis of customer emotions at the five stages of the customer journey (site entering, browsing products, assessing products, managing cart and checkout) specific trends emerged related to consumer emotions. Emotions of the respondents at different stages of the customer journey are depicted in Table 10. All participants exhibited positive emotions during the first three stages of their online customer journey, i.e., website entering, browsing products and assessing products. However, during the final stages of their online customer journey, i.e., managing cart and checkout, many of the participants exhibited negative emotions such as worry, helplessness and frustration. The interview transcripts (appendix 7.1) of the participants provided insight into the shift in participants emotions during the different stages of the customer journey; Figure 15 depicts specific interview responses related to the findings at each stage of the customer journey.

Table 10 Customer Emotions during Various Stages of Online Shopping

Participant/Stage of Customer Journey	Prior Mood	Entering the Website	Browsing Products	Assessing Products	Managing Cart	Checkout Process
1	Stressed	Optimistic	Happy	Optimistic	Happy	Frustrated
2	Worried	Happy	Optimistic	Worried and Helpless	Helpless	Frustrated
3	Worried	Happy	Happy and Optimistic	Happy and Contented	Contented	Happy and Contented
4	Content	Contented	Optimistic	Happy	Worried	Happy
5	Happy	Optimistic	Happy	Happy	Happy	Frustrated
6	Optimistic	Optimistic	Happy	Optimistic	Happy	Frustrated

At the start of the online customer journey, participants were happy and optimistic as they assumed, they might find products they wanted. Positive emotions were consistent in the first two stages. The main website features that contributed to positive emotions were features such as the ability to filter products by size and view by price based on personal requirements. These findings are explicitly outlined in the interview transcripts (appendix 7.1) and summarised in figure 15. Additionally, product variety also contributed to happiness and positive emotions. There were other features such as the trends sections (sections on the website showing products in use) which further captivated the participants, leading to positive emotions. Some participants during the stage of assessing products did exhibit negative emotions of worry and helplessness. The cause of negative emotions was primarily due to the lack of enough product images and product information. Besides some items, the participants wanted were out of stock resulting in negative emotions as depicted in figure 15.

Respondents did not purchase an item if there wasn't enough product information and images. For example, Respondent 2 couldn't judge the product through the images provided, Respondent 3 couldn't judge the product from different angles, and Respondent 4 wanted to know more about the product dimensions. In all of the three examples highlighted above the respondent did not purchase the item in question. Literature conceptualised this concept as perceived product risk (Section 2.3.1.1); fear the items they are browsing may not be the same as shown on the website. Product information and presentation helps eliminate the uncertainty associated with online shopping (Park et al. 2005)

Finally, as participants progressed in their online shopping journey towards the checkout stage (figure 15), more participants exhibited negative emotions of helplessness and worry. The participants that displayed negative emotions indicated they were concerned about the delivery time, not receiving similar items and about making the right purchase choice. Additionally, at checkout, respondents indicated that retailers asked them to provide information they did not require making them worried. Also known as perceived personal and financial risk (discussed in Section 2.3.1.1). For example, participants were paying for items with gift vouchers, yet they were required to fill in their credit card details, and some of the participants were getting their items delivered to the store but were still required to provide address information. On average, a participant spent 5.21 minutes checking out their items, going through seven pages of forms and completing twenty-four fields of information

before their order was completed. The volume of information and time associated with checkout resulted in negative emotions.

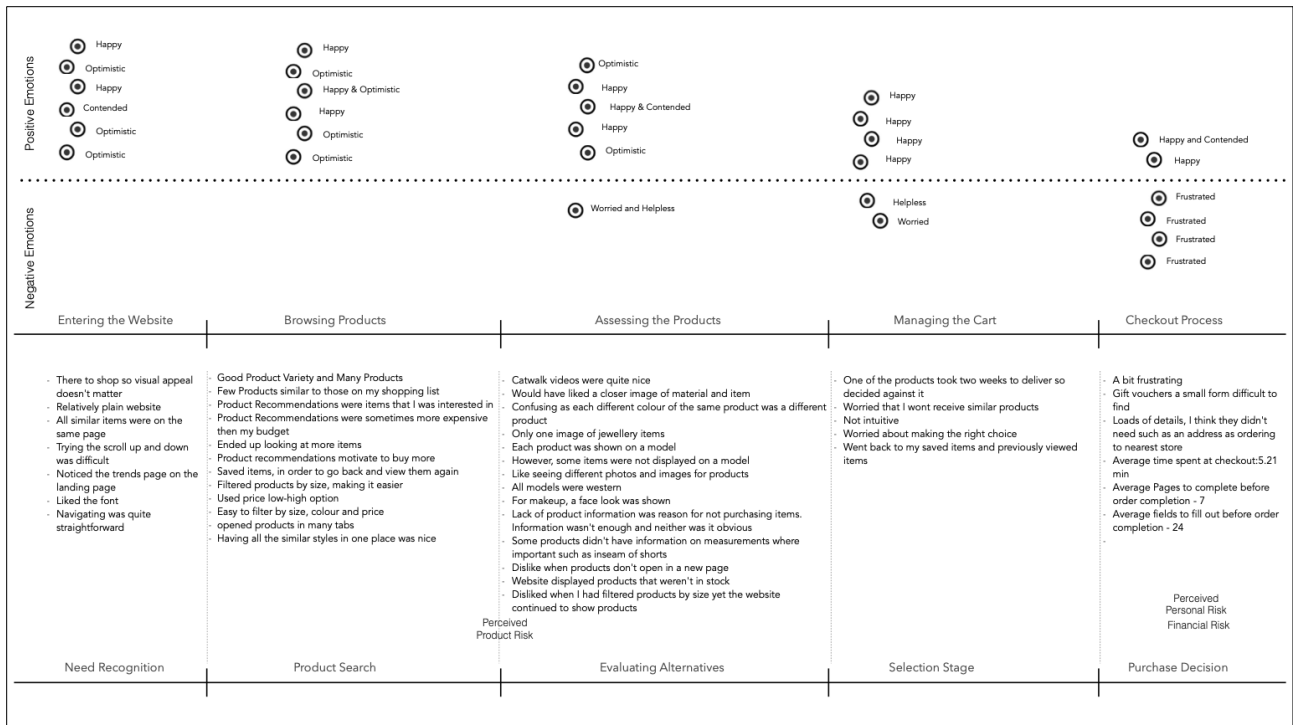


Figure 15 Overview of Emotions and Specific Responses During the Online Customer Journey

3.6.4 Discussion

Study one plays a crucial role in building on existing findings surrounding customer journey mapping, cart abandonment and website attributes. Customer journeys are typically depicted as linear, but the study provides evidence to support a non-linear approach.

Several factors such as perceived risk, online customer journeys, decision-making process, website features are discussed in literature independently. A synthesis of existing theory would suggest that there are potential benefits from taking a holistic approach. Providing an accurate representation of real-world experience. Taking a more holistic approach to customer journeys and considering other variables such as consumer decision making, and perceived risk can facilitate a better understanding of the shopping process in online retail. The study extends the findings of Verhoef and Lemon (2016)

by suggesting the need to integrate customer journey maps with the consumer decision-making process.

Additionally, the study provides an insight on cart abandonment. There is an indication that the time associated, and fields required can impact the cart abandonment. The design of the cart on a website can also evoke negative emotions if the consumer is required to follow several steps and input several fields. The findings also indicate website design features need to address both positive and negative emotions. Negative emotions need to be mitigated (where possible) using design strategies and features (product information, images, filtering and variety).

However, the objective of this study was to establish website attributes that were crucial to customers during their online customer journey. Further, the study aimed to inform the measurement items for the research instrument in study two. The study uncovered twelve website design (table 8) attributes that were crucial to consumers when online shopping, building on the research in Section 2.5. For example, there is an emphasis on the need for product information on a website (Kim and Niehm, 2009, Speck and Elliot, 2005); however, consumers also place importance on the provision of information on delivery and returns. Additionally, the study also allowed the formation of 15 measurement items to be implemented in study two.

3.6.5 Limitations

The study provides insights into the importance of a range of website design features. These results, however, must be considered indicative and warrant further research. The study does not seek to be exhaustive and is as such a preliminary study aimed to provide preliminary insight into website characteristics that may influence the overall online experience. Additionally, respondents were required to complete the purchase using a gift voucher as an incentive. Moreover, consumers were required to create a shopping list, which may not always be required when browsing a shopping website. Finally, the study does not consider how offline store visits may translate into online website visits or consider post-purchase behaviour.

3.6.6 Summary

During this analysis, participants indicated website features influenced their decision to purchase a particular item as highlighted in table 8; indicating the importance of website design attributes in online customer experience. It also emerged that while considering the online customer journey it was also essential to consider the customer's buying decision journey as depicted in table 9. In summary, the data indicates three out of the five consumer buying decision process steps are most significant through the online customer journey. The summarised findings are depicted in figure 15:

- At the primary stage of browsing the products, respondent's decision to purchase a product is influenced by the initial experience with the website. Website features aid the decision-making process. The website features that influence the customer at this stage are product information, presentation, recommendations and variety.

During the first two stages of the customer journey (browsing and assessing the products) respondents are undertaking initial information search and thus, information, presentation and product variety play a key role. There is an indication that lack of product variety, information and images can have an adverse effect on a decision to purchase from the website.

- After making a buying decision, respondents evaluate the product information provided. Product information (such as product dimensions, colour) and the ability to observe the products from a variety of different angles, impact the customer's decision-making process.
- At the final stage of checkout, respondents complete the purchase after careful consideration in the previous two stages. At this step, the level of complication associated with the checkout process determines whether the customer will complete their order. The number of forms required, the amount of personal and financial information required factor in completing an order.

Finding 3.6.3; indicated a participant spent average 5.21 minutes checking out their items, going through seven pages of forms and completing twenty-four fields of information before their order was completed.

In Section 2.4.2, we established a known cause for cart abandonment is the complicated checkout process online (Rajamma et al., 2009). To combat this issue, retailers are increasingly using techniques to shorten the checkout process by using integration with PayPal, Facebook and Google which shortens the checkout process with pre-population of critical data required to complete the purchase. Another reason for cart abandonment is perceived risk. While retailers are exercising caution with privacy seals, statements and reviews to limit the risk associated with online shopping (Rajamma et al., 2009), nevertheless, retailers require a considerable degree of personal and financial information before the checkout process is complete (Rajamma et al., 2009). As a result, customers can be disinclined to complete the checkout process.

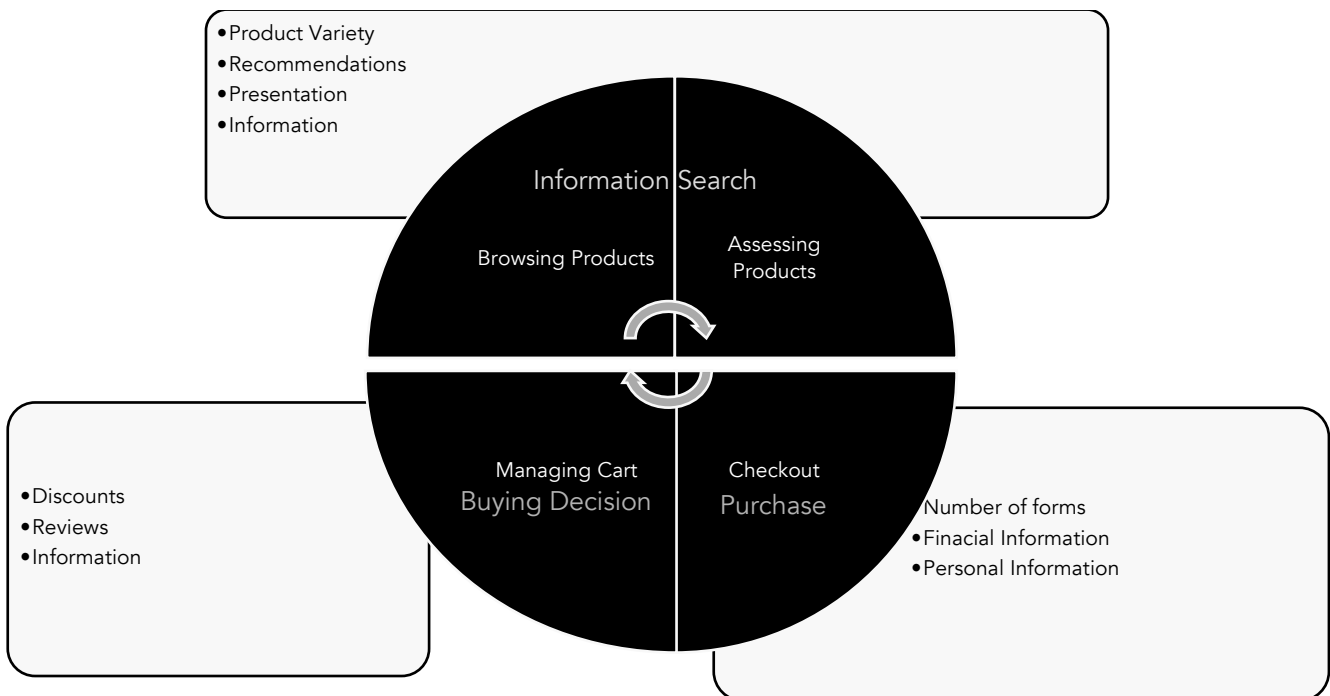


Figure 16 Online Customer Journey (White), Decision Making Process (Grey) and Website Factors (Black) that impact the customer at each stage

4 Study Two: The effect of website design attributes on flow experience and customer outcomes

Drawing from literature outlined in section 2.6 and building on the findings of study one, the second study investigates how website design can influence customer flow which in turn leads to desired customer outcomes such as satisfaction and intention to purchase. The objective of this study is to formulate a holistic approach to flow experience online by investigating how website design impacts customer's state of flow online which in turn leads to desired customer outcomes. Based on this objective, the study is designed to explore a set of hypothetical relationships between:

- (a) 9 website design attributes (broadly categorized into product related attributes, customer support attributes and website interface attributes) and their impact on flow variables (skill, challenge, telepresence, focused attention, control and exploratory behaviour)
- (b) The impact of flow variables on customer outcomes (satisfaction and purchase intent).

The primary objective is to measure and establish how website design can impact customer outcomes through flow.

In this chapter, the research question for study two is derived from the research objective set out in section 2.6. Followed by a brief review of the frameworks used in the conceptual model. Thereafter the conceptual model and hypothesis are discussed. The conceptual model is then validated in a pretest and pilot study, after which a full empirical study is carried out to test the research model. Finally, the findings are presented followed by a discussion.

4.1 Research Question

It has been postulated that the experience of buying goods is critical to sales (Pine and Gilmore, 1999; Pullman and Gross, 2004, Lucas, 1999). The experience of a customer during the process of purchase influences customer outcomes of satisfaction and purchase intent (Ding et al., 2009, Hoffman and Novak, 2011); the same holds true in the online environment (Lucas, 1999). There are well identified relationships between flow experience and customer outcomes (Florsheim and Bridges, 2008; Hoffman and Novak, 2000; Ding et al., 2009) Equally, there are some relationships outlined between

website design and customer outcomes, but these are not fully explored (Park and Stoel, 2005, Speck and Elliot, 2005, Srinivasan and Anderson., 2003). In general, there is an understanding that flow experience online influences customer outcomes; therefore, as a point of differentiation study two explores how website design can influence the flow experience which consequently leads to desired customer outcomes.

In study one, we recognise that website features (product information, variety, presentation) can influence a consumer's decision making in an online environment. Further, we understand that website feature induce emotions (negative and positive emotions) in an online environment affecting the overall experience. Through the findings of study one (section 3.6.1 – 3.6.3) there is an indication to suggest website features play a vital role in the creation of the overall experience online.

Given that customers primarily interact with the website during their purchase process online and as experience is formed of the customers reaction to their interaction with retail touchpoints (Schmitt, 1999; Richardson, 2010; Maklan and Klaus 2013); the study aims to bridge the gap in the current body of knowledge and understand how website design attributes (an online touchpoint) influence optimal online experiences. It is apparent that relationships between flow experience and desired customer outcomes have been postulated. However, the knowledge base surrounding what website attributes influences the flow experience online is limited. Hence, study two proposes a holistic approach considering the influence of website design on flow; the conceptual model identifies causal relationships between website design and flow, and flow and customer outcomes.

Despite the increasing body of literature on flow experience and its importance from an outcome's perspective, there is a lack of understanding on what website factors influence this experience online. Thus, this thesis explores how website attributes impact the cognitive state of flow experience which subsequently influences customer outcomes of purchase intent and satisfaction. The thesis analyses the route to desired customer behaviour by rooting them in website design attributes and flow.

RQ1: How website design attributes influence the flow experience online?

RQ2: Subsequently, how a customer's flow experience online influence customer outcomes?

RQ3: Are customer outcomes online mediated by the flow experience?

4.2 Conceptual Model and Hypothesis

This section presents the conceptual model and hypothesis to explore the research question set out in section 4.1. In this section, initially the background of this research is revisited to re-establish the rationale of the research question, is followed by a brief overview of the theoretical frameworks which have been previously discussed in section 2.3, 2.4 and 2.5 of the literature review followed by the conceptual model and hypothesis.

4.2.1 Background

As discussed previously in section 2.1, the online retail industry continues to face many challenges; with one of the major drawbacks of online shopping being a customer's inability to physically examine products before purchasing which can lead to a reluctance to purchase online (Song et al. 2006; Speck and Elliot, 2005). It has been suggested that by focusing on offering an outstanding online experience, retailers can overcome some of the challenges associated with online shopping (Grewal et al. 2009). Given the significant projected increase (section 2.1) in online retail and the challenges faced by online retailers it is essential to identify website design characteristics that may afford retailers a strong competitive position by offering an outstanding customer experience online. A well-established approach is to focus on providing an exceptional customer experience as a key characteristic of the service delivery system; as customers become experience oriented, retailers too are focusing on creating a memorable experience for their customers (Pine and Gilmore, 1999). One approach to customer experience online is the state of flow, flow has been described as a cognitive state of optimum experience (Csikszentmihalyi, 1990). Customers who achieve flow online are so acutely immersed in the process of browsing the website that there is little room for thoughts not related to the activities and tasks performed whilst browsing a particular website (Hoffman and Novak 2000). Moreover, flow experiences are assumed to have a significant impact on customer's purchase decisions, loyalty and affinity towards a retailer (Ding et al., 2009; Hoffman and Novak, 2000) and should therefore be explored as a point of differentiation. Website design is another significant factor that contributes to eCommerce success; building intuitive and engaging websites is crucial for online retailers as it generates a positive experience that leads to purchase intent and loyalty (Chaing and Nunez, 2007).

Notably, two-thirds of customers will not shop on a poorly designed website (Genex 2003).

Against this background, study two explores how retail websites can be designed for an optimum customer experience or flow. The design of a website is owned and managed by the retailer. However, the customer experience of that website cannot be fully controlled by the organization. Customers play an essential role in fabricating their experience and ultimately enhancing their satisfaction (Bitner et al. 1997). Ultimately, experiences are construed and co-created by customers based on their interpretation of the interactions and clues provided by the service provider (Verhoef et al., 2009). Experiences are essentially emotional and personal; they are based on customer's subjective interpretations, personal characteristics and on the customer's prior mood to the interaction (Pullman and Gross, 2004). These are factors that go beyond the control of management. The overall objective of the research is to identify the website design attributes (illustrated in figure 18) that facilitate the co-creation of optimal customer experiences to drive desired customer behaviours. This study presents the derivation of a conceptual model and associated hypotheses proposing relationships between website design characteristics, elements of flow and behavioural outcomes.

The thesis examines whether customers who achieve flow during their online interaction with certain design elements on a website are more likely to make a purchase and leave satisfied. The research will generate a set of preferred design characteristics for retail websites that enable the co-creation of optimal customer experiences. This approach to website design will help retailers to enhance the online shopping experience, focusing attention on the specific design elements that influence the customer's shopping behaviour and make a theoretical contribution to service design literature.

4.2.2 Theoretical Overview

The conceptual model of this study poses questions on how website design can impact and influence the flow experience in the context of online retail which in turn leads to desired customer outcomes. Several existing frameworks guide the conceptual model development i.e. flow, website design and customer outcomes (specifically purchase intent and customer satisfaction). These are briefly depicted again below as full description is already stated in the literature review section (2) of the thesis.

4.2.2.1 Customer Experience and Flow

It is well established in literature that customers search beyond the product, service or brand; and seek a unique experience (Spreng, MacKenzie & Olshavsky, 1996; Vandenbosch & Dawar, 2002). Shopping itself is not only the act of buying goods; but the experience of obtaining these goods also plays a major role in the shopping episode (Pine and Gilmore, 1999). Given the notable significance of experience, retailers are trying to position themselves as a source of memories as their consumers become increasingly experience oriented (Pine and Gilmore, 1999). The emerging ‘experience economy’ drives a demand for even more engaging customer experiences (Pine and Gilmore, 1999). Flow offers one approach to customer experience; Csikzentmihalyi (1990) pioneered the concept of an optimum experience known as flow. Flow can be defined as a psychological state resultant from acute concentration and enjoyment on a limited field (Csikzentmihalyi, 1990). In applying the flow concept to online environments, Hoffman and Novak (1996) defined flow as a cognitive state occurring during the navigation process which is denoted by high degrees of skill and control, high degrees of challenge and arousal, focused attention and is improved by interactivity (when the web responds rapidly to customer inputs) and telepresence (the user being acutely immersed in the virtual environment). Notably, flow is an outcome that can only be achieved when the customer performs tasks and actively participates in co-creating their experience (Nambisan, 2002). In other words, effective customer co-production is required for the attainment of flow. Given that customers play a crucial role in constructing their experience in the online setting (Bitner et al., 1997), flow may be deemed as an appropriate framework to depict online experiences as the customer actively participate in the online environment. There has previously been a wide variety of research on the flow construct and various definitions of flow have been proposed in the literature (Table 11).

Table 11 Flow Definitions

Authors	Flow Definitions
Csikzentmihalyi (1991)	Flow is a state that arises due to various constituents such as clear goals, matching skills, concentration, control, loss of self-consciousness, transformation of time and the autotelic nature of the activity.
Hoffman and Novak (1996)	Flow is a cognitive state encountered during the navigation process, that is governed by high degrees of skill and control, high degrees of challenge and arousal, focused attention and is intensified by telepresence and interactivity.

Richard and Chandra (2004)	Flow is an experience resultant from three variables: challenge, skill and interactivity.
Takatalo et al. (2008)	Flow is an outcome from cognitive evaluation in a specific environment and is connected to a balance between the individual's perceived skill and challenges presented by a limited stimulus field in a specific environment.
Ghani and Deshpande (1984)	Flow is dependent on an individual's level of control and level of challenge associated with performing a task.
Pace (2004)	Flow is a conscious state which is experienced by individuals who are immersed in an enjoyable activity. The experience is characterized by a balance between skill and challenge, a perception of control, merging of action and awareness, a loss of self-consciousness and distortion of time.

Csikszentmihalyi (1990) was first to coin the term flow; describing it as a state of effortless concentration. Building on this definition, Csikzentmihalyi (1997) described flow as the state that arose in the presence of various task and person-related characteristics such as clear goals, feedback, challenges, matching skills, concentration, focus, control, loss of self-consciousness, transformation of time and the autotelic nature of the activity. Flow itself as a concept was initially developed to define optimum experiences in a variety of task environments. For instance, people report experiencing flow during a wide range of daily activities such as while playing sports, at work and playing computer games (Hoffman and Novak 2009). In recent years, scholars have turned their attention to transposing flow into commercial online environments. Ding et al. (2009) describe flow as a state that is resultant from "significant cognitive involvement." Customers who achieve flow are so acutely immersed in the online activity that there is little room for thoughts not relevant to the navigation process and the customer focuses completely on the interaction with the web (Hoffman, Novak and Yung 2000). Figure 17 below has been adapted from Hoffman and Novak's model (2000) it presents the key components of flow.

Flow comprises of seven distinct components namely skill, control, challenge, telepresence, focused attention, and exploratory behaviour as illustrated in Figure 17 (Hoffman and Novak, 1996), these are briefly described below (Table 12).

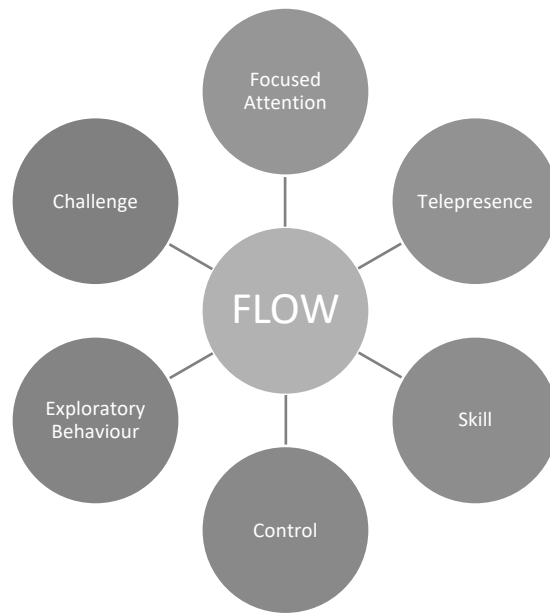


Figure 17 Flow Components

Table 12 Flow Component and their definitions

Flow Component	Definition
Skill	Skill is an individual's self-assessment of their knowledge of the web; it refers to one's familiarity with the web (Bridges and Florsheim, 2006).
Control	Control is the perception that the task at hand is within the capability of an individual (Csikszentmihalyi, 1990).
Challenge	Challenge refers to the possibility of "action" or excitement during the navigation process (Hoffman and Novak, 2000).
Telepresence	Telepresence occurs during the navigation process where virtual environment becomes more prominent than the actual physical environment (Hoffman, Novak and Yung, 2000).
Focused Attention	Focused attention is a state when the user focuses their complete attention on the activity of navigating the web (Webster et al., 1993).
Exploratory Behaviour	Exploratory behaviour refers to an individual's curiosity being aroused to further browse (Hoffman, Novak, Yung 2000).

4.2.2.2 Experience Design

Broadly, customer experience is formulated of every interaction the customer has with the company and the brand (LaSalle and Britton, 2003); specifically, online customer experience is a cognitive state experienced during a customer's online interaction with the retailer's website (Novak, Hoffman, and Yung, 2000). While shopping online, a customer browses and interacts with system clues which may be mechanic, functional and humanic that impact the cognitive state (Ding et al., 2009). Functional clues relate to the practical quality or functionality of the offering such as the website navigation working suitably; mechanic clues relate to the sensory presentation of a good or service e.g. presentation of products on a website, and humanic clues are related to the behaviour of the retailer e.g. interactivity in the instance of a website (Berry et al., 2006). Thus, website attributes can influence the customer's cognitive involvement during their online interaction with the retailer (Berry, Wall, and Carbone 2006). Designing experiences is primarily derivative of the physical setting or the system cues with which the customer interacts (Grove and Fisk, 1997; Bitner 1992); in the case of online setting, the cues being website attributes and the website itself. Thus, online retailers can seek to design the experience through the management of website attributes with which the customer interacts with the firm.

4.2.2.3 Flow and Satisfaction and Intention to Purchase

Considerable research has investigated the role of positive experiences in driving customer satisfaction, both in marketing and management more generally (Bitner et al., 1997). An optimum experience is deemed imperative as it has been shown to lead to desirable customer outcomes such as customer retention, loyalty and trust (Anderson and Srinivasan, 2003; Fassnacht and Köse, 2007). Florsheim and Bridges (2007) suggest that customers will make more online purchases if they enter a state of flow. In Korzaan (2003)'s research, it was found that flow is known to have a positive influence on a customer's intention to make an online purchase (Korzaan, 2003). Not only does flow have a positive influence on intention to purchase but elements of flow also have a positive impact on attitude towards retailer (Korzaan, 2003). It is important to note that Korzaan (2003)'s work surveyed respondents to recall when they were deeply involved in an activity thus considered flow as whole; the analysis didn't consider the individual elements of flow. Thus, while there is an indication that flow

leads to desired customer outcomes, we include customer outcomes in this research study to establish whether the elements of flow in fact do impact customer outcomes in the online retail environment.

Furthermore, customers who achieve flow online are more likely to return to websites and be loyal customers (Cyr et al., 2005). By providing online features that are intended to facilitate the achievement of flow, retailers can encourage customers to make more online purchases, return to websites and exhibit loyal behaviour (Florsheim and Bridges, 2007). Based on this, an overview of the initial conceptual model (Figure 18) is given below.

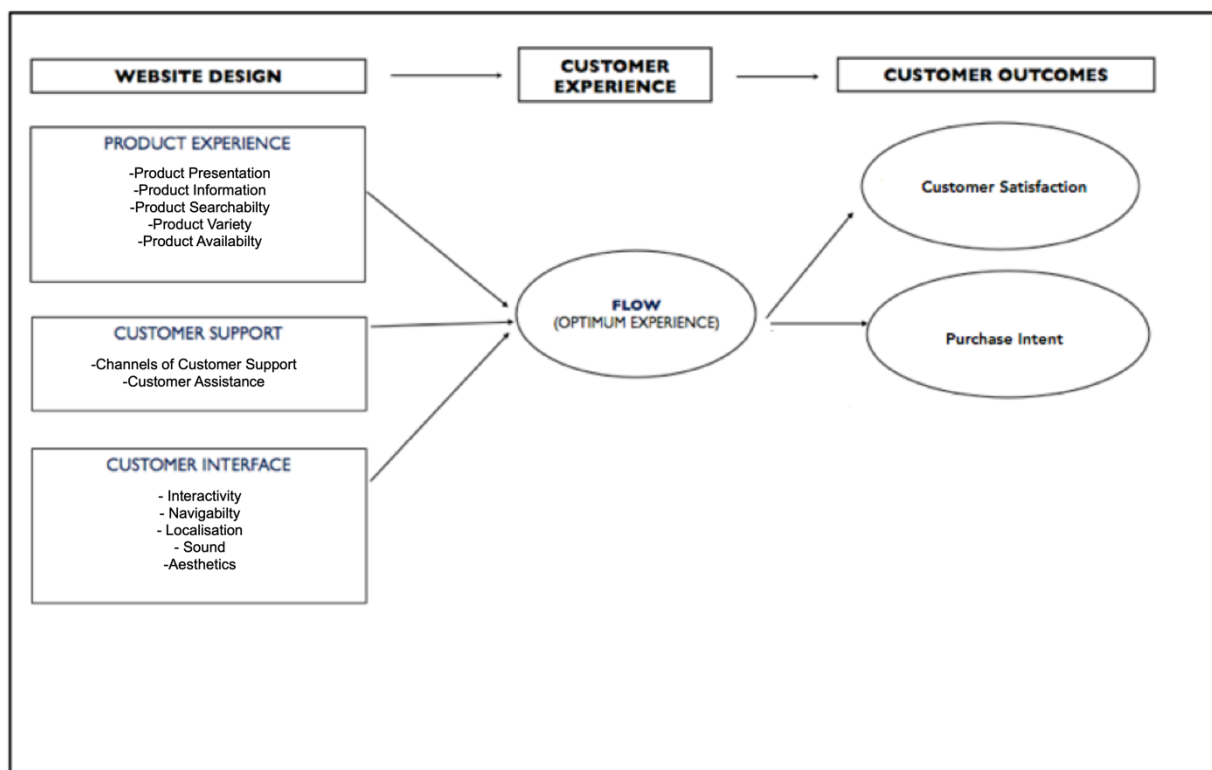


Figure 18 An Overview of the Conceptual Model

4.2.3 Hypothesis Development

As outlined in section 4.1, the primary research question of this study is to investigate how website design attributes influence the flow experience online and subsequently to determine how a customer's

flow experience online influences customer outcomes. Additionally, the study sets out to investigate the role of flow as a mediator in the relationships between website design and customer outcomes

Flow Experience and Customer Outcomes

4.2.3.1 Control

Control is defined as the perception that the activity of navigating a website is within the power of an individual (Hoffman and Novak 1996). It is an individual's perception of their ability to successfully navigate a website and their perception of how the website reacts to their inputs (Hoffman, Novak and Yung 2000). Control in online retail, refers to the extent to which a customer perceives the activity of navigating a website and completing a transaction to be within his or her ability. Specifically, in online environments, perceived control ensues when the customer knows what to expect while navigating the website during the shopping activity and the responses, they get are consistent with their expectation (Ding et al., 2009). Control denotes the extent to which a customer can successfully complete an online transaction, including the extent to which they can tailor their product and purchase experience. For example, when a customer is involved in buying a piece of clothing, they expect to have control to choose what they buy (e.g. colour, sizes etc.), how they buy it (i.e. deciding how they pay for the products) and how they receive the end product (i.e. how the customer receives the delivery of products). Control is significant in the online environment as it can lead to the generation of positive emotional responses which may increase customer satisfaction (Quelch and Klein, 1996). Additionally, in order to enjoy shopping online it is important that the customer feels in control of the activity (Wang and Hsiao, 2012). A consumer's perception of control in the online environment can thus have a positive effect on customer satisfaction and intention to purchase (Wang and Hsiao, 2012).

H1a: In online retail, the control a customer perceives while browsing a website is positively related to positive customer outcomes (customer satisfaction and intention to purchase from the online retailer).

4.2.3.2 Skill

Skill denotes an individual's proficiency to handle a range of tasks or challenges encountered during

the navigation process (Shin 2006). Skill can be defined as an individual's perceived degree of knowledge of using the web (Florsheim and Bridges 2006). Justifiably, previous research suggests that the skill of an individual tends to increase with an increase in use of the website (Hoffman and Novak, 2009). In the context of online retail, skill refers to the previous experience one has in using a retail website and how well versed they are with the process of online shopping. The judgement of one's skill in using online websites indicates his or her capability to engage with the activity of navigating an online website (Ding et al., 2009). Customers who perceive higher skill levels are likely to have positive cognitive responses and therefore are more likely to be satisfied with their experience with the website (Mathwick, Malhotra and Rigdon, 2004). Moreover, Florsheim and Bridges (2008) established that skill may be positively linked to online buying. Customers who perceive they are skilled at using the web are more likely to move quickly and effectively through product selection to purchase (Florsheim and Bridges, 2008).

H1b: In online retail, the level of skill a customer perceives they possess is positively related to desired customer outcomes (customer satisfaction and intention to purchase from the online retailer).

4.2.3.3 Challenge

Challenge is the customer's perception that their abilities are being stretched when browsing a website (Florsheim and Bridges, 2007). Specifically, it denotes the opportunities for action during navigation (Hoffman, Novak and Yung, 2000) through which the individual can engage. A website that lacks adequate challenge may be perceived as boring and monotonous to a user (Anand and Sternthal, 1990). Notably, the state of flow is an outcome when there is adequate challenge so that users are not bored but at the same time the level of challenge shouldn't make them anxious (Csikzentmihalyi, 2000). Websites should provide adequate challenge to arouse users but not exceed a tipping point where the challenge becomes too great and as a result the customer leaves the website (Hoffman, Novak and Yung, 2000). In online retail, customers may uncover a challenge in trying to obtain the best possible product from all the choices available on a website. Customers who perceive the activity of searching on the web challenging (to obtain the best possible product at the right price and service conditions) are more likely to have a positive attitude towards the website (Koufaris, 2002). A website that has the

appropriate level of challenge is likely to influence customer satisfaction and may influence purchase behaviour (Richard and Chandra, 2004; Hoffman and Novak, 2000).

H1c: In online retail, the level of challenge a customer perceives while browsing a website is positively related to desired customer outcomes (customer satisfaction and intention to purchase from the online retailer).

4.2.3.4 Telepresence

Telepresence is a cognitive state during which a user is acutely immersed in the virtual environment (Turkle, 1984). As a result of this state, real world stimuli are blocked out and the virtual environment captivates the senses (Song et al., 2006). Customers undergo a virtual product experience known as telepresence which simulates an experience similar to viewing the products in brick and mortar context (Song et al., 2006). The virtual product experience can involve mental imagery of the post purchase product use (Song et al., 2006). Notably, telepresence is dependent on the quantity and quality of sensory information available about the merchandise and the degree of interaction the customer has with the merchandise. Telepresence can improve information processing (Suh and Chang, 2006). This may be achieved by creating mental imagery of the post purchase product use during the browsing process. This in turn may result in positive attitudes towards the retailer and increased intention to make a purchase (Suh and Chang, 2006).

H1d: In online retail, telepresence while browsing a website is positively related to desired customer outcomes (customer satisfaction and intention to purchase from the online retailer).

4.2.3.5 Focused Attention

Focused attention occurs when an individual focuses on a limited stimulus field; thoughts not relevant to the field are filtered out (Webster et al., 1993; Ding et al., 2009). The focus on the website is so acute that the individual is mesmerized by the interaction with the website (Hoffman, Novak and Yung 2000). In online retail, when customers focus their attention on performing the task of shopping; thoughts not relevant to the shopping process are completely filtered out. This suggests the shopper is focused on processing of information and product analysis which leads to better customer decisions

which leads to higher customer satisfaction (Ding et al., 2009). Due to this, focused attention may also influence intention to purchase and revisit the retailer (Kourfrais, 2002).

H1e: In online retail, focused attention on a website is positively related to desired customer outcomes (customer satisfaction and intention to purchase from the online retailer).

4.2.3.6 Exploratory Behaviour

Exploratory behaviour refers to an individual's curiosity being aroused to further browse the website due to the compelling interaction with the web (Hoffman, Novak, Yung 2000). In online retail, exploratory behaviour refers to the customer's desire to stay on the website and browse products. Positive attitude towards retailer increases as they explore the website. When a customer spends more time exploring, they are more likely to make a purchase (Smith and Sivakumar, 2004).

H1f: In online retail, exploratory behaviour demonstrated by a customer on a retail website is positively related to desired customer outcomes (customer satisfaction and intention to purchase from the online retailer).

Website Design Attributes and Flow

In this section, the hypothesis related to website design attributes and flow variables is explored. Website attributes are divided into three categories based on shared characteristics: product related attributes, customer support and customer interface attributes. The product related attributes are website attributes that deal with products; product related attributes are deemed critical as customers cannot physically examine the products on a website (Speck and Elliot, 2005; Chiang and Nunez, 2007). Customer support in this instance is a broad term used to describe website features offered by a retailer to provide customers with assistance before and after purchase (Ding et al., 2009). Customer interface attributes is related to the overall features with which customers interact; encompassing the functional and aesthetic (overall design) elements of the website (Chang and Chen, 2008). While there are some causal relationships in literature between design attributes and flow variables, study one facilitated further understanding of the significance of each design attribute. In addition, study one enabled the successful derivation of measurement items for the design attributes (section 2.5).

Product Related Attributes

4.2.3.7 Product Variety

Product variety refers to the depth and breadth of product selection; depth representing the number of variants in each product category and breadth represents the total number of product categories (Simonson, 1999). Previous research has suggested that offering a variety of products significantly contributes to customer satisfaction (Bansal, McDougall, Dikolli, and Sedatole., 2004; Koo, 2006). Increased product range is believed to be one of the main reasons for customers to shop online (Chang, 2011). Moreover, by offering an assortment of products, retailers can attract a higher degree of attention from customers (Chen and Hitt, 2002).

To a certain degree, product categories (grouping of related products into a class on a website) and product variety are overlapping themes; the number of product categories on a website can trigger a perception of high product variety (Chang 2011). In the online environment, products are displayed in a hierarchical order, or a filtered order, which makes it difficult for customers to estimate product variety based on display space (Chang 2011). By looking at product categories on a website, a customer can judge product variety. Classifying products into categories on a website also generates a perception of greater product variety, ease of navigation for the customer and overall a joyful shopping experience (Chang 2011). However, a website with an increased product range may provide a degree of challenge (Koufaris, 2002), as customers may need to undertake extensive search and comparison to find a suitable product. As customers tend to spend more time searching on a website with high product variety, it may also have an impact on focused attention as a limited product selection does not often attract the attention of customers (Ding et al., 2009).

H2a: In online retail, a high product variety is positively related to a customer's focused attention.

H2b: In online Retail, a high product variety is positively related to the customer's perception of level of challenge.

4.2.3.8 Product Presentation

As customers cannot physically examine or try on products in the online environment, product presentation is an important feature for the evaluation of products. It facilitates product evaluation from the customers perspective. In the absence of physical products, visual displays and effective merchandising play an important role in online retail (Park et al., 2007). There are a few innovative product presentation techniques which offer customers the product experience that resembles a physical experience. (Cho and Schwarz, 2011). As such, there are various techniques of presenting products on a website, two of the most prevalent are categorized as image interactivity technology and dynamic product imagery.

Image interactivity technology includes the functionality to change and view the product's design, background, viewing angle or distance all which stimulate a pleasurable shopping experience (Fiore et al. 2005). Two emerging forms of image interactivity technology are mix and match technology and virtual try-on technology (Fiore et al., 2005). Mix and match technology allows customers to pair different items to stimulate an image of how products would look together. In virtual try on technology, the consumer selects from a variety of models, differing in gender and body proportion to try on items of clothing. Image interactivity technology is known to create a sense of telepresence as the images that are displayed on the website evoke mental imagery (Fiore et al., 2005). Product presentation enables customers to inspect products as they would in a real store and obtain a representative picture of products which generates telepresence (Klein, 2003) Telepresence itself is dependent on the quantity and quality of sensory information provided about the merchandise (Fiore et al., 2005).

Similarly, dynamic product imagery allows online shoppers to interact with a product and examine the product on screen, providing shoppers with detailed information while increasing shopper's enjoyment (Kim and Forsythe, 2010). Dynamic product imagery consists of videos and other rich media content (Kim and Forsythe, 2010), which enhance the shopping experience of a user. This generates a feeling of fantasy and telepresence around the items the user is browsing (Fiore et al., 2005). Telepresence is dependent on both the quantity and quality of sensory information available about the merchandise and the customer interaction with the merchandise (Song et al., 2006). Thus, the following hypothesis is formulated.

H2d: In online retail, product presentation is positively related to customer's telepresence.

4.2.3.9 Product Information

While product presentation is related to the visual display of products, product information is often a text-based display of product features. Product information refers to the accuracy and amount of information related to the products and services provided on a website (Speck and Elliot, 2005). Product information contains product related information comprising information on prices, colours, packaging, brands, etc. Customers also search for service-related information, related to delivery, returns and warranty of goods purchased on the website (Dadzie and Winston 2007). Product information is especially important in the context of online retail as the consumers cannot physically examine the product and therefore depend upon the information provided to them (Speck and Elliot, 2005).

Customers search for information to deal with uncertainty and to improve the outcome of a purchase online (Park and Stoel, 2005). Comprehensive information facilitates better decision making. Purchasing online may create perceived risk (Section 2.3.1.1) and thus information offers a degree of control to the customer when buying online. As product information is one of the main sources from which consumers obtain knowledge of the products on a website, it helps customers in feeling more in control while making a purchase online.

H2e: In online retail, the information displayed on a website is positively related to customer control.

4.2.3.10 Product Search-ability

Product search-ability allows customers to easily find suitable products through product recommendations, i.e. the provision of recommendations based on the products the customer is browsing or based on previous purchases (Chiang and Nunez, 2007). Product search-ability additionally allows customers to reach products of interest quicker (Chiang and Nunez, 2007). Moreover, product recommendations provides relevant goods to make a choice from, hence encouraging customers to spend more time exploring on the website (Park and Lee, 2008; Baier and Stuber, 2010). Besides, product recommendations provide customers with more information and

products to consider. Therefore, it is likely they spend more time exploring the website (Baier and Stuber, 2010; Lin, Goh & Heng, 2013; Darke and Ritchie, 2007).

H2f: In online retail, product recommendations are positively related to customer's exploratory behaviour.

4.2.3.11 Product Availability

Product availability is another characteristic which may impact flow. Previous research indicated that stock outs lead to customer dissatisfaction and negative customer outcomes (Dadzie and Winston 2007; Fitzsimmons, 2000). Moreover, customers perceive a stock out to be an annoyance (Kim and Lennon, 2011; Marketing Online, 2001) as they have high service expectations. Consequently, the customer, in some instances, may leave the website (Dadzie and Winston 2007). Participants in study one also expressed their disappointment on finding certain products they clicked on were out of stock.

During the event of merchandise shortage, consumers may purchase a substitute at the time of stock out or delay their purchase (Dadzie and Winston 2007; Campo, Gijsbrechts and Nisol, 2000, Fitzsimons, 2000). Therefore, an out of stock product, may have a negative effect on exploratory behaviour as this discourages users from staying on the website and browsing more.

H2g: In online retail, product unavailability in an online website is negatively related to customer's exploratory behaviour.

Customer Service

Customer service is a key source for answers and solutions to customer queries (Ding et al., 2009). Contact with customer service can reduce a customer's anxiety and help them to feel more in control while shopping online (Ding et al., 2009). Customer service consists of two aspects in this study: channels of support and types of support. These two variables are explored from the design perspective rather than from the perspective of quality of customer service.

4.2.3.12 Channels of Support

Customer service can be managed through various channels i.e. email, telephone, and social networks. (Ding et al., 2009). With the rise of online social networks, retailers are increasingly using social networks as a channel of customer support. A new and upcoming channel of customer support is online customer service (online chat). A recent study by a business intelligence firm L2 (2013) showed that 28% of US retailers had incorporated twenty-four-hour live support on their websites. Additionally, in study one, respondents indicated that customer services were easily accessible through the facility of online chat on the website (Table 8).

Moreover, offering more than one channel of customer support gives customers more flexibility in contacting customer services; influencing the customer's level of perceived control (Froehle, 2006). For example: in study one, a respondent indicated methods to contact customer support were not intuitive as the website displayed only a few ways to contact customer services.

In summary, the ability to contact customer services through various channels can reduce anxiety among customers in turn making them feel more in control. Moreover, different channels of support increase their focus on the purchase activity (Froehle, 2006, Wolfenbarger and Gilly 2006).

H3a: In online retail, more than one channel of customer support available to customers is positively related to feeling more in control of their shopping process.

H3b: In online retail, more than one channel of customer support available to customers is positively related to focused attention.

4.2.3.13 Customer Assistance

There are two main types of customer assistance in the context of online retail i.e. pre-purchase assistance and post-purchase assistance. Pre-purchase support is offered to customers before they make a purchase as customers may wish to speak to someone and gain further information about the products prior to purchase. Post-purchase support is offered when customers have made a purchase and wish to return, exchange items or query their purchase. For example, increasingly retailers are offering the

option to return items in store even when they were purchased online. This not only offers more choice to the customer but also creates up sell opportunities (L2, 2013). Being able to contact customer services during the purchase process can help a customer feel more in control of their shopping experience as they gain more information prior to purchase (Froehle, 2006). Thus, customer assistance can help eliminate the unpredictability associated with online purchasing (both prior and post purchase), thus helping the customer to gain trust in the retailer (Froehle, 2006). thus helping the customer to gain trust in the retailer which in turn may help the customer to feel more in control of their shopping process (Froehle, 2006).

H3c: In online retail, customer assistance is positively related to customer control.

Customer Interface Design

Customer interface has been deemed crucial for the success of an online retailer (Chang and Chen 2008). Customer satisfaction and loyalty to an extent are determined by customer interface quality (Chang and Chen, 2008). Customer interface provides a direct and inexpensive way for customers to interact with the online store (Lee 2001). There are a variety of factors that contribute to an intuitive and engaging customer interface, including interactivity, web aesthetics, localisation, navigability and sound (Section 2.5).

4.2.3.14 Interactivity

Steuer (1992) defined interactivity on a website as the extent to which a user can participate on a website; the degree to which a website allows two-way communications between customers and the website (Srinivasan et al., 2002; Huang 2003). Interactivity on a website engages the user through website content (Park and Gretzel, 2007); allowing the user to easily move from one section to the next (Nevarez and Hyman, 2012) This allows customers to focus their attention on the products offered by the website (Kim and Niehm, 2009). Interactivity additionally allows the user to focus on the browsing activity thus increasing the time spent online (Kim et al., 2007). Interactivity additionally captures the user's attention and creates interest in the online interaction (Kim et al., 2007). Thus, we propose the following hypothesis:

H4a: In online retail, interactivity is positively related to focused attention.

H4b: In online retail, interactivity is positively related to exploratory behaviour.

4.2.3.15 Navigability

Navigability refers to the usability of a website and the extent to which a website is intuitive and simple (Chang and Chen 2008; Hernández et al., 2009). It is the provision of uncluttered screens, clear organization and usability (Speck and Elliot, 2005). An easy to use website is effortless to navigate for customers (Speck and Elliot, 2005) and allow customers to reach products of choice effortlessly (Hernández et al., 2009). This enables customers to feel more in control with their shopping process; by helping them find the information they require quickly and easily (Hernández et al., 2009). Notably, thirty per cent of customers leave a website because they find it difficult to navigate (Schaffer 2008). An easy to navigate website therefore may impact on exploratory behaviour as it facilitates browsing behaviour (Chandra and Richard, 2005).

H4c: In online retail, navigability is positively related to exploratory behaviour.

H4d: In online retail, navigability is positively related to a customer's perception of control.

4.2.3.16 Localisation

Localisation is the process of adapting a website to a particular language, the desired local look and feel of the local culture (Cyr and Smith 2004). This has a direct influence on the usability of a website, which is known to impact customer satisfaction. Layout, symbols, content, navigation all have to be designed differently, in different cultures, and these features must be adopted in social networks, on the website and on customer service portals (Cyr and Smith 2004). A website that has been adapted to local needs appeals to user's logic, emotions, and credibility (Cyr and Smith 2004). For example, in the middle east, Arabic is written for right to left, therefore the menus, search bars etc. have to be placed accordingly. Failure to meet these design requirements may make it difficult for customers to navigate. However, it is important to acknowledge that studies exploring localisation in online environments are limited.

H4e: In online retail, localisation of web design is positively related to perceived customer control.

4.2.3.17 Sound

Sound can create a mental imagery of being in the virtual world of shopping. Fiore and Kelly (2009) consider it important as physical stores use sound to add to the sensory appeal of the online stores and indirectly helps the decision-making process. Notably, sound is explored far less in literature in comparison to visual aspects.

Sound as a feature on online websites may be perceived by the user as annoying or relaxing. Ambient music and sounds provide special effects to set the mood and grab the attention of the shopper (Fiore and Kelly, 2009). Most websites use sound to enhance the display of products, some use atmospheric sounds to enhance the product they are selling (for example, Louis Vuitton).

H4f: In online retail, sound on a website is positively related to telepresence.

4.2.3.18 Website Aesthetics

Website aesthetics (i.e. visual appeal of a website) play an important role in customer experiences as they contribute to sensory experience (Shun and Xu, 2011). Website aesthetics is made up of a variety of components such as graphics, colour, layout etc which impact upon the interactivity of a website (Shun and Yunjie 2011). An aesthetically pleasing interface increases user's attention. Furthermore, videos, virtual tours, celebrity outfits, etc. can be used to enhance the entertainment on a website which has an impact on telepresence sensation during the navigation process (Speck and Elliot, 2005).

H4g: In online retail, website aesthetics is positively related to customer's perception of telepresence.

H4h: In online retail, website aesthetics is positively related to customers focused attention

4.2.3.19 Flow as a mediator

Finally, the study establishes whether flow in fact mediates the relationship between website design

and outcomes. Thus, establishing whether website design may be able to directly lead to desired customer outcomes without flow as a mediating variable. By testing the mediating relationship, the study can establish whether website design variables can directly impact the customer outcome in online retail, to establish the significance of flow or optimal experience.

H5: In online retail, the relationships between flow and customer outcomes are mediated by flow experience.

Model Overview

Based on the above-mentioned hypotheses, the conceptual model proposes a relationship between website design attributes and various flow variables which in turn lead to customer outcomes of purchase intent and satisfaction. The thesis hypothesises positive relationships between website design and flow and customer outcomes

The next section outlines the research methodology utilized to investigate the conceptual model and relationships

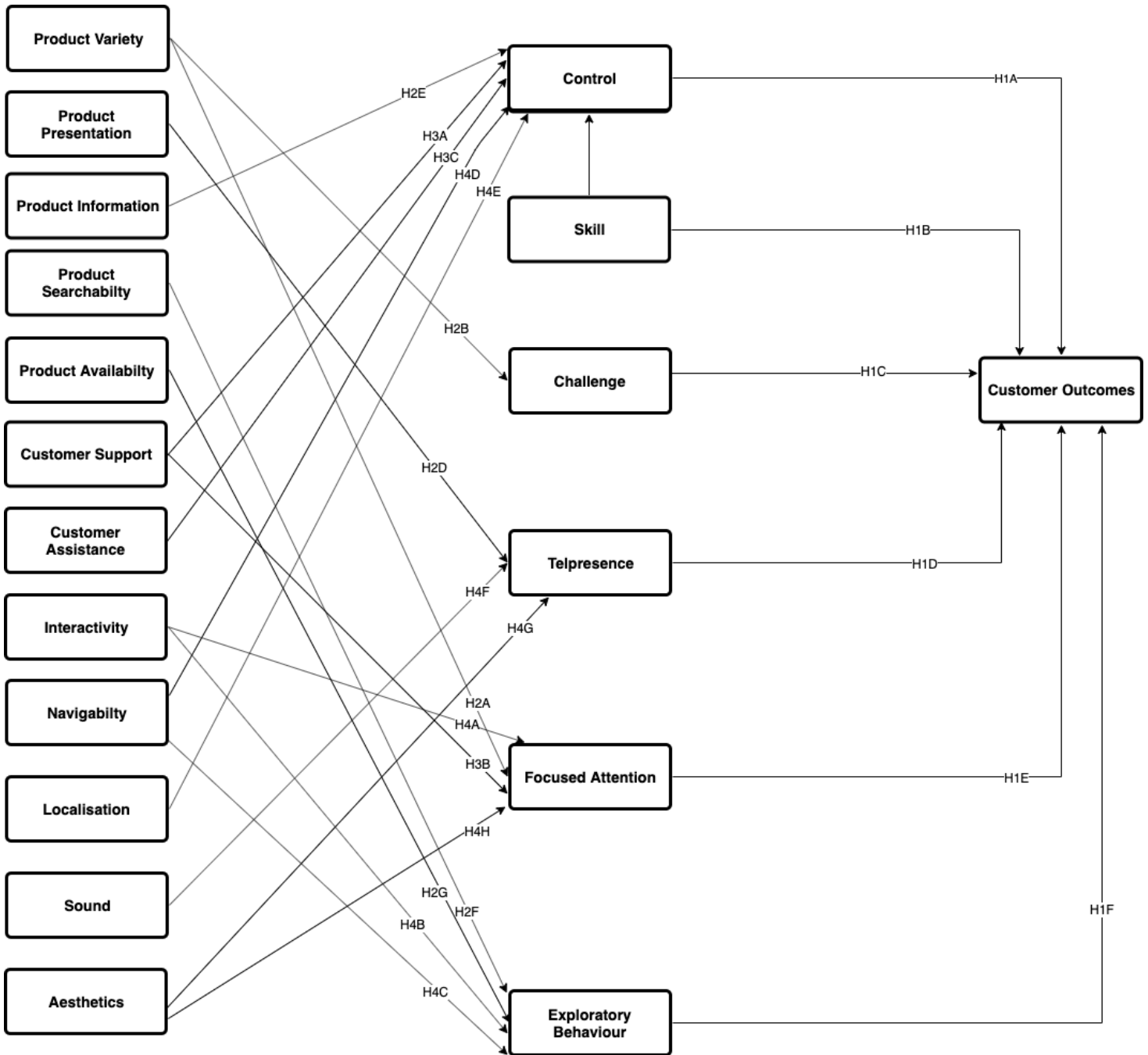


Figure 19 Conceptual Model Overview

4.2.4 Research Methodology

This section outlines the procedures employed for empirical testing of the conceptual model given above. The aim of this section is to ensure that the empirical study is robust, and all necessary measures have been taken into consideration and implemented to deem the results valid. The section is divided into the following: First the philosophy of research is outlined, followed by the procedure for construct development and measurement items. This is followed by a pretest and pilot study, that precedes the full empirical research. The data collection method, sample, analysis method and ethical considerations are included within each section.

4.2.4.1 *Philosophy of Research*

Critical realism is considered appropriate for the second study in this thesis as summarised in the research philosophy section 3.3 of the thesis. To provide a synopsis, critical realism is considered suitable for the same justifications as set out in section 3.3.7 of the thesis as critical realism postulates that knowledge which cannot be measured or observed by our senses may still be real (Johnston and Duberley, 2000). Experience is tangible; a researcher cannot adequately measure or observe another's experience through one's senses alone. Further, critical realism postulates that conceptualisation is a process of knowing reality (Bryman and Bell, 2007). The research explores causal links from literature between web, flow and customer outcomes to form the basis of the conceptual model pertaining to the research question i.e. how website design impacts the customer experience of flow which in turn leads to desired customer outcomes. Thirdly, critical realism postulates that reality is established through theorization, this holds true for the key experience framework used with the study that is the flow framework as well as the conceptual framework to establish the creation of an optimum experience online.

4.2.4.2 *Construct and Instrument Development*

In this section, the research instrument is outlined. The research instrument for this particular study was formulated utilizing items from previous studies or from the data collected in study one. In some instances, self-generated items are included but these are based on existing measurement items that have been previously deployed in related studies. Each construct contained multiple measurement

items to achieve precision and validity. Manipulation of the items was undertaken throughout the Pretest and Pilot study stage to address reliability or validity issues. Each of the investigated items within the conceptual model was operationalized using a five-point Likert scale with 1 being strongly disagree and 5 being strongly agree. Likert scales are predominantly used to evaluate a customer's perception; with the most commonly employed scale being a five-point scale (Jamieson, 2004). Reverse coded items were also included.

In conjunction with the findings of study one, items from Hoffman, Novak and Yung (2000) and from Ding et al. (2009) were adapted to inform the flow measurement items. Adapted items from Speck and Elliot (2005), Chang and Chen (2008), Cai and Xu (2011) and Ding et al. (2009) were also included to inform the instrument. To validate and check reliability, a pretest and pilot study was undertaken. The research instrument was employed through a quantitative online survey. These surveys offer ease of deployment, cost efficiency and increase the ability to reach respondents (Boyer, Olson, Calantone and Jackson, 2002). The data collection through the online survey is suitable for this particular research as it targets participants that are highly familiar with online environments and thus are likely to have a good understanding of online surveys (Ding et al., 2009). Online surveys have increasingly gained popularity due to the ease of administration, quicker data processing and low cost (Griffiths, Lewis, Ortiz De Gortari, and Kuss, 2014). Moreover, previous studies provide evidence that in the case of attitude surveys, both online and offline surveys produced comparable results (Booth-Kewley, Edwards, & Rosenfeld, 1992)

Table 13: Measurement Items and Definitions

Construct	Definition and Measurement Items
Product Variety	<p>Product Variety refers to the selection of products available across various product categories (Adapted from Simonson, 1999).</p> <ul style="list-style-type: none"> • The website offered a wide variety of items (Ding et al., 2009). • There was a wide selection of products to choose from on the website. (study one), • There was sufficient number of products to make a choice from. (study one),
Product Presentation	<p>Product Presentation refers to the images and videos of products displayed on the website being of closest representation of the actual products; with the ability to zoom product images and view from various angles (Park et al., 2005) (Then & DeLong, 1999).</p> <ul style="list-style-type: none"> • The products look real (self-generated). • Products can be viewed from many angles (study one). • It was difficult to determine what the product looked like (study one).
Product Information	<p>Product Information is the accuracy and amount of information regarding products offered on a website (Speck and Elliot, 2005).</p> <ul style="list-style-type: none"> • Information was provided about how to care for the product (Speck and Elliot, 2005). • Information was provided about shipping (study one). • Information was provided about product dimensions (study one). • Information was provided about product features (study one). • Information on different materials/fabrics was provided. (Speck and Elliot, 2005).
Product Search-ability	<p>Product Search-ability allows customers to reach products of interest quickly and provides smooth transition toward accompanying products (Chiang and Nunez, 2007).</p> <ul style="list-style-type: none"> • The product recommendations were close to what I was browsing before (study one). • The website has a search engine that assisted me in finding products (Speck and Elliot, 2005). • The product recommendations were items I was interested in looking at (study one). • I was able to browse the website by product category (self-generated) • The website allowed me to filter products using several options such as size and colour for example (study one).
Product Availability	<p>Product Availability refers to the website having products displayed available in stock.</p> <ul style="list-style-type: none"> • On the website, the products I was looking for were in stock (self-generated). • The website displayed products that were out of stock (study one). • The products I selected were not available to purchase (study one).
Channel of Customer Support	<p>Availability of multi-channel customer services (i.e. live chat, telephone, faqs, social media) which offers customers more flexibility.</p> <ul style="list-style-type: none"> • There were several options to contact customer support (self-

	<p>generated)</p> <ul style="list-style-type: none"> • The website had useful alternative methods of reaching customer support services (Speck and Elliot, 2005). • One or two channels (e.g. live chat, telephone, social media etc.) of customers of support were provided (Speck and Elliot, 2005).
Customer Assistance	<p>Customer Assistance refers to the extent to which assistance is available at all stages of the shopping experience.</p> <ul style="list-style-type: none"> • Assistance to return an item was available (self-generated). • Assistance to select products was provided (self-generated). • Assistance was provided at the checkout stage (self-generated).
Interactivity	<p>Interactivity occurs when the web pages load rapidly, when an individual enters responses (Ding et al., 2009) (Shin 2006). It is determined by how quickly pages load, consistency of speed and ability to load pages without getting error messages.</p> <ul style="list-style-type: none"> • The website responded quickly to my interactions (Ding et al., 2009). • The website had many error messages (self-generated). • The pages on the website loaded rapidly (study one). • They website often got stuck (study one).
Navigability	<p>Navigability is the extent to which a website is easy to use, intuitive and simple (Chang and Chen, 2008).</p> <ul style="list-style-type: none"> • The website was easy to use (Ding et al., 2009). • The website was difficult to navigate (Speck and Elliot, 2005) • On the website, moving from one page to another was seamless (study one).
Localisation	<p>Localisation is the process of adapting a website to a particular language, the desired look and feel of the local culture (Cyr and Smith, 2004).</p> <ul style="list-style-type: none"> • On the website, the prices were displayed in my local currency (self-generated). • The website was presented in my local language (self-generated). • The layout of the Web site was designed in a manner I am accustomed to (Cai and Xu, 2011). • The website displayed products using model's representative of the website's region (study one).
Sound	<p>The extent to which sounds heard on the website enhances the shopping experience.</p> <ul style="list-style-type: none"> • The sounds on the website disrupted my shopping experience. • The sounds on the website enhanced my experience. • The website provided sounds that were annoying. • I enjoyed the sounds playing on the website.
Website Aesthetics	<p>Website Aesthetics is visual appeal of a website (Cai and Xu, 2011).</p>

	<ul style="list-style-type: none"> • The website was visually appealing (Cai and Xu, 2011). • The website design was pleasing (Cai and Xu, 2011). • The visual design of the website was attractive (Cai and Xu, 2011). • The layout was quite aesthetically pleasing (self-generated)
Purchase intent	<p>Purchase intention can be classified as one of the components of consumer cognitive behaviour on how an individual intends to buy a specific brand (Ling et al. 2010).</p> <ul style="list-style-type: none"> • I wanted to buy some products from this website (Ling et al., 2010). • I will make a purchase from this website soon (Ling et al., 2010). • I wouldn't buy anything on this website (self-generated).
Customer Satisfaction	<ul style="list-style-type: none"> • I would use this website again (Ding et al., 2009). • I was satisfied with the website (Ding et al., 2009). • I really enjoyed using the website (Ding et al., 2009). • I liked shopping on the website (Self-generated).
Control	<p>Control is the perception, that the activity of navigating a website is within the power of an individual (Hoffman and Novak, 1996)</p> <ul style="list-style-type: none"> • While browsing the website, I felt in control of the shopping process (Hoffman, Novak and Yung 2000). • On the website, I got the responses from the website that I expected (Ding et al. 2009). • I knew what to expect on the website at each step of the shopping experience (Ding et al. 2009).
Skill	<p>Skill is an individuals' self-assessment of their knowledge of the web (Florsheim and Bridges, 2007).</p> <ul style="list-style-type: none"> • I consider myself knowledgeable about the process of online shopping (Hoffman, Novak and Yung 2000). • I consider myself knowledgeable about shopping for clothes online (Hoffman, Novak and Yung 2000). • I know somewhat less than most Internet users about buying clothes online (Hoffman, Novak and Yung 2000). • I am more skilled at using clothes shopping websites than other things I do online (Hoffman, Novak and Yung 2000).
Challenge	<p>Challenge is the perception that an individual's abilities are being tested (Florsheim and Bridges, 2007).</p> <ul style="list-style-type: none"> • I found the experience of shopping online challenging (Hoffman, Novak and Yung 2000). • I found that buying clothes online provided enough challenge for me not to get bored (Hoffman, Novak and Yung 2000). • Shopping online for clothes is a good test of my abilities (Hoffman, Novak and Yung 2000).

Telepresence	<p>Telepresence is a cognitive state wherein the individual is acutely immersed in the virtual environment (Turkle, 1984).</p> <ul style="list-style-type: none"> • While shopping for clothes online, I was in a new world created by the website which disappear when I stop browsing (Hoffman, Novak and Yung 2000). • I was so absorbed in the virtual environment I forgot my immediate surroundings (Hoffman, Novak and Yung 2000). • When I was shopping online, the world generated by the website was as real as the real world (Hoffman, Novak and Yung 2000). • Online shopping often makes me forget where I am.
Focused Attention	<p>Focused attention is when an individual focuses on a limited stimulus field, thoughts not relevant to the field are filtered out (Ding et al., 2009).</p> <ul style="list-style-type: none"> • I focused all of my attention on shopping (Hoffman, Novak and Yung 2000). • While navigating through the website, I thought of other things (Hoffman, Novak and Yung 2000). • I was deeply engrossed by the online shopping experience (Hoffman, Novak and Yung 2000). • The activity of shopping for clothes online captivated me (Hoffman, Novak and Yung 2000).
Exploratory Behaviour	<p>Exploratory behaviour is an individual's curiosity being aroused to further browse the website due to the compelling interaction with the web (Hoffman, Novak, Yung 2000).</p> <ul style="list-style-type: none"> • I fell browsing clothing websites online is a great use of my time (Hoffman, Novak and Yung 2000). • I often click on links out of curiosity (Hoffman, Novak and Yung 2000). • I like to browse website to find out about the latest trends (Hoffman, Novak and Yung 2000). • I was curious to explore the website (Hoffman, Novak and Yung 2000).

Table 14 Origin of Constructs

Construct	Discovery of Factors
Product Variety	<ul style="list-style-type: none"> • Study One • Simonson, 1999 • Bansal et al. 2004; • Koo, 2006; • Lim and Dubusty 2004 • Chang 2011

Product Presentation	<ul style="list-style-type: none"> • StudyOne • Park et al., 2005 • Fiore et al. 2005 • Cho and Schwartz, 2011 • Kim and Forsythe, 2010
Product Information	<ul style="list-style-type: none"> • Study One • Park and Stoel, 2005 • Speck and Elliot, 2005 • Dadzie and Winston 2007
Product Search-ability	<ul style="list-style-type: none"> • Study One • Chiang and Nunez, 2007 • Baier and Stuber, 2010 • Park and Lee, 2008
Product Availability	<ul style="list-style-type: none"> • Study One • Dadzie and Winston 2007; • Fitzsimmons, 2000 • Kim and Lennon, 2011
Channel of Customer Support	<ul style="list-style-type: none"> • Study One • Ding et al. 2009 • Froehle, 2006
Customer Assistance	<ul style="list-style-type: none"> • Ding et al.2009 • Froehle, 2006
Interactivity	<ul style="list-style-type: none"> • Srinivasan et al. 2002; • Huang 2003 • Steuer 1992 • Park and Gretzel, 2007 • Nevarez and Hyman, 2012 • Kim et al. 2007

Navigability	<ul style="list-style-type: none"> • Study One • Chang and Chen 2008 • Hernández et al. 2009 • Speck and Elliot, 2005 • Chandra and Richard, 2005
Sound	<ul style="list-style-type: none"> • Fiore and Kelly, 2009
Website Aesthetics	<ul style="list-style-type: none"> • Study One • Shun and Xu, 2011 • Shun and Yunjie 2011
Localisation	<ul style="list-style-type: none"> • Cyr and Smith 2004)

4.3 Pretest

Once the research instrument is identified, a pretest is deemed the next necessary step within the research process (Ruel, Wagner and Gillespie, 2015). Both a Pretest and Pilot are crucial steps as they allow revision of measurement items prior to full empirical investigation (Quarm, Converse and Presser, 1986) and help ensure validity. Pretesting itself is a vital step to help identify problems, reduce measurement error and ensure the questions are interpreted correctly (Ruel et al., 2015). A pretest may be defined as an analytical inspection of the research instrument; an essential check to ensure the instrument is robust and clear (Quarm et al., 1986). The objective of a pretest is to ensure the questions are clearly communicated and that the response options are appropriate, enabling the identification of any ambiguous wording and phrases that may have been overlooked (Ruel et al., 2015). Some benefits of a pretest are it aids in assessing the response latency, time required to complete the survey and reduces any ambiguity (Quarm et al., 1986).

Broadly, there are two procedures in which a pretest can be conducted: expert driven pretest or a respondent driven pretest. In an expert driven pretest, researchers call upon experts within the field to pinpoint issues with the questionnaire (Presser and Blair, 1994), enabling cross-checking, improving

overall style and flow. While in a respondent driven pretest, often a small subsample of the population is selected. A respondent driven pretest allows the identification of ambiguous wording, unclear outcomes and time estimates. Both experts and respondents are included in this pilot study.

The overall aims of a pretest as given by Ruel et al. (2015) are identification of:

1. Inability to answer: Based on the context of the study, the pretest allows to adequately check whether the respondents would be unable to answer the questions.
2. Misinterpretation: To check prior to pilot and empirical study whether the questions may be misinterpreted by the respondents especially due to the wording.
3. Flow: To ensure the questionnaire is streamlined from the respondent's perspective.
4. Clarity: To ensure the questions are clear and easy to comprehend.
5. Time Estimation: to understand time needed to complete the questionnaire.
6. Unclear direction: to ensure the instructions given to the respondents are clear and precise. Checking for unclear direction moreover helps gauge where the instructions may be misconstrued and allows for revision prior to administrating the pilot study.

Given the importance of a pretest, the data collection, sample and findings of the pretest within this study are outlined in full detail below.

4.3.1 Data Collection and Sample

The instrument's validity and reliability were tested by a group of researchers and online shoppers. By using both researchers and online shoppers the pretest was both expert driven and experience driven as outlined above (Presser and Blair, 1994). The primary objective was to test the adequacy of the instrument. The group consisted of five experienced researchers and five seasoned shoppers. Each of the respondents were given a PDF document with the questionnaire to help validate and refine the instrument prior to the pilot study.

4.3.2 Pretest Design and Findings

The structure of the pretest questionnaire was organized to first inform each respondent of the objective of the pretest i.e. to identify any key issues of validity and/or reliability with the survey questions. Along with this, the respondents were given the objective of the research to identify website characteristics that account for a memorable online shopping experience. This was to ensure they provide reliable responses; full instructions are given in Appendix 7.3.2. Each question had a problem indicator box and section for comments. If the respondent perceived a problem with the question, they were asked to tick the problem indicator box and fill in any relevant notes. The questionnaire was divided into two sections; Section A contained a set of pre-screening questions regarding their online shopping habits to ensure reliable responses. Section B was about their recent experience with an online retailer. Respondents were additionally asked to tick the box if they identified any problems with the question and provide further details in the notes sections. Further, they were also asked to indicate if they thought the question should be reworded or restructured. The questionnaire handed to researchers furthermore contained a section to point out any questions that were lengthy, difficult to read or if the meaning of any questions could be misconstrued or interpreted in multiple ways in addition to the problem indicator box. The rationale for asking researchers to participate in the pretest was to check wording, overall style and flow (Presser and Blair, 1994).

The full questionnaire given to researchers is given in Appendix 7.3.2. In the first part of the questionnaire, the respondents were required to answer pre-screening questions about their online shopping habits, the rationale behind this was to assess the capability of each respondent to assess the items effectively. The second section required each of the two respondents to visit one of two online shopping websites (ASOS or Next) and then assess the questions in section B. The websites were the same as those employed in study one. The two websites utilised in these sessions were selected from an index report on the Top 500 retail websites in the UK given by Sitemorse, a digital web auditing firm (Sitemorse, 2010).

There was twofold reasoning behind asking respondents to visit the website, firstly it was to ensure that the online shopping experience was current in their minds before assessing the items. Secondly, we wanted to assess the efficiency of this process (of visiting a website before answering the questions)

as it was intended as the format for the actual study. Hertzog (2008) recommends while piloting a study it is important to keep the format the same as the actual study. Respondents were additionally asked to assess whether the introduction and instructions were confusing, complicated or conflicting. Finally, they were asked if the exercise of visiting the website was time consuming.

4.3.2.1 Findings of the Pretest study

Largely the feedback from both groups was that the questionnaire was very lengthy. On average, it took the respondents between half an hour to forty minutes to complete. However, as it was anticipated that a few of the items from the questionnaire might be excluded due to issues with validity and reliability during the pilot study; thus, at this stage no further action surrounding the length of the questionnaire was taken. Additionally, the researchers mentioned the task of visiting a website at the start of the questionnaire may be daunting for future respondents and thus suggested to ask the participants to recall their last visit to an online retailer. This was employed in the empirical research.

Further the respondents suggested changes to the pre-screening questionnaire to ensure it was specific to online retail context and provided viable responses. In section B, the respondents identified that questions relating to the sound construct seemed unclear and required more clarity. Issues identified in section B were mainly related to wording of questions in the instrument. The wording of 24 items were amended; the full analysis is shown in table 15.

Table 15: Feedback/Suggestion from Respondents (Pretest)

Item	Problem Identified / Suggestion	
There was a wide selection of products to choose from	Do you real need to choose from? either way you should not end a sentence with from.	There were sufficient products to choose from on the website.
There was a wide selection of products to choose from	Sentence ending with choose from	There were sufficient products to choose from on the website.
There was a wide selection of products to choose from	Sufficient products not sufficient number of products	There were sufficient products to choose from on the website.

There was a sufficient number of products to make a choice from	Could use categories to have dissimilarity to Q1	There was a wide selection of product categories to make a choice from on the website.
It was difficult to determine what the products looked like	Not easy to identify what the products looked like	It was difficult to identify what the products looked like.
Information was provided about how to care for the product	Add washing instructions	Not Applicable
Information on different materials and fabrics was provided	Add enough information	<ul style="list-style-type: none"> •Enough information was provided about how to care for the product. •Enough information was provided about shipping •Enough information was provided about product dimensions. •Enough information was provided about product features. •Enough information on different materials/fabrics was provided.
The product recommendations were close to what I was browsing before	Not clear	The product recommendations were similar to the products I was browsing before.
The product recommendations were close to what I was browsing before	The question might be better phrased as 'To what extent do you agree with the following statements about the ease of finding products I am looking for?'	NA
The product recommendations were close to what I was browsing before	The product recommendations were similar to the ones I was browsing before	The product recommendations were similar to the products I was browsing before.
The product recommendations were items I was interested in looking at	add browsing before	NA as similar item within the construct
The website allowed me to filter products using several options such as size and colour for example	Use for example or such as only	The website allowed me to filter products using several options such as size and colour.
On the website, the products I was looking for were in stock	Similar to Q19	NA

The website displayed products that were out of stock	Most products were in stock or needed should be added to the sentence	NA
On the website, the products I was looking for were in stock	Remove on website	The website displayed products that were out of stock.
The products I selected were not available to purchase	Frustrating to select products and find out they were out of stock	I selected products and found out they were out of stock
The products I selected were not available to purchase	To purchase or for purchase	NA
There were several options to contact customer support	Change Customer Support to Channels of Support	NA
The website had useful alternative methods of reaching customer support services	There were alternative ways to contact customer support	The website had useful alternative methods of reaching customer support services.
One or two channels (e.g. live chat, telephone, social media etc.) of customer support were provided	Don't understand the question	One or more channels (e.g. live chat, telephone, social media etc.) of customers of support were provided
One or two channels (e.g. live chat, telephone, social media etc.) of customer support were provided	One of two	One or more channels (e.g. live chat, telephone, social media etc.) of customers of support were provided
The website responded quickly to my interactions	Change agree with the following statements about the user-friendliness of the website?' Instead of Navigability and Interactivity	
The website had many error messages	Add e.g., server busy, page not found)	The website had many error messages such as page not found and server busy.
The layout of the website was designed in a manner I am accustomed too	The layout was designed in a manner to which I was accustomed. Either way it should be 'to' rather than 'too'	NA
The layout of the website was designed in a manner I am accustomed too	The website felt Natural to use	NA

The layout of the website was designed in a manner I am accustomed too	The website layout was familiar to em	The layout of the Web site was familiar to me.
The layout of the website was designed in a manner I am accustomed too	The layout of the website was one that I was familiar with	The layout of the Web site was familiar to me.
The website displayed products using model's representative of the website's region	The website displayed products using models I could identify with.	NA
The website displayed products using model's representative of the website's region	Confusing	NA
The website displayed products using model's representative of the website's region	The website displayed products that were relevant to my location	The website displayed products using models that were relevant to my location
The layout of the website was aesthetically pleasing	Depending on your target sample- do you think they will know the word 'aesthetically'	The website was visually appealing.
I will make purchase from this website soon	Missing a before purchase	I will make a purchase from this website soon
I wouldn't buy the clothes and accessories on this website	Change on to from	I wouldn't buy the clothes or accessories from this website.
I really enjoyed using the website	Don't use the word really	I enjoyed using the website.
I consider myself knowledgeable about shopping for clothes online	Change somewhat to comparatively less	I know comparatively less than most Internet users about buying clothes online.
I am more skilled at using clothes shopping websites than other things I do online	things not thing	
I am more skilled at using clothes shopping websites than other things I do online	Shopping for clothes online is something I am confident with compared to other web activity	Shopping for clothes online is something I am confident with compared to other web activity
I am more skilled at using clothes shopping websites than other things I do online	I consider myself competent to go shopping online	NA

I found buying clothes online provided enough challenge for me not to get bored	Stick to one not buying use browsing	I found that browsing clothes online provided enough challenge for me not to get bored (HNY).
Shopping online is a good test of my abilities	What does abilities mean	Shopping online for clothes is a good test of my skills (HNY).
I was so absorbed in the virtual environment; I forgot my immediate surroundings	Interesting question!!!	NA
I was so absorbed in the virtual environment; I forgot my immediate surroundings	Shopping provides me an escape from reality	NA
When I was shopping online, the world generated by the website was as real as the real world.	Not clear - When I was shopping online, the world generated by the	While shopping for clothes online, I was in a new world created by the website which disappear when I stop browsing.
While shopping for clothes online, I was in a new world created by the website which disappeared when I stop browsing	Is in past tense	
Information was provided about how to care for the product	Information was provided is a binary choice. I think it needs a modifier like good information or enough information	<p>Enough information was provided about how to care for the product.</p> <p>Enough information was provided about shipping</p> <p>Enough information was provided about product dimensions.</p> <p>Enough information was provided about product features.</p> <p>Enough information on different materials/fabrics was provided.</p>
enjoyed the sounds playing on the website	Audio vs Sounds	<p>The audio on the website disrupted my shopping experience.</p> <p>The audio on the website enhanced my experience.</p> <p>The website provided sounds that were annoying.</p> <p>I enjoyed the sounds playing on the website.</p>

I will make a purchase from this website soon	Too similar	NA
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4.4 Pilot Study

Following the pretest, a pilot study was conducted in advance of the full empirical study. Hoffman, Novak and Yung (2000), when studying flow in online environments, similarly conducted an extensive pretest and pilot study prior to full scale empirical research. Pilot studies are also known as feasibility studies (Ruel et al., 2015), a small-scale study undertaken before the full-scale empirical research to investigate the viability of the study (Thabane et al., 2010). A pilot study was undertaken within this thesis to assess any problems that may arise during the actual study, and to refine and test the research instrument (Teijlingen and Hundley, 2001). Moreover, a systematically administered pilot study can ascertain the success of the empirical study (Ruel et al., 2015).

Previous research indicates that conducting a pilot study can have many advantages; some of the benefits include allowing researchers to plan and identify any potential failures especially identifying practical problems with method and any practical issues pertaining to the research (Teijlingen and Hundley, 2001). One of the main advantages of a pilot study being that it can help determine potential response rates (Teijlingen and Hundley, 2001). However, there are some apprehensions associated with pilot studies, as researchers may make inaccurate assumptions based on the pilot data and a pilot study doesn't always ascertain success in the empirical study (Teijlingen and Hundley, 2001). Moreover, not all issues can be identified via a pilot study (Ruel et al. 2015). Additionally, there is also a concern regarding contamination of data when the data from pilot studies is included in the main study; it is advised that data from pilot studies should not be used in the actual study as improvements and adjustments to the instrument make the data from the pilot study invalid (Teijlingen and Hundley, 2001). Therefore, to guard against data contamination, the data from pilot study was not included in the empirical study as it was expected that items may change.

However, the advantages of conducting a pilot study outweigh the identified disadvantages. Exploring

potential errors in the measurement instrument and assessing the validity and reliability of the instrument is vital during the pilot study (Srinivasan 2017). Validity is the extent to which the measurement instrument measures the intended measures (Srinivasan 2017) While reliability represents the accuracy and precision of the measures within the measurement instrument (Srinivasan 2017). Moreover, conducting a pilot study increases the probability of success, as it helps minimize risks and problems in the actual study. Pilot studies are also beneficial to gather preliminary data to assess the data analysis technique (Teijlingen and Hundley, 2001).

4.4.1 Aims of this pilot study:

Teijlingen and Hundley, (2001) make the following recommendations while carrying out a pilot study. They recommend administering a pilot study exactly as the main study and to record time taken to complete the survey by each participant. Further, they recommend assessing whether each question has a sufficient range of responses and to reword or rescale appropriately (Teijlingen and Hundley, 2001). Given these recommendations, the main aims and objectives of carrying out the pilot study, before the full empirical research, was to help identify any reliability issues with the items in the instrument and to validate the instrument. Further, the pilot study was undertaken to facilitate preliminary data collection to analyse the data analysis technique and also to check if all items load correctly before undertaking the full study. In addition, the pilot study would enable further refinement to the instrument. Finally, it will allow estimation of dropout rates and assess item performance, internal consistency and assess reliability.

4.4.2 Validating the Research Instrument

4.4.2.1 Sample Size Selection and Data Collection

There are several rules pertaining to sample size requirements for a pilot study. While, Thabane et al (2010) advise sample size calculations are not needed when carrying out a pilot study; general guidelines suggest 10% of the actual study (Thabane et al., 2010, Hertzog, 2008). Hertzog (2008)

recommend using power analysis to detect minimum sample size requirements to detect an effect. While, Ruel et al. (2015) suggest a sample containing 30-100 participants regardless of the technique or population.

One approach is to assess the sample size requirements based on the analysis method employed in the pilot study. However, there are varying recommendations on sample size requirements when performing an exploratory factor analysis (analysis method employed in the pilot study); a multivariate statistical approach that is used in the development, refinement and evaluation of tests, scales and measures (Williams, Vandenberg, and Edwards 2012). It is used to measure construct validity in self reporting questionnaires (Osborne and Costello, 2005). When using factor analysis, Tabachnik and Fidell (2013) suggests a sample size of 300 for a pilot study, while Hair et al. (2007) recommend a sample size of 100 or higher. While, MacCallum, Widaman, Zhang & Hong, (1999) suggested that sample sizes can be relatively small if the commonalities are greater than 0.60 and each factor is defined by several items. Sapnar and Zeller suggest that 50 cases may be adequate. Recommendations additionally vary from 50 cases to 500 cases with some considering a sample to variable ratio i.e. the sample required based on the number of variables in the study (Osborne and Costello, 2005). However, additional ambiguity exists when it comes to this ratio approach ranging from 2:1 to 15:1.

Due to the lack of a common practice in sample size requirements for a pilot study we utilized a sample size recommended based on power analysis calculations. Within this study a sample size of 120 was required based on a Priori Sample Size Calculation using power analysis. Power analysis enables researchers to ensure the sample size is large enough to provide an adequate and specified probability of finding an effect if the effect exists (Dattalo, 2008). Moreover, a priori sample size calculator can help reduce the risk of false positives, and therefore the probability of detecting an effect if one exists (McQuitty, 2004). This calculation is determined using the number of latent and observed variables within the conceptual model. The proposed model has 20 latent variables and 74 observed variables pertaining to flow, web design attributes and customer outcomes. The statistical significance is also a key variable, and this was set to 95% (Soper, 2015).

Minimum sample size to detect effect: 23

Minimum sample size for model structure: 120

Recommended minimum sample size: 120

Additionally, this was in line with Hair, Sarstedt, Hopkins, and Kuppelwieser (2014)'s recommendation of a sample size of 100 or more. Hair et al. (2005) studied multivariate data analysis techniques at great length. Besides, commonalities were higher than 0.60 and each factor is defined by several items therefore a small sample was appropriate (MacCallum et al.1999).

For data collection, an online survey was distributed among students within the business school at University of Exeter. A total of 188 students responded to the survey. Four incomplete responses were eliminated and a total of 184 responses were used for the analysis. SPSS eliminated a further 2 based on listwise deletion (deletion of case due to a missing variable) leaving 182 responses. The response rate was adequate given the minimum sample size requirement given above. The students were offered the option to be entered into a prize draw for online shopping vouchers to incentivise participation in the survey and improve response rates. To ensure responses were reliable, respondents were required to indicate the intensity and frequency of online shopping. Students were also informed of the objective of the study. They were also made aware of their right to withdraw at any stage within the survey. All responses were collected after consent from each participant and ethical approval from the university's business school was obtained (Appendix 7.7).

4.4.2.1 Justification of a Student Sample

For convenience, the pilot study invited university students to take part in the study. Notably, 70% of the respondents in this study were under the age of 25. The specific shopping behaviours of the demographic under 25 are particularly suitable for this study; as according to the consumer barometer (2015) by google, 45% of those under the age of 25 years had reportedly made a purchase online. Additionally, 69% of this demographic under the age of 25 years had researched products online (Consumer Barometer, 2015). This demographic also known as young adults spent highest proportion of their income online (Statista, 2014). However, ages 35-44 made the most amount of purchases online at 53% (Consumer Barometer, 2015). Arguably, this age group may have a higher disposable income. This particular age group was also represented in the pilot study as 14% of the respondents in

the study where in this group. Based on the age groups and particular shopping behaviour, the sample for the pilot study was considered adequate. Moreover, students are active and intensive internet users and young adults constitute a large proportion of future market share. Remarkably, on average students spend 3-5 hours of their day online on an average day (Speck and Eliot, 2005) further establishing the appropriateness of a student sample.

4.4.2.2 Descriptive Sample Statistics:

87% of the 182 respondents spent between £0-100 each month online, with 60% of them visiting an online retailer at least once every fortnight (figure 20). Approximately 70% of the respondents were between the age of 17-25, also known as young adults. 16% were between the age of 25-36, with the remaining 14% respondents within the age of 36 and over.

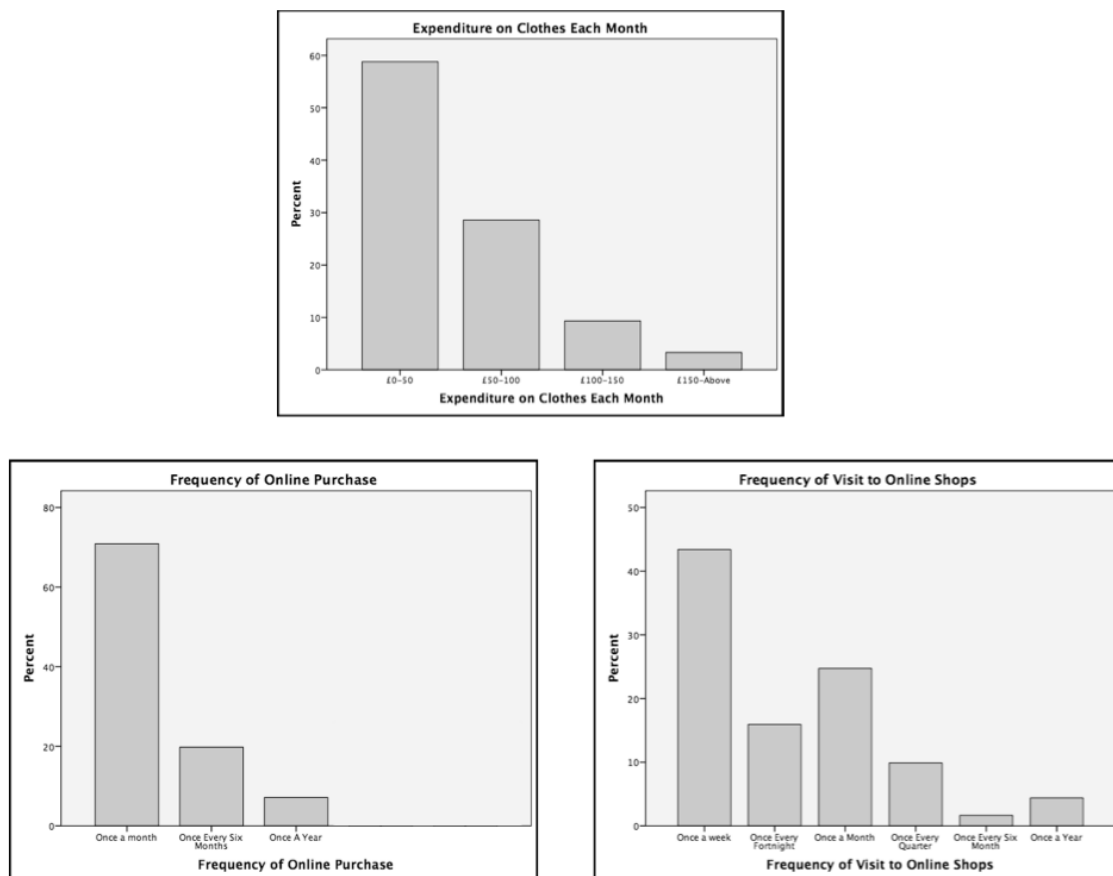


Figure 20 Descriptive Sample Statistics

Of the total respondents, 73% were female. Notably, 70% of all respondents made a purchase online at least once a month. Approximately 60% of the sample visit online retailers with the aim of browsing while the principal motivation of 40% of the sample was to make a purchase. The descriptive characteristics of the sample and their online shopping habits are indicative of their suitability to participate in the pilot study and provide opportunities to explore valid and reliable responses.

4.4.2.3 Reliability Analysis - Cronbach's Alphas:

Validity and reliability are fundamental components of any survey questionnaires; validity is related to the extent to which the instrument measures what it is intended to measure while reliability determines the capability of the instrument to measure consistently (Tavakol and Dennick, 2011). Cronbach's Alphas help establish whether the research instrument is reliable and helps to improve the accuracy of the responses (Tavakol and Dennick, 2011). It is common practice to use Cronbach's alphas to determine reliability of the instrument (Ding et al., 2009; Hoffman, Novak and Yung, 2000). Moreover, Cronbach's alphas are the most widely used measure to assess the reliability of an instrument and to provide a measure for internal consistency of the scale (Tavakol and Dennick, 2011, Pallant, 2013). The measure helps establish the extent to which all items within a questionnaire measure the same theory and thus is related to the inter-relatedness of the items within the questionnaire (Tavakol and Dennick, 2011). When items are correlated to one another, the value of the alphas are increased. Notably, a higher degree of alphas is not always proportionally indicative of a higher degree of internal consistency as alphas are additionally affected by the length of the actual questionnaire (Tavakol and Dennick, 2011). Therefore, it is recommended that there should be related items with the questionnaire that test the same concepts to avoid low alphas from short questionnaires (Tavakol and Dennick, 2011). Cronbach's alphas should be above .7 for the items to be considered reliable, however for new scales .6 is also considered reliable (Pallant, 2013).

Of the 182 responses obtained for the pilot study to validate the instrument, Cronbach's Alphas were examined for each individual construct (when value is closer to 1 the scale is considered more reliable). To validate the instrument, we examined the corrected item total correlations for each construct and dropped items with correlations less than .3 or based on the Cronbach's alpha if deleted value

(Cronbach 1951). A total of 5 items were removed, and assessment using Cronbach's Alpha was repeated for each of the relevant constructs related to product information, channels of customer support, skill and focused attention. This followed the recommendation given by Rattray and Jones (2007).

Further, it is also suggested to remove any items within sub scales of a questionnaire where the item-total correlation is below or less than 0.3 to improve the reliability power of the scale (Ferketich 1991, Kline 1993). This is to ensure that all items in the scale were measuring the same item or construct. Items that were not correlating with other items within the scale were dropped to ensure that the scale was reliable. Within the measurement instrument, most of the Cronbach's Alphas for each construct loaded greater than 0.7 with the exception of Focused Attention which loaded at 0.506 and with some sub-scales loading above 0.6. However, as some of the items relating to each construct are new, this is deemed reliable. The reliability analysis for each construct along with items that were removed is shown below.

4.4.2.3.1 Product Variety

The product variety construct exhibited good overall reliability with the Cronbach's alphas loading at 0.880 (table 16). The items need no further amendment based on the inter-item correlation and Cronbach's alphas if item deleted measured values.

4.4.2.3.2 Product Presentation

The product presentation scale offered appropriate overall reliability at 0.624 (table 16). As the scale was relatively new, we accepted 0.624 and made no further changes to items based on the Cronbach's alphas if item deleted. This is based on Pallant's (2013) recommendation on new scales. One might argue that the items exhibit low inter item correlation. However, one of the items is reverse coded and there appeared to be no practical reason why the item "products could be viewed from many angles" should correlate to "It was difficult to identify what products looked like. Therefore, we accept the scale at this stage as further purification of scales would be carried out in the empirical study.

4.4.2.3.3 *Product Information*

The Cronbach's Alphas for product information construct loaded at 0.311. However, after examining Cronbach's alphas if item deleted - enough information about shipping was dropped as it raised the Cronbach's alphas to 0.721(table 16) for the construct. Furthermore, all of the corrected item-total correlations loaded above 0.4.

4.4.2.3.4 *Product Searchability*

Product searchability another new scale in the study had overall Cronbach's alphas of .631(table 16); which was adequate. Upon examination on the inter-item correlation and item total statistics, no further refinement was undertaken. We acknowledge that the construct exhibits low inter-item correlation. While all the individual items collectively represent product searchability; there is no practical reason for the item "The website had a search engine" to correlate to "The website allowed me to filter by size/colour." or to the item "Product recommendations were similar to those I was browsing." Therefore, we accept the scale at this stage as further purification of scales would be carried out in the empirical study.

4.4.2.3.5 *Product Availability*

Another new scale product availability had an overall Cronbach's alpha of .655 (table 16). For similar reasons mentioned in section 4.4.2.3.4; we accept these scales despite low inter-item correlations as the scales consist of reverse coded items and therefore there is no practical reason for the item "The products I was looking for were in stock" to correlate to the item "The website displayed out of stock items." We acknowledge the limitation at this stage but; we expect to carry out further purification of scales in the final study. Therefore, at this stage, we do not eliminate any items.

4.4.2.3.6 *Channels of Customer Support*

The Cronbach's alphas for Channels of Customer support constructs loaded at 0.343. The item: "there were more than one channels to contact customer support" was dropped due to low item total

correlation and after looking at Cronbach's alphas if item deleted. The Cronbach's alphas upon dropping this item increased to 0.730 (table 16).

4.4.2.3.7 Customer Assistance

The construct customer assistance has good overall reliability at 0.762(table 16). There were no issues with inter-item correlations and no further changes were made to this construct.

4.4.2.3.8 Responsiveness

Responsiveness had a good overall reliability at .700 (table 16). No further changes were made. While some items exhibit low inter-item correlations; we accept that there is no practical reason for items such as "The website responded quickly to my interactions to correlate to "The website displayed many error messages."

4.4.2.3.9 Navigation

The Navigation construct exhibited good overall reliability with Cronbach's alphas loading at 0.693 (table 16). No further amends were made after examining inter-item correlation and item total statistics

4.4.2.3.10 Localisation

Similarly, localisation too exhibited good overall reliability at 0.761. The Cronbach's alphas are shown in table 16.

4.4.2.3.11 Aesthetics

Aesthetics exhibited excellent overall reliability at 0.935. No further changes were made, the statistics are shown below in table 16.

4.4.2.3.12 Sound

The sound construct had good overall reliability at 0.607 (table 16). No further items were amended at this stage. The scales had two reverse coded items which led to low inter item correlations. We accept the scales at this stage but expect to carry out further purification in the full study.

4.4.2.3.13 Purchase Intent

Purchase intent also exhibited good overall reliability at 0.811(table 16). The inter-item correlation and item total statistics indicated no further changes were needed to this construct.

4.4.2.3.14 Satisfaction

Satisfaction also exhibited good overall reliability at 0.888 (table 16). The inter-item correlation and item total statistics indicated no further changes were needed to this construct.

4.4.2.3.15 Control

The control construct also presented good overall reliability at 0.889(table 16). The inter-item correlation and item total statistics suggested no further changes were needed to this construct.

4.4.2.3.16 Skill

Skill originally had low overall reliability of 0.412, upon examining the inter item correlation and item total statistics: "I consider myself knowledgeable about the web" was dropped. increasing Cronbach's Alphas to 0.661(table 16) and improving corrected item-total correlations with each item loading above 0.4.

4.4.2.3.17 Challenge

The challenge construct also presented good reliability at .614 (table 16). The inter-item correlation and item total statistics suggested no further changes were needed to this construct. Items exhibited

low inter-item correlations in this construct. However, there is no practical reason for the item “I found the experience challenging” to correlate to “Shopping online is a good test of my abilities.” While both items measure the challenge construct, we accept the low inter-item correlations at this stage and expect to carry out further purification at the next stage.

4.4.2.3.18 Telepresence

The telepresence construct also presented good overall reliability at .884 (table 16). The inter-item correlation and item total statistics suggested no further changes were needed to this construct.

4.4.2.3.19 Focused Attention

Focused Attention’s Cronbach’s Alphas loaded at .362, two items were dropped bringing the Cronbach’s Alphas to .506 and with item total correlations loading above .3. A decision was made to retain the items as the items within the scale are new and their performance will be assessed in the main study. It is common to carry out stage by stage purification in SEM (Structural Equation Modelling).

- While navigating through the website, I thought of other things
- I was deeply engrossed by the online shopping experience

4.4.2.3.20 Exploratory Behaviour

The exploratory behaviour construct exhibited good overall reliability at 0.744 (table 16). The inter item correlation and item total statistics indicated no further changes were required at this stage.

Table16: Cronbach's Alpha

Construct	Cronbach's Alpha
Product Variety	0.880
Product Presentation	0.624
Product Information	0.721

Product Searchability	0.631
Product Availability	0.655
Channels of Customer Support	0.730
Customer Assistance	0.762
Responsiveness	0.700
Navigation	0.693
Localisation	0.761
Aesthetics	0.935
Sound	0.607
Purchase Intent	0.811
Satisfaction	0.888
Control	0.889
Skill	0.661
Challenge	0.614
Telepresence	0.884
Focused Attention	0.362
Exploratory Behaviour	0.744

4.4.2.4 Validity of the Instrument -Exploratory Factor Analysis

Factor Analysis is a multivariate statistical approach that is used as a tool in development, refinement and evaluation of tests, scales and measures (Williams et al., 2012). It is common practice to use factor analysis to analyse the validity of a self-reporting questionnaire and is considered a method of choice while evaluating self-reporting questionnaires (Williams et al., 2012). Moreover, exploratory factor analysis is used as a ‘data reduction technique’ (Pallant, 2013); as factor analysis reduces large number of variables into smaller sets of variables referred to as factors and establishes the underlying dimensions between measured variables and latent constructs (Osborne and Costello, 2005, Yong and

Pearce, 2013, Pallant, 2013). It is primarily based on the concept that observed variables can be reduced to fewer latent variables based on a shared variance that is unobservable. Exploratory factor analysis additionally helps establish construct validity on self-reporting scales (Pallant, 2013). Moreover, exploratory factor analysis is heuristic in nature and allows researchers to explore the main dimensions required to generate a theory as a model from relatively large latent constructs (Williams et al., 2012, Yong and Pearce, 2013).

Nonetheless, there are some limitations when it comes to exploratory factor analysis as a technique as there is much grey area within the approach and many decisions are left to the discretion of the researcher. Decisions regarding number of factors to retain within the study and rotation methods are often based on logic rather than theoretical criterion (Williams et al., 2007).

In the pilot study, exploratory factor analysis was suited to evaluate instrument validity as it allows the discovery and analysis of variables that are suitable. The primary objectives in running exploratory factor analysis within this research was to reduce the number of variables that were not suitable and to ascertain validity of the scales and instrument. The full objectives for running a factor analysis within a research project as given by Williams et al. (2012) and Yong and Pearce (2015) are outlined below:

- reduction in the number of variables
- examining the relationships between variables
- evaluating the construct validity of the instrument

Within exploratory factor analysis, there are various methods that can be used to examine the data. Principal component analysis is a common method of extraction and has gained popularity due to availability in software packages (Costello and Osborne, 2005). However, Costello and Osborne (2005) ran an analysis to compare differences in results between Principal Factor Analysis and Maximum likelihood extraction; there were no differences found in results from Principal Component Analysis and Maximum likelihood extraction. Within this study, Principal Components Analysis was used with orthogonal rotation (Varimax) to extract factors. Any missing variables were removed pairwise as it is deemed less stringent in comparison to removing list-wise. Although all approaches

produce similar results, a preference is often given to Principal Component Analysis as it accounts for a higher degree of variability in patterns of correlation (Pallant, 2013). Principal component analysis is moreover the most published technique within literature (Williams et al., 2007).

Before conducting exploratory factor analysis, it is also important to establish that the data set is suitable by assessing the sample size and the strength of relationships. This criterion was satisfied and is reported in section 4.4.2.1. A sample size of 182 was used as commonalities were high; a sample size of 120 was required based on prior sample size calculation. The second element is to establish that the strength of item correlations is above 0.3 (Pallant, 2013). The other elements to inspect before proceeding are the Kaiser-Meyer-Olin measure of sampling adequacy (above 0.6) and Bartlett's test of sphericity (less than 0.05 ($P < .05$)). The value for KMO amounted to 0.801 and Bartlett's test of sphericity being .000 demonstrating suitability of exploratory factor analysis.

At first, Principal component analysis using Varimax rotation was run using the sixty-seven items that remained after reliability analysis. An examination of factors that had significant cross loading, or had low loading, was undertaken according to recommendations within literature (Costello and Osborne, 2005; Yong and Pierce, 2013). A cross-loading item is when an item loaded at .32 or higher on two or more factors (Costello and Osborne, 2005). Commonalities of the items was also screened for any items below 0.3. After examining the Rotated Component Matrix, an item pertaining to the localisation construct (The website displayed products in my local currency) was removed as it was cross-loading across two factors. Additionally, an item from the challenge construct (I found the experience of shopping online challenging) was removed due to significant cross-loading. The website was familiar to me and I was captivated by the online construct was removed due to significant cross-loading. After the removal of these four items, the Rotated Component Matrix had no factors that loaded significantly low on any factor. The items also did not cross-load on another factor. Upon extraction and removal of significant cross loading items there were only 63 items remaining. With some constructs only having two items remaining. The KMO was significant and commonalities were above .5. Total variance amounted to 70.71%.

A total of 17 factors were extracted and retained based on Eigenvalue above .1. Kaiser's scree test criterion was considered to analyse the number of factors to retain but later rejected as it is only reliable

4	38.836
5	42.322
6	45.448
7	48.438
8	51.323
9	54.118
10	56.758
11	59.209
12	61.398
13	63.522
14	65.45
15	67.312
16	69.086
17	70.714

4.5 Empirical Study Design and Results

Based on the findings of the pilot study and the pretest, the instrument was prepared for full empirical research after a few changes to items (all of which are outlined in the section above). This section describes the full empirical study. It includes the data collection method, introduces and provides justifications for the data analysis technique, measurement model testing and structural model testing followed by the presentation of results.

4.5.1 Data Collection

An online survey was employed to collect information on the online shopping experience of a leading online retailer in the UK. Online surveys offer ease of administration, cost and time efficiency; and can be assembled and coded easily using online software packages (Boyer, Olson, Calantone and Jackson, 2002). Notably, research by Duffy, Smith, Terhanian & Bremer (2005) indicates that online surveys draw well-informed and opinionated respondents in comparison to face to face respondents. Nonetheless, online surveys suffer from potential biases in sampling as they only include those who agree to participate (Ding et al., 2009).

In this study, customers who had made a purchase using the retailer's website within the last month were invited to take part in the survey. Respondents were asked to answer the questionnaire based on their previous online shopping experience with the retailer; additionally, they were asked questions about their online shopping habits. Each respondent was offered three chances to take part in a prize draw for gift vouchers as an incentive to take part in the survey.

A total of 3236 customers completed the survey. Subsequently, the data was screened for incomplete responses. A total of 433 incomplete responses were identified and deleted. Further, the standard deviation of responses was screened case by case to check for unengaged responses i.e. is anyone who answers the same option for each answer or answers in a pattern for e.g. 1,2,3,4,5.

As only respondents who had made a purchase online within the last month were invited to take part it ensured that the data was reliable as customers had both experience with shopping online with the retailer implying their adequacy to provide reliable responses. Furthermore, as respondents were required to recall their previous shopping experience with the retailer while completing the survey, it ensured that they had the retailer's website in mind when providing responses. This is critical as the instrument was designed to answer questions about a specific website.

4.5.1.1 Changes to Instrument

Due to the nature of the retailer's website, there were two constructs that were required to be eliminated i.e. localisation and sound. The retailer was solely a UK based retailer therefore Localization was not

relevant. This construct was therefore removed from the model. Similarly, the retailer's website did not have any embedded sound. The Sound construct was, therefore, removed from the model. The changes to instrument, discussed here, are important as the final set of items determine the sample size requirements for the study. The instrument which includes 57 items (table 20) employed in the final study is given below:

Table 20 Measurement Items in the Final Study

Construct	Measurement Items
Product Variety	<ul style="list-style-type: none"> • The website offered a wide variety of items • There was a wide selection of product categories to make a choice from on the website. • There were sufficient products to choose from on the website.
Product Presentation	<ul style="list-style-type: none"> • The products look real. • Products can be viewed from many angles. • It was difficult to identify what the products looked like (reverse coded)
Product Information	<ul style="list-style-type: none"> • Enough information was provided about how to care for the product. • Enough information was provided about product dimensions. • Enough information was provided about product features. • Enough information on different materials/fabrics was provided.
Product Searchability	<ul style="list-style-type: none"> • The product recommendations were similar to the products I was browsing before. • The website has a search engine that assisted me in finding products. • The product recommendations were items I was interested in looking at. • The website allowed me to browse the product easily. • The website allowed me to adequately filter products using several options (e.g. size and colour).
Product Availability	<ul style="list-style-type: none"> • Many of the products I was looking at were in stock. • The website displayed many products that were out of stock (reverse coded) • When I selected products, they were often out of stock (reverse coded)
Channels of Customer Support	<ul style="list-style-type: none"> • There were sufficient options to contact customer support. • The website had useful alternative methods of reaching customer support services.
Customer Assistance	<ul style="list-style-type: none"> • Sufficient help to return an item was available. • Sufficient help to select products was provided.

	<ul style="list-style-type: none"> • Sufficient help was provided at the checkout stage.
Interactivity	<ul style="list-style-type: none"> • The website responded quickly to my interactions. • The website had many error messages such as page not found and server busy (reverse coded) • The pages on the website loaded rapidly. • The website often got stuck. (reverse coded)
Navigability	<ul style="list-style-type: none"> • The website was easy to use. • The website was difficult to navigate. • On the website, moving from one page to another was seamless.
Website Aesthetics	<ul style="list-style-type: none"> • The website was visually appealing. • The website design was pleasing. • The visual design of the Web site was attractive.
Purchase Intent	<ul style="list-style-type: none"> • I wanted to buy some products from this website. • I will make a purchase from this website soon • I wouldn't buy anything from this website. Reverse coded
Customer Satisfaction	<ul style="list-style-type: none"> • I would use this website again. • I was satisfied with the website. • I enjoyed using the website. • I liked shopping on the website.
Control	<ul style="list-style-type: none"> • While browsing the website, I felt in control of the shopping process. • On the website, I got the responses from the website that I expected. • I knew what to expect on the website at each step of the shopping experience.
Skill	<ul style="list-style-type: none"> • I consider myself knowledgeable about shopping for online. • I know comparatively less than most Internet users about buying online. Reverse coded • Shopping online is something I am confident with compared to other web activity.
Challenge	<ul style="list-style-type: none"> • I found that browsing clothes online provided enough challenge for me not to get bored. • Shopping online for clothes is a good test of my skills. • I found that browsing XX website provided enough challenge for me not to get bored.
Telepresence	<ul style="list-style-type: none"> • While shopping for clothes online, I was in a new world created by the website which disappear when I stop browsing.

	<ul style="list-style-type: none"> • I was so absorbed in the virtual environment I forgot my immediate surroundings. • When I was shopping online, the world generated by the website was as real as the real world. • Online shopping often makes me forget where I am.
Focused Attention	<ul style="list-style-type: none"> • I focused all of my attention on shopping.
Exploratory Behaviour	<ul style="list-style-type: none"> • I often click on links out of curiosity • I like to browse website to find out about the latest trends • I was curious to explore the website.

4.5.1.2 *Sample Size Calculation*

Power analysis was used to determine the sample size requirements and to avoid sampling error. Moreover, it is common practice in factor analysis to use power analysis (Wolf, Harrington, Clark, and Miller, 2013); it is deemed important in SEM as it measures the statistical probability of a sample size to detect an effect (Schumacher and Lomax, 2011; Dattalo, 2008). Power analysis enables researchers to ensure the sample size is large enough to provide an adequate and specified probability of finding an effect if the effect exists (Dattalo, 2008). The concept of power is defined as the statistical probability of rejecting a null hypothesis when it is false (McQuitty, 2004). In the context of structural equation modelling, the importance of statistical power is an important component as it influences the confidence with which results can be interpreted (McQuitty, 2004).

Power is crucial in structural equation modelling as it is related to the capability of a study to distinguish between good and bad models i.e. if the statistical power of a test is low, often the null hypothesis will be rejected which may cause a researcher to accept a false theory (McQuitty, 2004). Power itself can be affected by various different factors ranging from sample population to the research model itself (McQuitty, 2004). Too small a sample can miss important differences and too large a sample can waste important time and resources (Dattalo, 2008). While considering a sample size, investigators usually lay emphasis on achieving sufficient statistical power to observe true relationships (Wolf et al., 2013). Specifically, power will directly affect the validity of the study. Given the structural complexity of the model with anticipated effect size set to 0.1, the desired statistical

power level set to 0.80 (which is the convention), the sample size required for the study was identified as 2,364.

4.5.1.3 Sample

Respondents were recruited through an email from the retailer who agreed to share the data in exchange for the results of the research. The email offered the respondents a chance to win vouchers from the retailer in exchange for their participation in the survey. The respondents were given a link in the email to take part in the survey, which was hosted using Survey Monkey. The first five questions of the survey were related to their age and gender; followed by questions related to their average online spend, frequency of online purchases and frequency of visit to online retail websites. As only customers who had made a purchase were invited to take part in the survey, response bias was a minimal concern.

In total 3,236 customers completed the online survey. After screening for incomplete and unengaged responses (those who may have selected the same option for all questions) and further removing statistical outliers, a final sample of 2,803 useable customer responses was obtained. This meets the requirements of sample size required calculations given above in section 4.5.1.2. The characteristics of the sample indicated experience in purchasing online.

4.5.1.4 Descriptive Sample Statistics

All respondents who participated in the survey had been active online and had purchased an item online in the month prior to the survey. The respondents were spread across various age groups (figure 21); 2.81% were between the age of 18-24, nearly 24% were between each of the following age groups 25-34, 35-44 and 45-54. 17% of the respondents were between 55-64 and 8% above the age of 65. The last five age ranges are representative of online consumers in the UK (Consumer Barometer, 2015). While young adults or students used in the pilot study spend the most amount of time online; the age groups between 25-65 have a higher disposable income. Though, 95% of the respondents who took part in the survey were female.

12.82% reported spending £0-49 each month online, while 27.56% reported spending £50-99 per month, and 29.08% spending £100-149 each month and 16.78% spending £150-199 each month. A breakdown of respondents' average monthly expenditure is shown in Figure 22. The respondents were also required to answer how often they made a purchase online. 39.62% of the respondents made a purchase online at least once a month. While 20.27% made a purchase at least once every fortnight. Notably, 63.23% of the respondents visited online retail websites at least once a week with 16.93% visiting at least once a fortnight and 13.41% visiting online retail websites at least once a month. Given the shopping behaviour and online shopping habits of the respondents, it is evident that the respondents are knowledgeable online shoppers and therefore suitable to provide reliable and effective responses for the study. A summary of the sample is given in Table 21 below:

Table 21 Descriptive Sample Statistics

Age	Respondents are evenly distributed between the 25-34, 35-44, 45-54 age categories. The 18-24 age category is surprisingly low at only 3%.
Gender	The data clearly shows the dominance of females (95%) in the sample with only 5% of male respondents.
Spending habits	57% of the respondents spend between £50-£149 a month online (28%, £50-£99; 29%, £100-£149). 17% of the sample spend over £150 p.m. and 17% under £50.
Online Purchasing Patterns	Over 67% of the respondents made a purchase online at least once a month with 7% of the total respondents making a purchase at least once a week and 20% making a purchase at least once every fortnight.
Online Store Visits	The respondents are predominately established online shoppers. 60% of the respondents visited an online shopping website at least once a week. 27% visit online shops at least once a month and 24% visiting every month.

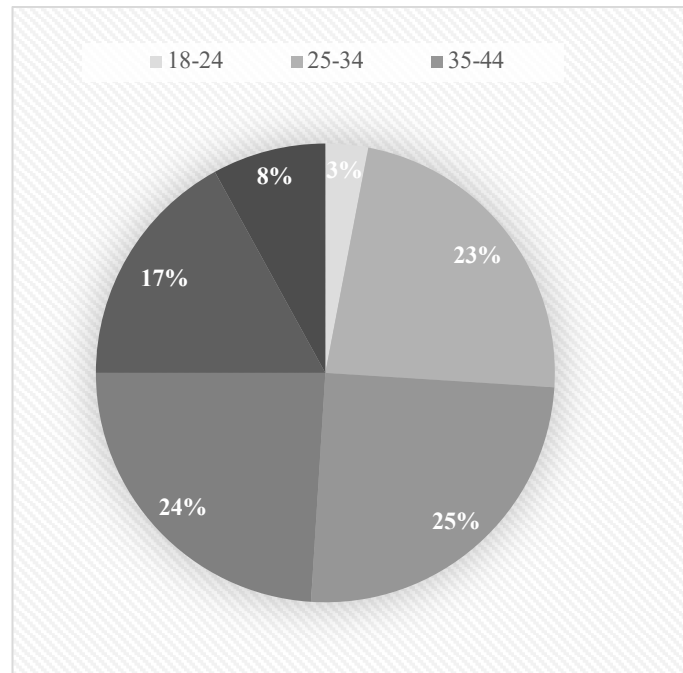


Figure 21 Age of Respondents

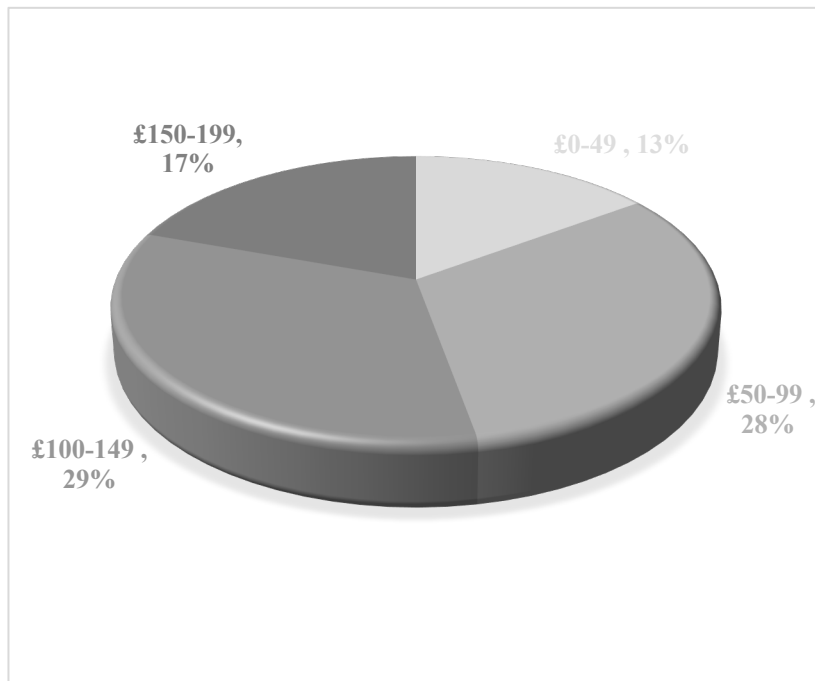


Figure 22 Average Monthly Expenditure Online

4.5.2 Analysis Method and Results

This section provides justifications of the research method used to undertake the empirical research along with key justifications of single item measures. In addition, a summary of the basic concepts associated with the analysis method is provided.

4.5.2.1 Analysis Method - Structural Equation Modelling

In this study, Structural Equation Modelling was used to analyse the data and derive results. Structural Equation Modelling (SEM) is considered an ideal data analysis technique as it allows researchers to simultaneously test the measurement model and structural relationships (Williams et al.2009). In structural equation modelling, latent variables represent concepts of a theory and the data from the measured indicators is used as input for statistical analysis which in turn provides evidence of relationships among latent variables (Williams et al., 2009).

Structural equation modelling as a statistical analysis technique is known to have numerous benefits over other conventional statistical measures, such as regression, as it caters for multiple dependent variables while allowing the variables to correlate with one another all while accounting for measurement error (Williams et al., 2009). Historically, researchers have used exploratory factor analysis to develop evidence that the measures employed accurately represent the fundamental construct under investigation. Developed scales were then used in linear regression to build theory (Williams et al., 2009). SEM is preferred by researchers as it combines both approaches and considers them simultaneously (Williams et al., 2009). As a result, structural equation modelling has become increasingly popular due to the need to test complete theories and concepts (Hair et al., 2014). Further, by explicitly assessing error in the structural model, SEM provides a powerful statistical method; by accounting for error within the data in each measured item increasing the precision of findings (Astrachan, Patel and Wanzenried, 2014). Another advantage of SEM is that it considers interactive effects and complex models and provides opportunities to find an optimal model which limits cross loading and identifies higher loading (Astrachan et al., 2014).

In addition, structural equation modelling has other advantages; as it facilitates simultaneous testing of relationships, while reducing overall error associated with the model type (Astrachan et al., 2014).

Further, structural equation modelling allows researchers to include unobservable variables measured indirectly by indicator variables (Hair et al., 2014). It is also preferred due to the availability of software that enables easy analysis by non-statisticians (Astrachan et al., 2014). Further, assumptions underlying the statistical analysis are clear and testable (Blunch, 2008). In addition, structural equation modelling allows regression coefficients, means and variances to be tested simultaneously (Blunch, 2008).

Statistically, structural equation modelling is an advanced variation of linear modelling procedure (Astrachan et al., 2014); a multi-variate analysis that simultaneously tests and estimates complex causal relationships among variables even when they are hypothetical relationships (Williams et al. 2009). It is able to concurrently test multi-level dependent relationships i.e. in circumstances where a dependent variable turns into an independent variable in the subsequent relationship; all while, facilitating the measurement of direct, indirect and total effects (Astrachan et al., 2014).

After careful consideration of both traditional structural equation modelling (CB-SEM), and partial least squares structural modelling (PLS-SEM) as data analysis techniques (Table 22), it was evident that traditional structural equation modelling was more suited to the research model. Two main types of SEM were taken into consideration: Covariance Based Structural Equation Modelling (often referred to as structural equation modelling) and Partial Least Squares Structural Equation Modelling (Hair et al, 2014). While, PLS-SEM and CB-SEM are two different approaches to the same problem, they are dissimilar in their basic assumptions and their outcomes (Astrachan et al., 2014). CB-SEM is used primarily to test theories while PLS-SEM is used more so in exploratory research to build theories (Hair et al, 2014). PLS SEM is used when theories are less developed and only minimal sample sizes are available (Hair et al, 2014). CB-SEM is based on accurately assessing the covariance matrix while PLS-SEM is based on accounting for explained variance in endogenous constructs (Astrachan et al., 2014). PLS- SEM is preferred in theory development as its primary purpose is to identify relationships (Astrachan et al., 2014). CB-SEM is more established for theory testing and it requires larger sample sizes (Astrachan et al., 2014).

Table 22 Overview of CB-SEM & PLS-SEM

	CB-SEM	PLS-SEM
Application	Theory Testing	Theory Building
Sample Size Requirement	Large	Small
Basis	Assessment of Covariance Matrix	Accounts for explained variance

Hair et al. (2014) identified three reasons to use PLS-SEM over CB-SEM; non-normal data, small sample sizes and use of formative indicators within the model (Hair et al., 2014). When data falls into multi-variate distribution, PLS-SEM should be considered as it is less stringent with data distribution and the use of CB-SEM when data is not normally distributed can underestimate standard error and cause an inflated goodness of fit (Hair et al., 2014). PLS-SEM should also be used when the researcher expects low response rate and finally when the indicators within the model are formative indicators (Hair et al., 2014). Formative indicators are assumed to form or cause or produce and underlying construct while reflective indicators are materialisation of the latent variables (Williams et al., 2009).

PLS- SEM facilitates reliable results when sample sizes are small and when the data is not normally distributed (Hair et al., 2014). Due to the lack of an adequate global goodness of model fit measure, the use of PLS SEM for theory testing is limited (Hair et al., 2014). Further, PLS-SEM is recommended when researchers expect or experience low response rates (Astrachan et al., 2014). This research deals with theory testing as the conceptual model suggests hypothesis that are derived from causal relationships existing within literature, therefore traditional structural modelling was deemed better suited to this research. Further the indicators variables with the measurement model are reflective indicators that form each of the latent variables and it has been suggested that PLS-SEM should be used when the indicators are formative. Further due to the lack of goodness of fit model within PLS-SEM, its use for theory testing is limited making it less suitable for this research. Structural equation modelling has become a popular method as it allows for multiple observed variables and it has also

received greater recognition given the validity and reliability of observed variables as it takes measurement error into account (Schumacher and Lomax, 2011).

4.5.2.1.1 Basic concepts in SEM

Structural equation modelling is a collection of tools for analysing connections between various concepts where there are relevant concepts for the purpose of knowledge or for solving problems (Blunch, 2012). It is more of a confirmatory rather than exploratory study (Blunch, 2012). Within SEM, there are two types of variables; latent and observed variables and exogenous and endogenous latent variables (Blunch, 2012). Latent variables are not directly measured but are represented by their observed variables (Blunch, 2012). Latent variables measures concealed phenomena (Bowen and Guo, 2011), whereas observed variables are directly measured and represented by items/indicators (Blunch, 2012). Observed Variables are normally represented by questionnaire items (Bowen and Guo, 2011). In SEM, latent variables are indicated by circles while observed variables are represented by rectangles (Bowen and Guo, 2011). Exogenous variables are independent variables while endogenous variables are dependent variables (Blunch, 2012). Within SEM, a structural model shows connections among latent variables while a measurement model shows connections between latent variables and their indicators (Blunch, 2012).

4.5.2.1.2 Single Item measures in SEM

This section provides justifications for including a single item measure in the study as importance of multi-item scales has been stressed within literature in order to appropriately account for both random and systematic error (Hayduk and Littvay, 2011; Petrescu, 2013). However, single item measures can be beneficial when surveys are long and complicated (Petrescu, 2013). Single item measures are also recommended when they are easy and simple to understand (Petrescu, 2013).

While testing the reliability and validity, researchers may choose to drop items and retain a single item measure (Hayduk and Littvay, 2011). Single item measures do require the error variance to be fixed to zero in order for the model to run adequately (Hayduk and Littvay, 2011). This indicates the item is perfectly reliable or it can also be adjusted to prior value (Petrescu, 2013). It is recommended to use reliability estimates from another study when using single item measures (Petrescu, 2013).

Within the study, there is one single item measure which is related to Focused Attention. This construct originally had 3 items, however, two were removed during the pilot study due to lack of adequate validity and reliability. Since the item was taken from a previous scale (Ding et al., 2009), a single item measure was retained for the Latent Variable – Focused Attention. Further, as the measure was simple and easy to comprehend, the error variance was fixed to zero.

4.5.2.2 Measurement Model Analysis and Testing

After screening the data, the reliability of the instrument was tested. Exploratory factor analysis was conducted on data using Principal Components Analysis with Promax rotation. As Principal Components Analysis was used in the pilot study, the same method was used to extract factors in the main study. However, we used Promax rotation instead of varimax which was used in the pilot study due to a larger data set in the empirical research. Varimax rotation is used in larger data sets as the rotation is calculated quicker. Moreover, both oblique and orthogonal rotation produce the same results (Costello and Osborne, 2005). Full explanation of this is provided in section 4.4.2.4.

A total of 16 factors were extracted at this stage. A pattern matrix (table 23) showing these is shown on the next page. A total of 11 items were removed as given below. The items that were removed were primarily reverse coded items. The KMO was suitable for the data set at 0.949 and the significance was .000. Kaiser-Meyer-Olkin (KMO) is a measure of sampling adequacy, it indicates the suitability of the data for discovery of a structure (IBM, 2017). High values that are closer to 1 are indicative of the data's suitability for a factor analysis (IBM, 2017). Further, statistical significance was considered to be adequate at the .05 threshold.

Factor analysis is used to discover the observed variables that form part of a latent variable (Yong and Pierce, 2013). We ran factor analysis using principal component analysis; during this stage through assessing the factors and their loadings, we removed any factors that had significant cross loadings or low loading on their latent variable to reach a valid measurement model. We first purified the measurement model by eliminating any latent variables that did not fit well. Table 23 depicts the purified pattern matrix after elimination of items.

The items that were removed were:

1. **Product Presentation:** It was difficult to identify what the products looked like (reverse coded)
2. **Interactivity:** The website had many error messages such as page not found and server busy (reverse coded)
3. **Interactivity:** The website often got stuck. (reverse coded)
4. **Navigability:** The website was difficult to navigate. (reverse coded)
5. **Skill:** I know comparatively less than most Internet users about buying online. (reverse coded)
6. **Exploratory Behaviour:** I feel browsing websites online is a great use of my time. (reverse coded)
7. **Navigability:** The website was easy to use
8. **Telepresence:** While shopping online, I was in a new world created by the website which disappear when I stop browsing.
9. **Searchability:** The website allowed me to browse the product easily.
10. **Searchability:** The website allowed me to adequately filter products using several options (e.g. size and colour).
11. **Purchase Intent:** I wouldn't buy anything from this website. (reverse coded)

This was followed by a Confirmatory Factor Analysis in AMOS. The items that emerged from factor analysis were loaded into AMOS to test the reliability and validity of the measurement model. The measurement model was run in AMOS and Modification indices were drawn where appropriate to achieve an overall goodness of fit.

Table 23 Pattern Matrix after Factor Analysis after Purification

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Product Variety					0.900											
Product Variety					0.875											
Product Variety					0.908											
Product Presentation															0.649	
Product Presentation															0.940	

Customer Outcomes	0.856																	
Customer Outcomes	0.585																	
Customer Outcomes	0.666																	
Customer Outcomes	0.765																	
Control						0.944												
Control						0.922												
Control						0.864												
Skill													0.762					
Skill													0.887					
Challenge																0.831		
Challenge															0.794			
Telepresence				0.919														
Telepresence				0.840														
Telepresence				0.942														
Focused Attention																		0.952
Exploratory Behaviour												0.872						
Exploratory Behaviour												0.823						
Exploratory Behaviour												0.733						

4.5.2.2.1 Model Fit

A model fit is crucial to test the theory in structural equation modelling; it is used to identify whether the data fits the model (Schumacker and Lomax, 2010) and moreover to identify a statistically significant model. In instances, where the data does not fit the model, enhancement can be carried out through modification indices to reach a statistically significant model (Schumacker and Lomax, 2010).

This set of statistics deals with the entire model fit. One of the statistics when assessing model fit is the likelihood ratio (χ^2) which should be insignificant above 0.05. However, this is rarely insignificant as it is sensitive to larger sample sizes (Gefen, Straub and Boudreau, 2000). Additionally, there is some literature that suggests that χ^2 should be as small as possible (Segars and Grover, 1993). While other researchers suggest the ratio of χ^2 and degrees of freedom be between 1 and 2. Chin and Todd (1995) recommend a ratio of 3:1 which is considered suitable by many researchers.

Other model fit measures that are considered are the goodness of fit index (GFI), the Adjusted Goodness of fit Index and Root Mean Residual (RMR) (Gefen et al., 2000). Goodness of Fit Index determines the absolute fit of the measurement model with the data (Gefen et al., 2000). The adjusted goodness of fit modifies this value to the degrees of freedom (number of independent pieces of data to calculate an estimate) within the model (Gefen et al., 2000). Root Mean Residuals measures the residual variance of the observed variables of the other items (Gefen et al., 2000). Another crucial fit index is Normed Fit Index (NFI) which measures the normed difference between χ^2 and a zero-factor null model with no common variance across measures and a proposed multi-factor model (Bentler, 1990). It is also recommended to look at the modification indices. This was undertaken in the case of the measurement model and helped improve overall model fit (Gefen et al. 2000). We only added modification indices to the error terms in the measurement model by adding covariance arrows among error terms. The thresholds for the model fit as given by Gefen et al. (2000) and Hu & Bentler (1999) along with the Measurement Model Metrics are shown below in Table 24.

Table 24: Model Fit

Measure	Definition	Measurement	
		Threshold	Model Metrics
CMIN/DF	evaluates the discrepancy between the sample and fitted covariances matrices (Hu and Bentler, 1999)	Around 3 but less than 5	3.90
p-value for the model	Evidence against null hypothesis.	Below 0.05	.00
CFI	a revised form of NFI that accounts for smaller sample sizes.	Above .95	.96
GFI	Measures the amount of variance that is accounted for by the estimated population covariance (Tabachnick and Fidell, 2007).	Above 90	.94
AGFI	Adjusts the GFI based on degrees of freedom (Tabachnick and Fidell, 2007)	Above 80	.93
RMR	Residuals measures the residual variance of the observed variables of the other items (Gefen et al. 2000).	Below .05	.02
RMSEA	Determines how well the model with an unknown yet optimally chosen parameter would fit the covariance matrix.	Below 0.05	.03
NFI	evaluates the model by comparing the χ^2 value of the model to the χ^2 of the null model	Above .90	.95

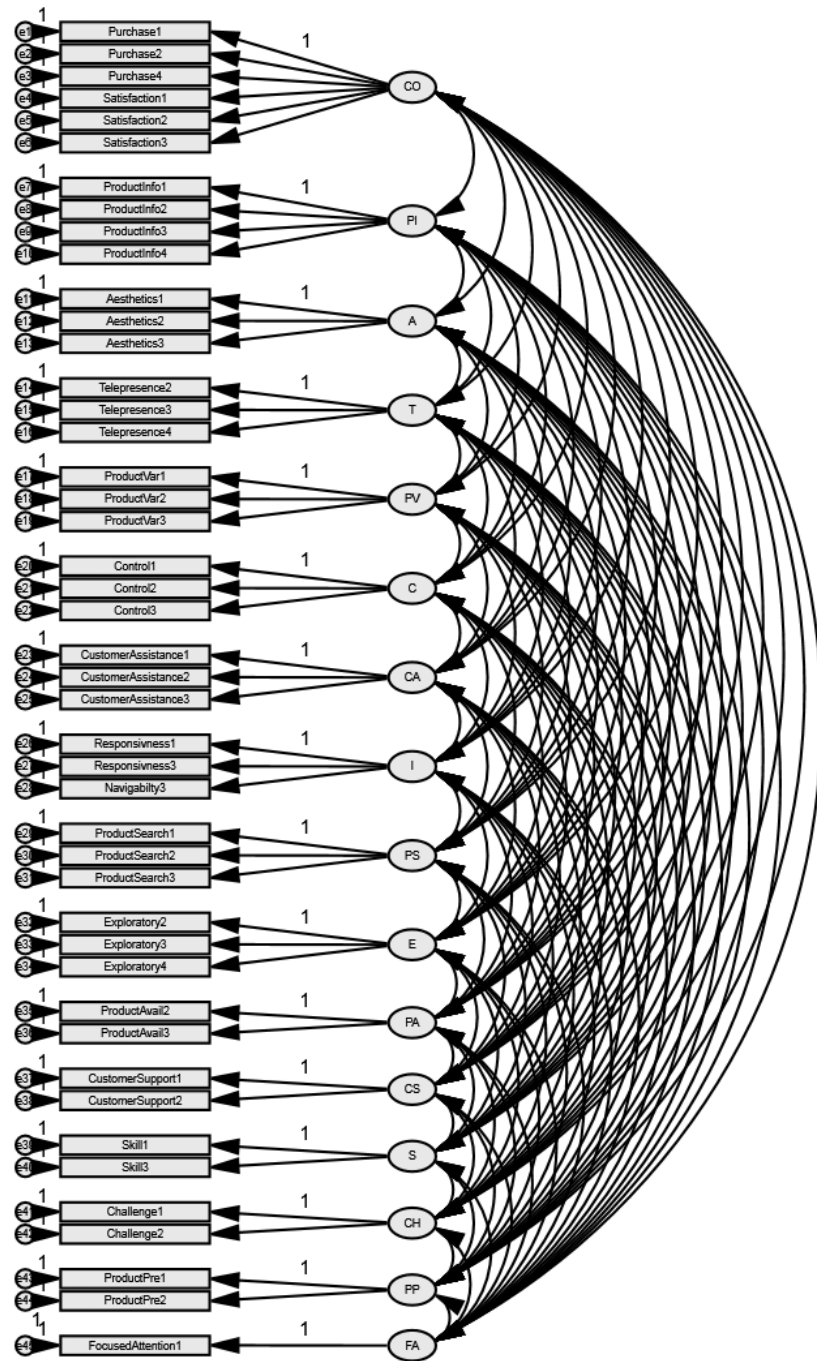


Figure 23: Measurement Model

4.5.2.2.2 Validation of the Measurement Model

Through evaluating the validity and reliability of the measurement model, researchers are able to assess whether the measures within the study correctly measure and represent the research study (Hair et al., 2010). Reliability assesses the consistency of a measure (Hair et al., 2010), while validity establishes whether the measurement items measure what they are intended to measure (Srinivasan 2017). To check validity and reliability, it is common practice to measure composite reliability, average variance explained, maximum shared variance and discriminant validity.

In general, the composite reliability (CR) of a latent variable should be at least 0.70. However, 0.60 is also considered satisfactory (Barclay et al., 1995). The average variance explained (AVE) should be greater than 0.50 but can accept 0.40 when the composite reliability of the construct is higher than 0.60 (Fornell and Larcker, 1981). If the composite reliability of the construct is above 0.60 and the average variance explained is below 0.50 then the convergent validity of the construct is still reliable (Fornell and Larcker, 1981). AVE is a measure of convergent validity – which ensure that factors that should be related are indeed related (Hair et al., 2010).

Table 25: Measurement Model Validity and Reliability

	Composite Reliability (used to check internal consistency)	Average Variance Explained (measure the amount of variance captured by a construct in relation to the amount of variance due to measurement error)	Maximum shared variance	Average Shared Variance
Challenge	0.603	0.432	0.476	0.193
Customer Outcomes	0.878	0.553	0.503	0.254
Product Information	0.892	0.674	0.392	0.185
Aesthetics	0.946	0.854	0.353	0.174
Telepresence	0.893	0.736	0.476	0.095
Product Variety	0.892	0.734	0.391	0.173

Challenge	0.860	0.673	0.524	0.237
Customer Assistance	0.861	0.676	0.353	0.200
Interactivity	0.795	0.565	0.524	0.246
Product Search	0.773	0.534	0.295	0.203
Exploratory	0.757	0.516	0.300	0.119
Product Availability	0.791	0.657	0.082	0.037
Customer Support	0.867	0.766	0.353	0.169
Skill	0.613	0.446	0.250	0.099
Product Presentation	0.634	0.466	0.392	0.261

Discriminant validity confirms that constructs that should not be theoretically related are in fact not related to one another (Fornell and Larcker, 1981). To establish discriminant validity in general the square root of average variance should be less than inter-construct correlation, or average variance shared should be less than average variance explained, or maximum shared variance should be less than average variance explained (Hair et al., 2010, Fornell and Larcker, 1981). In general, all of the constructs satisfied all three conditions with the exception of challenge where only one of the criteria was met. However, there was not a significant difference from the acceptable thresholds and as it is taken from previous scales (Ding et al., 2009) the construct was retained as it exhibits content validity. The factor correlation matrix is shown below with the square root of AVE shown on the diagonal; all of the inter item correlations were lower than the square root of AVE which indicates good validity.

Validity and reliability was established through the assessment of Cronbach's alphas; factor analysis; model fit (through eight measures). These tests suggest that the data set was adequate. In addition, the assessment of composite reliability, convergent validity and discriminant validity of the measurement items, suggest that the data was suitable to test the hypotheses.

Table 26 Factor Correlation Matrix with Diagonal Showing the Square Root of AVE

	CH	CO	PI	A	T	PV	C	CA	I	PS	E	PA	CS	S	PP
Challenge (CH)	0.657														
C Outcomes (CO)	0.474	0.744													
P Information (PI)	0.395	0.502	0.821												
Aesthetics (A)	0.344	0.594	0.413	0.924											
Telepresence (T)	0.690	0.265	0.196	0.196	0.858										
P Variety (PV)	0.357	0.496	0.472	0.486	0.194	0.857									
Control (C)	0.406	0.670	0.516	0.448	0.183	0.437	0.820								
C Assistance (CA)	0.451	0.536	0.475	0.386	0.239	0.436	0.537	0.822							
Interactivity (I)	0.423	0.709	0.498	0.509	0.242	0.475	0.724	0.553	0.752						
P Searchability (PS)	0.515	0.518	0.491	0.418	0.360	0.443	0.479	0.506	0.517	0.730					
Exploratory(E)	0.548	0.394	0.264	0.313	0.464	0.251	0.339	0.300	0.320	0.383	0.718				
P Availability (PA)	-0.149	-0.227	-0.206	-0.183	-0.049	-0.263	-0.234	-0.180	-0.287	-0.187	-0.036	0.810			
C Support (CS)	0.470	0.465	0.413	0.356	0.275	0.371	0.439	0.594	0.477	0.482	0.300	-0.140	0.875		
Skill (S)	0.224	0.351	0.303	0.351	0.130	0.297	0.500	0.276	0.307	0.333	0.359	-0.044	0.235	0.668	
P Presentation (PP)	0.439	0.603	0.626	0.591	0.274	0.625	0.599	0.536	0.604	0.543	0.303	-0.250	0.503	0.421	0.683

4.5.2.3 The Structural Model – Hypothesis Testing

We test nine website design attributes (product variety, information, searchability, availability, channels of customer support, customer assistance, interactivity and aesthetics) and their impact on flow variables (skill, challenge, telepresence, focused attention, control and exploratory behaviour); and simultaneously the role of flow variables on customer outcomes. To establish this the structural model was run in AMOS to test the relationships between website design, flow and customer outcomes. The 29 relationships are shown in figure 24 which assess the role of website design in creating an optimal user experience which thereafter leads to desired customer outcomes. The data supports the model with the exception of 6 hypotheses (table 28). Notably, three of the flow variables

(Control, Focused Attention and Exploratory Behaviour) lead directly to the desired customer outcomes. As part of the structural model, we analyse fundamental antecedents of customer satisfaction and purchase intention by linking them in design and flow as depicted in the figure 24. But first we examine the goodness of fit of the structural model. Overall the structural model indicated a good overall goodness of fit. We tested the structural model at first for goodness of fit with numerous measures; the goodness of fit of the model is estimated using comparative fit index (CFI), Normal Fit Index (NFI), Tucker Lewis Index (TLI), Parsimony comparative fit index (PCFI), Parsimony normal fit index (PNFI) and Root Mean Square Error of Approximation (RMSEA). Overall the goodness of fit indicated a good model fit.

Table 27: Structural Model Fit

Measure	Threshold	Structural Model Metrics
CMIN/DF	Around 3 but less than 5	4.8
CFI	Above .95	.95
TLI	Below 0.95	.94
PCFI	Between 0.50-0.90	.83
PNFI	Between 0.50-0.90	.82
RMSEA	Below 0.05	.03
NFI	Above 0.90	.95

Where there are new relationships not shown in the conceptual model, we found empirical evidence in the data to support the relationships. The relationships were not found in the retail context. However, the relationships were present in the data. The data corroborates the relationships found between website design attributes and components of flow in the financial sector (Ding et al. 2009).

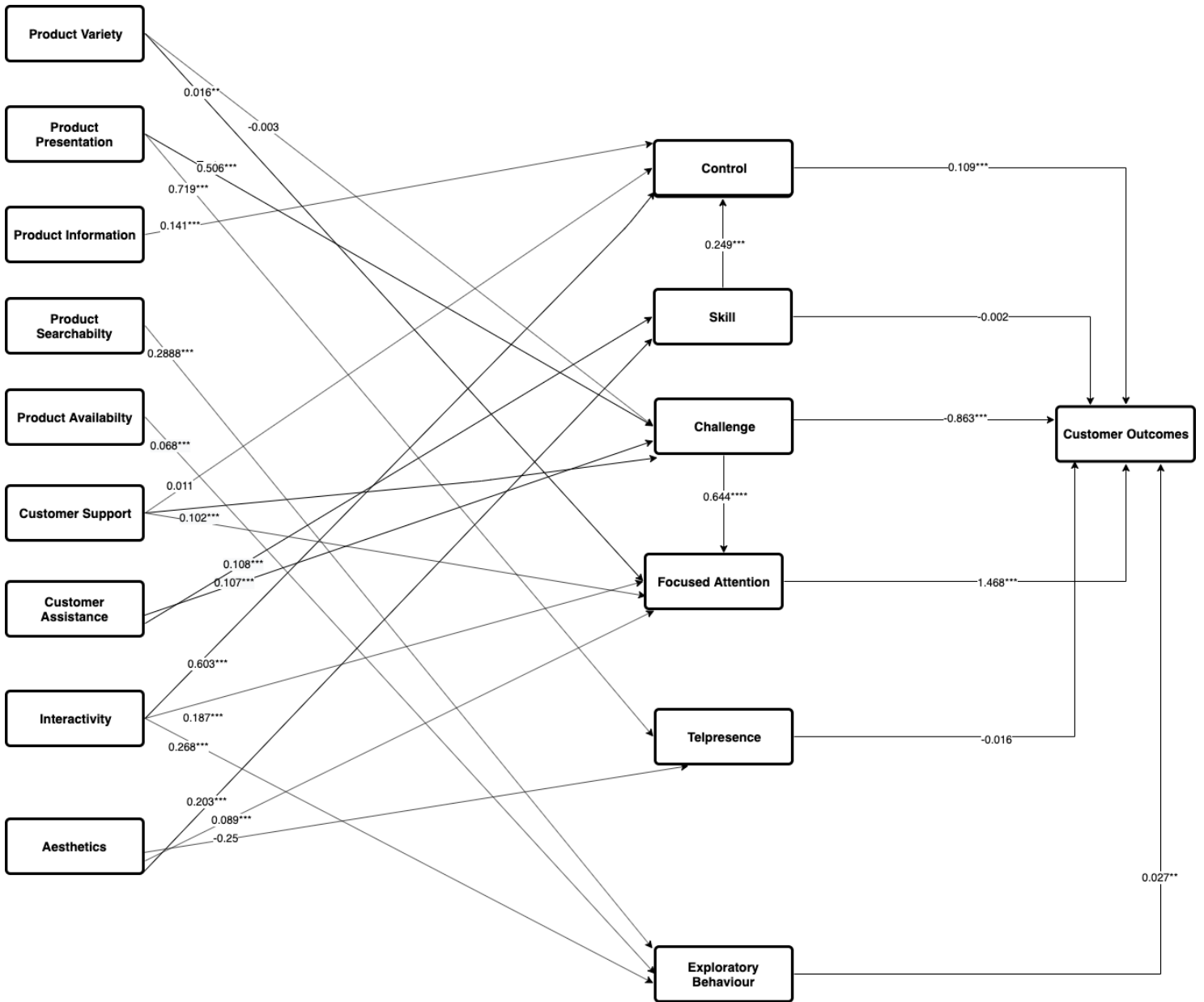


Figure 24: Structural Model

Table 28: Structural Model Results

	Estimate	S.E.	C.R.
Aesthetics → Focused Attention	0.089***	0.017	5.162
Aesthetics → Telepresence	-0.025	0.039	-0.636
Aesthetics →Skill	0.203***	0.024	8.426
Challenge → Focused Attention	0.644***	0.056	11.429
Challenge →Customer Outcomes	-0.863***	0.222	-3.88
Control →Customer Outcomes	0.109***	0.024	4.612
Customer Assistance→Challenge	0.107***	0.028	3.86
Customer Assistance→Control	0.60	0.24	2.519
Customer Assistance→Skill	0.108***	0.025	4.284
Customer Support → Control	0.011	0.017	0.632
Customer Support → Focused Attention	0.007	0.007	0.983
Customer Support →Challenge	0.102***	0.023	4.371
Exp Behaviour → Customer Outcomes	0.027**	0.012	2.282
Focused Attention →Customer Outcomes	1.468***	0.257	5.715
Interactivity → Control	0.603***	0.029	20.855
Interactivity → Exp Behaviour	0.268***	0.033	8.069
Interactivity → Focused Attention	0.187***	0.033	5.675
Product Availability → Exp Behaviour	0.068***	0.018	3.706
Product Information → Control	0.07***	0.021	3.401
Product Information →Skill	0.141***	0.026	5.476
Product Presentation → Telepresence	0.719***	0.061	11.794
Product Presentation →Challenge	0.506***	0.055	9.157
Product Searchabilty → Exp Behaviour	0.288***	0.036	7.934
Product Variety →Focused Attention	0.016**	0.007	2.15
Product Variety→Challenge	-0.003	0.025	-0.132
Skill →Control	0.249***	0.024	10.175
Skill →Customer Outcomes	-0.002	0.015	-0.124
Telepresence → Customer Outcomes	-0.016	0.011	-1.482

Flow and Customer Outcomes

Three of the investigated flow elements – focused attention, exploratory behaviour and control positively impact customer outcomes (table 29). Notably, skill leads to control and challenge leads to focused attention; which directly impact customer outcomes (figure 25). It is important to note that this finding establishes flow should be considered overall as a state when approaching customer outcomes rather than only focusing on flow variables that directly lead to customer outcomes. While there are no links between telepresence and customer outcomes; flow itself is previously known to be enhanced by telepresence (Hoffman, Novak and Yung, 2000).

Of the six investigated flow variables challenge has a negative direct impact on customer outcomes; challenge does however positively have a significant effect on focused attention as shown in table 29. High degrees of challenge on a retail website have a negative impact on customer outcomes. This may be because customers perceive a high degree of risk associated with online shopping and therefore get frustrated by the website. Challenge is a double-edged flow element as when adequate it leads to focused attention but if it is too high it negatively impacts customer outcomes. Hoffman, Novak and Yung (2000) recommended that challenge on a website should be adequate that the customer doesn't feel bored but shouldn't be too high that the customer gets frustrated. Focused attention which is influenced by challenge has a positive significant impact on customer outcomes (1.468***). Similarly, skill has no effect directly on customer outcomes as shown in table 29; however, skill does significantly influence control. Control has a significant effect on customer outcomes (0.109***). Exploratory behaviour also has a significant impact on customer outcomes (0.027**); while the last investigated item of telepresence has no impact on customer outcomes as depicted in table 29. Next, we investigate how design attributes impact a customer's flow online.

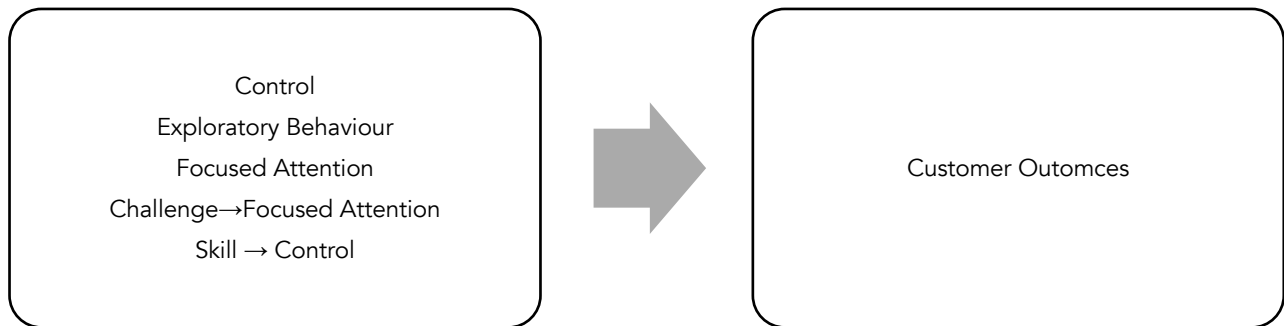


Figure 25 Relationship Between Flow Elements and Customer Outcomes

Table 29 Flow → Customer Outcomes

	Estimate	S.E.	C.R.	Hypothesis
Challenge → Focused Attention	0.644***	0.056	11.429	Supported
Skill → Control	0.249***	0.024	10.175	Supported
Telepresence → Customer Outcomes	-0.016	0.011	-1.482	Not Supported
Control → Customer Outcomes	0.109***	0.024	4.612	Supported
Exp Behaviour → Customer Outcomes	0.027**	0.012	2.282	Supported
Skill → Customer Outcomes	-0.002	0.015	-0.124	Not Supported
Challenge → Customer Outcomes	-0.863***	0.222	-3.88	Not Supported
Focused Attention → Customer Outcomes	1.468***	0.257	5.715	Supported

Product Experience Design Attributes and Flow

This section deals with product experience related hypotheses. The data supports all, but one of the eight hypotheses related to product experience attributes and flow elements. Product variety does not have any effect on challenge although by offering a large assortment of products, a retailer can ensure that consumers focus their attention on the online shopping activity on the website as depicted in table 30. There is a small but significant positive effect of product variety on a website with customer's focused attention. On the other hand, product presentation has both a large and significant positive effect on challenge associated with a website and telepresence on a website. Customer rely on the visual presentation of the merchandise on a website to make decisions in the absence of the ability to physically examine or try on products. The visual display of the products enables customers to experience mental imagery of the product. Notably, there is no link between telepresence and customer outcomes. The data also supports the hypothesis related to product information and its positive impact on control on a website. By offering customers sufficient information on the products; customers feel more in control of their online shopping experience. Customers seek information online related to the products to deal with uncertainty and to improve the outcome of an online purchase. Product information is one of the fundamental sources on information related to the product hence it has a positive significant impact on skill as depicted in table 30.

Within product experience, product searchability is positively associated with customers exhibiting exploratory behaviour. The effect is both large and significant (table 30). Product searchability refers to the presence of recommended or related products on a website to encourage further exploration on the website. It is common practice for retailers to display accompanying or substitutes to the products already being viewed by a customer. They are in general termed related products. In offering related products retailers can ensure that customers spend more time exploring the website. Finally, within product experience we consider the role of product availability in encouraging exploratory behaviour. Product availability has a positive significant effect on customer's exploratory behaviour on a website (table 30). By having minimal out of stock products, retailers can avoid annoyance to customers and also encourage users to spend more time browsing. The presence of out of stock products and out of stock notifications is likely to cause frustration and also discourage the customers from spending time on the website browsing. It is apparent from the results that product features are positively associated

with the creation of numerous flow elements and therefore need clear consideration on an online retail website. Thus, we establish the role of flow variables in the creation of desired customer outcomes in online retail.

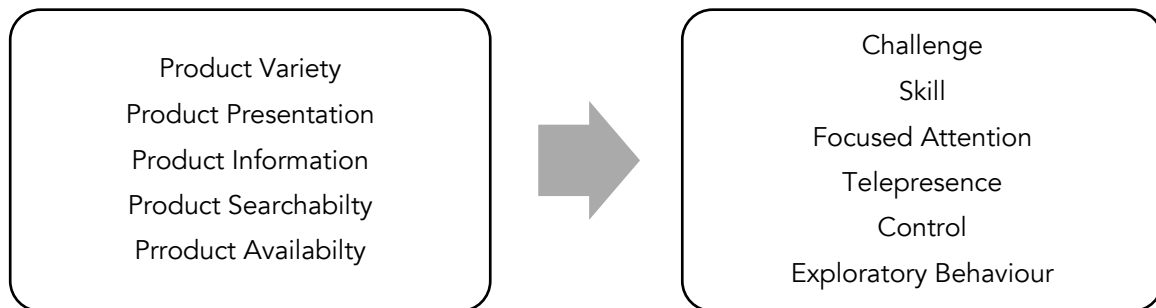


Figure 26 Product Related Attributes and Their Impact on Flow Elements

Table 30 Product Experience and Flow

	Estimate	S.E.	C.R.	Hypothesis
Product Variety → Challenge	-0.003	0.025	-0.132	Not Supported
Product Presentation → Challenge	0.506***	0.055	9.157	Supported
Product Information → Skill	0.141***	0.026	5.476	Supported
Product Variety → Focused Attention	0.016**	0.007	2.15	Supported
Product Presentation → Telepresence	0.719***	0.061	11.794	Supported
Product Information → Control	0.07***	0.021	3.401	Supported
Product Searchability → Exp Behaviour	0.288***	0.036	7.934	Supported
Product Availability → Exp Behaviour	0.068***	0.018	3.706	Supported

Customer Support Attributes and Flow

There were six hypotheses related to customers service, the data supports three of the investigated hypotheses. Customer support is separated into channels of customer support/service and types of assistance. The data doesn't support the hypothesis relating to customer support channels leading to both focused attention and control. However, channels of customer support lead to the increase of challenge on a website. While types of customer assistance (pre-purchase support and post purchase support) has a significant and a large effect on both skill and challenge (table 31), the presence of support on a website can increase customer knowledge of online shopping or skill but at the same time it can also increase the challenge perceived online.

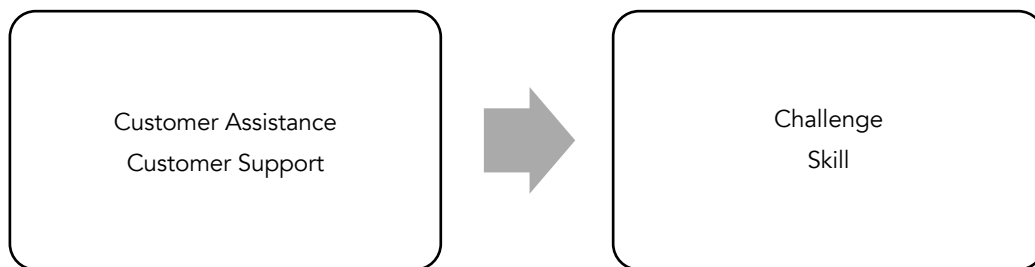


Figure 27 Customer Support and Flow Elements

Table 31 Customer Support and Flow

	Estimate	S.E.	C.R.	Hypothesis
Customer Assistance→Challenge	0.107***	0.028	3.86	Supported
Customer Assistance→Skill	0.108***	0.025	4.284	Supported
Customer Assistance→Control	0.60	0.24	2.519	Not Supported
Customer Support →Challenge	0.102***	0.023	4.371	Supported
Customer Support → Control	0.011	0.017	0.632	Not Supported
Customer Support → Focused Attention	0.007	0.007	0.983	Not Supported

Customer Interface and Flow

Customer interface has been divided into two categories: interactivity and website aesthetics. The data supports all three of the hypotheses related to interactivity being positively associated with control, focused attention and exploratory behaviour. All of these relationships are significant as depicted in table 32. By designing websites that are intuitive, easy to use and respond to customer interactions rapidly, retailers can ensure that customers feel more in control, focus their attention and exhibit exploratory behaviour while shopping online. Interactivity is important as it leads to all three flow elements that directly lead to desired customer outcomes. On the other hand, the data does not support the hypothesis that aesthetically pleasing websites lead to telepresence. However, aesthetics has both a positive and significant effect on focused attention and skill as depicted in Table 32.

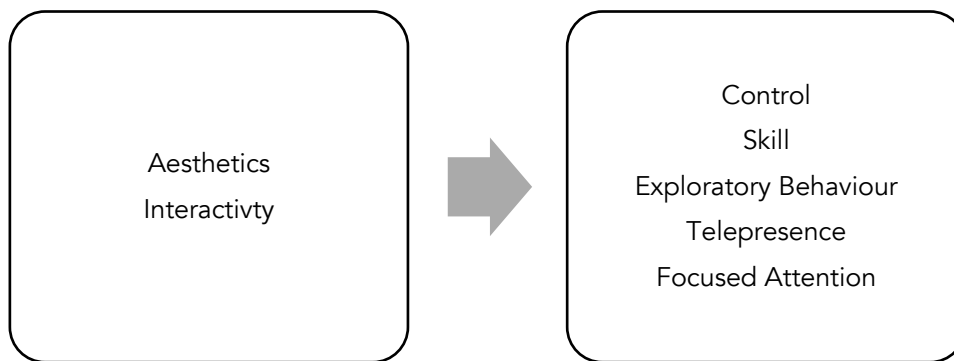


Figure 28 Customer Interface and impact on Flow Elements

Table 32 Customer Interface and Flow

	Estimate	S.E.	C.R.	Hypothesis
Aesthetics → Skill	0.203***	0.024	8.426	Supported
Interactivity → Focused Attention	0.187***	0.033	5.675	Supported
Interactivity → Control	0.603***	0.029	20.855	Supported
Interactivity → Exp Behaviour	0.268***	0.033	8.069	Supported
Aesthetics → Telepresence	-0.025	0.039	-0.636	Not Supported
Aesthetics → Focused Attention	0.089***	0.017	5.162	Supported

Summary of Findings

The data supports 15 hypotheses related to design attributes and flow elements. It is important to recognise that SEM assumes covariances between observed variables. Therefore, all design characteristics are not fully independent of one another. Exploratory behaviour is affected by product searchability, interactivity and product availability. From a control perspective - Interactivity and product information are important design attributes. In general, interactivity and navigability are a significant design element, as they significantly lead to control, exploratory behaviour and focused attention. Product information also enables the customer to feel more in control online. From a focused attention perspective, interactivity and product variety are important design attributes.

In relation to desired customer outcomes, three of the six flow elements, i.e. control focused attention and exploratory behaviour lead directly to desired customer outcomes. The relationships between control, exploratory behaviour, focused attention and desired customer outcomes are both significant and have a large effect. Indirect relationships exist between skill and challenge to desired customer outcomes. The data supports that skill leads to more control, and that challenge leads to more focused attention. Thus, presenting an argument to consider flow overall as a framework when approaching experience design online.

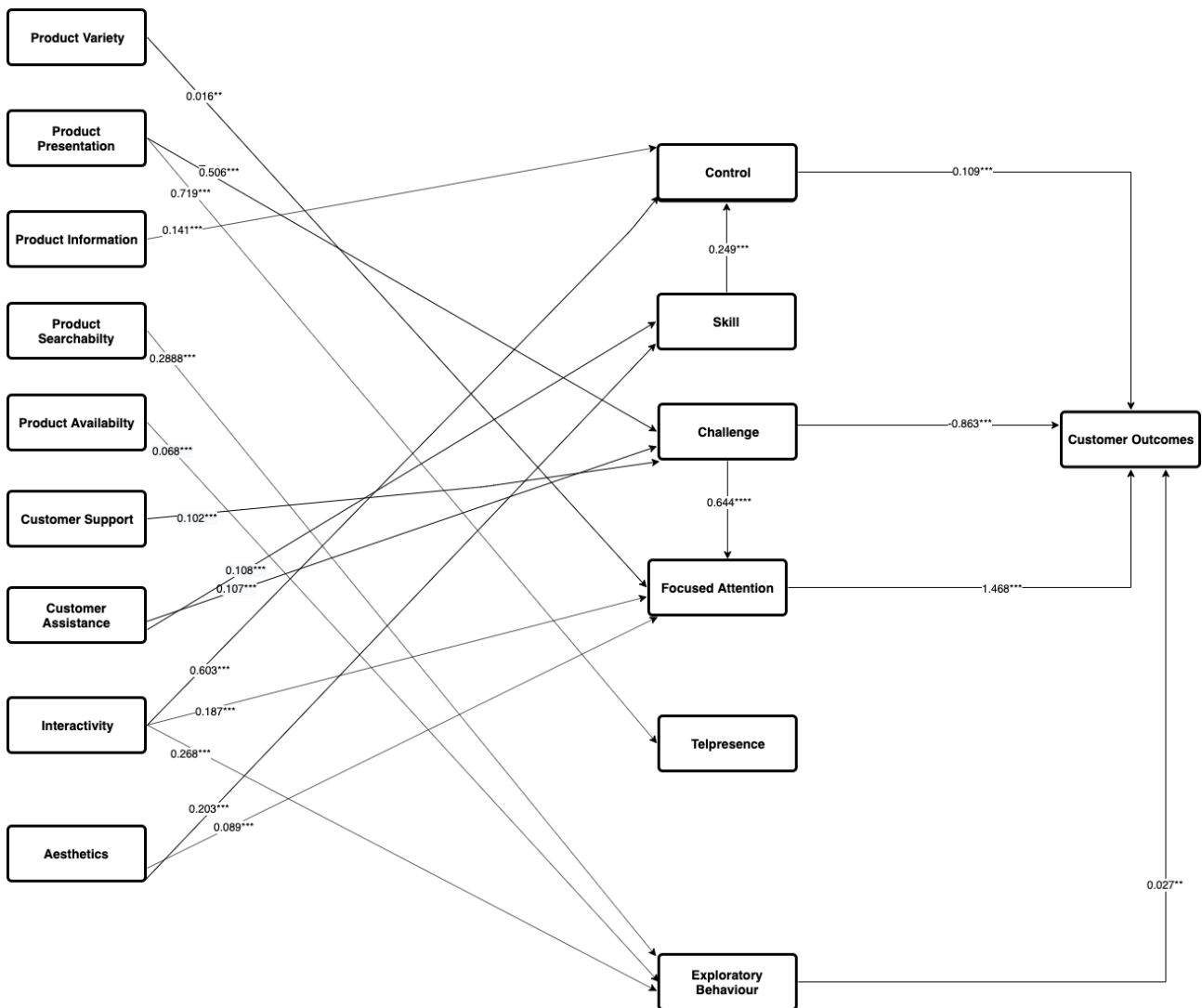


Figure 29 Structural Model with Supported Hypothesis

4.5.2.3.1 Mediation Tests

By testing mediation, one can test the intermediate variable and test how the independent variable impacts the outcomes (Gunzler et al. 2013). We carried out a mediation analysis, to confirm the final hypothesis: In online retail, the relationships between flow and customer outcomes are mediated by flow experience. Through mediation analysis we can test design elements and determine if they directly impact customer outcomes. We eliminate flow from these tests to establish how design variables directly impact the customer outcomes in online retail. By running these tests, it is evident

that in the absence of flow that very few design elements would directly impact customer outcomes. These relationships are not as significant and therefore we recommend that the website should be designed for flow or a great customer experience to lead to customer outcomes. Supporting, it is important to consider flow as a mediating variable leading to the desired customer outcomes. Thus, proving the final hypothesis. Without flow the website design elements are not as significant in terms of their influence on the desired customer outcomes as depicted in table 33. We consider the effect of design directly on customer outcomes. While aesthetics, customer assistance, interactivity and product searchability do directly impact customer outcomes as depicted in table 33. These design variables (Aesthetics, Interactivity and Product Searchability) have a larger and more significant effect on customer outcomes when mediated by flow variables. However, customer assistance has a stronger impact on customer outcomes directly. Nonetheless from flow perspective it does lead to more skill which in turn leads to control which has a large and significant effect on customer outcomes.

Direct Relationships	Estimate	Mediating Flow Variable	Mediated by Flow
Product Presentation → Customer Outcomes	0.05	Exploratory Behaviour	0.38 ***
Product Information → Customer Outcomes	0.04	Control	0.19***
Aesthetics→ Customer Outcomes	0.164***	Focused Attention	0.89***
Product Variety→ Customer Outcomes	0.031	Focused Attention	0.91**
Customer Assistance→ Customer Outcomes	0.064***	Skill	0.03
Interactivity→ Customer Outcomes	0.225***	Control	1.35***
Product Searchability→ Customer Outcomes	0.055***	Focused Attention	0.28**
Product Availability→ Customer Outcomes	0.003	Exploratory Behaviour	0.02**
Customer Support→ Customer Outcomes	0.017	Control	0.20**

Table 33: Mediation Results

4.5.2.4 Alternative Models

Finally, to ensure robustness of the study, we tested an alternative model to discover any underlying relationships that may have not been evident in the literature. This is to ensure robustness and to uncover any neglected design elements. We also examine whether there are any essential

relationships between design and flow that have not been covered in the first model. We do this by examining relationships between every design characteristic and every flow element.

Before examining the relationships, we consider the model fit. The alternative model demonstrates a good overall fit as shown in table 34.

Table 34: Alternative Model Fit

Measure	Threshold	Structural Model Metrics
CMIN/DF	Around 3 but less than 5	4.8
CFI	Above .95	.94
TLI	Below 0.95	.93
PCFI	Between 0.50-0.90	.81
PNFI	Between 0.50-0.90	.80
RMSEA	Below 0.05	.04
NFI	Above 0.90	.93

Table 35: Results for Alternative Model

	Estimate	S.E.	C.R.	Hypothesis
Aesthetics → Challenge	0.075**	0.031	2.431	Supported
Aesthetics → Control	-0.239***	0.043	-5.523	Not Supported
Aesthetics → Exp Behaviour	-0.007	0.039	-0.186	Not Supported
Aesthetics → Telepresence	-0.03	0.056	-0.538	Not Supported
Aesthetics → Skill	-0.366***	0.078	-4.675	Not Supported
Challenge → Customer Outcomes	0.037*	0.015	2.549	Supported
Control → Customer Outcomes	0.091**	0.029	3.144	Supported
Customer Assistance → Challenge	0.079**	0.037	2.163	Supported
Customer Assistance → Control	0.046	0.039	1.17	Not Supported
Customer Assistance → Exp Behaviour	-0.012	0.036	-0.321	Not Supported
Customer Assistance → Focused Attention	0.004	0.03	0.143	Not Supported
Customer Assistance → Skill	-0.098	0.068	-1.429	Not Supported
Customer Assistance → Telepresence	-0.028	0.047	-0.597	Not Supported
Customer Support → Challenge	0.151***	0.029	5.228	Supported
Customer Support → Control	-0.104**	0.033	-3.126	Not Supported

Customer Support → Exp Behaviour	0.016	0.03	0.553	Not Supported
Customer Support → Focused attention	-0.062**	0.026	-2.421	Not Supported
Customer Support → Skill	-0.217***	0.06	-3.647	Not Supported
Customer Support → Telepresence	0.131***	0.04	3.3	Supported
Exploratory Behaviour → Customer Outcomes	0.033**	0.013	2.519	Supported
Focused Attention → Customer Outcomes	0.844***	0.072	11.651	Supported
Interactivity → Challenge	0.124***	0.034	3.595	Supported
Interactivity → Control	0.299***	0.042	7.179	Supported
Interactivity → Exp Behaviour	0.009	0.037	0.234	Not Supported
Interactivity → Focused Attention	0.11**	0.036	3.045	Supported
Interactivity → Skill	-0.225**	0.079	-2.836	Not Supported
Interactivity → Telepresence	0.02	0.05	0.392	Not Supported
Product Availability → Control	0.019	0.021	0.881	Not Supported
Product Availability → Exp Behaviour	0.09***	0.02	4.515	Supported
Product Availability → Focused Attention	0.034**	0.017	2.06	Supported
Product Availability → Skill	0.107**	0.037	2.867	Supported
Product Availability → Telepresence	0.056*	0.026	2.177	Supported
Product Availability → Challenge	-0.003	0.02	-0.141	Not Supported
Product Information → Challenge	0.05	0.032	1.569	Not Supported
Product Information → Exp Behaviour	-0.17***	0.044	-3.84	Not Supported
Product Information → Telepresence	-0.129**	0.064	-2.007	Not Supported
Product Information → Focused Attention	-0.208***	0.039	-5.288	Not Supported
Product Information → Skill	-0.564***	0.103	-5.472	Not Supported
Product Information → Control	0.202***	0.054	-3.767	Supported
Product Presentation → Control	1.545***	0.195	7.917	Supported
Product Presentation → Exploratory Behaviour	0.681***	0.13	5.24	Supported
Product Presentation → Focused Attention	1.202***	0.138	8.69	Supported
Product Presentation → Skill	2.952***	0.396	7.458	Supported
Product Presentation → Telepresence	0.311	0.233	1.336	Not Supported
Product Search → Challenge	0.345***	0.042	8.267	Supported
Product Search → Control	-0.089	0.046	-1.924	Not Supported

Product Search → Exploratory Behaviour	0.262***	0.043	6.056	Supported
Product Search → Focused Attention	0.015	0.036	0.42	Not Supported
Product Search → Skill	-0.082	0.082	-1.004	Not Supported
Product Search → Telepresence	0.559***	0.057	9.808	Supported
Product Variety → Challenge	0.074	0.027	2.723	Not Supported
Product Variety → Control	-0.203***	0.039	-5.225	Not Supported
Product Variety → Focused Attention	-0.126***	0.03	-4.128	Not Supported
Product Variety → Telepresence	-0.026	0.048	-0.553	Not Supported
Product Variety → Skill	-0.369***	0.073	-5.033	Not Supported
Skill → Customer Outcomes	-0.181***	0.037	-4.91	Not Supported
Telepresence → Customer Outcomes	-0.007	0.007	-0.963	Not Supported

In doing so, we identify that there are significant relationships between product presentation and exploratory behaviour, focused attention and control. There is a large effect and these relationships are also significant. This is a key finding as product presentation is vital in the online shopping experience. Many previous studies deal with product presentation and its impact on customer outcomes. Literature has emphasised the role of product presentation in online environments due to the inability to touch and feel products. However, there are no other significant relationships that are worth noting at this stage.

Summary

To summarize, the data suggests designing websites for flow has a greater impact on a customer satisfaction and their intention to buy. Website design elements have little impact on customer outcomes directly when not mediated by flow therefore confirming the importance of flow in the generation of desired customer outcomes. Further, components of a customer's state of flow that have the biggest effect on these outcomes are focused attention, exploratory behaviour and control. However, challenge and skill impact focused attention and control respectively. Hence, flow should be considered holistically. To design a website to facilitate these components of flow we must consider the various elements of product experience, customer support and the interface. Product Presentation and Interactivity are the most important design elements in terms of the effect and significance on individual flow elements. It is important to recognise that SEM assumes covariances

between observed variables. Therefore, all design characteristics are not completely independent of one another. However, product experience and customer interface attributes are more important from a flow perspective. Notably, aesthetics appear to have a lower effect on the overall experience, despite the importance placed the look and feel on a website on consumer trust (section 2.3)

5 Implications, Limitations and Conclusions

5.1 Theoretical Implications, Discussion and Conclusion

In this section, a synopsis of the findings is presented with respect to the stated research objective. This section describes the contribution to knowledge in the area of customer experience that is presented in this thesis. This thesis aimed to address a research gap regarding the current understanding of the relationship between website design, customer experience and desired customer outcomes. To address the research objective two studies were undertaken. study one aimed to address the following research objectives:

RO1: What website attributes are important to a customer in online retail?

RO2: What are the associated characteristics for these website attributes to inform the measurement items?

Study one enabled the identification of important website design characteristics that were vital to customers when shopping online. Through the examination of customer journeys, twelve important website attributes were identified in study one (figure 30). The identified website attributes and the responses from study one additionally helped formulate the measurement items for study two (table 13).

Study one also uncovered some other findings that are noteworthy. Customer journeys are typically depicted as linear, but the study provides evidence to support a non-linear approach. Further exploration of customer journeys in future research could provide additional insight into cart abandonment. A non-linear approach to customer journeys can also provide a framework for online shopping which is of the closest representation of a real-world shopping experience; by including customer emotions, buyer's decision-making journey, and perceived risk.

Another important finding of study one is related to customer emotions at different stages of the customer journey. Positive emotions exhibited at the start of the customer journey transformed into negative emotions at the final checkout stage. Respondents exhibited negative emotions due to the time associated and effort required (inputting fields) at the checkout stage.

Finally, Study one indicated the influence of certain website attributes (such as product information and presentation) on the customer decision-making process. However, the primary objective of this study was to identify website attributes that were important to customers when shopping online. The second research objective was to identify descriptors for each website attribute to help formulate the research instrument for study two. We acknowledge the potential for future research given the findings.

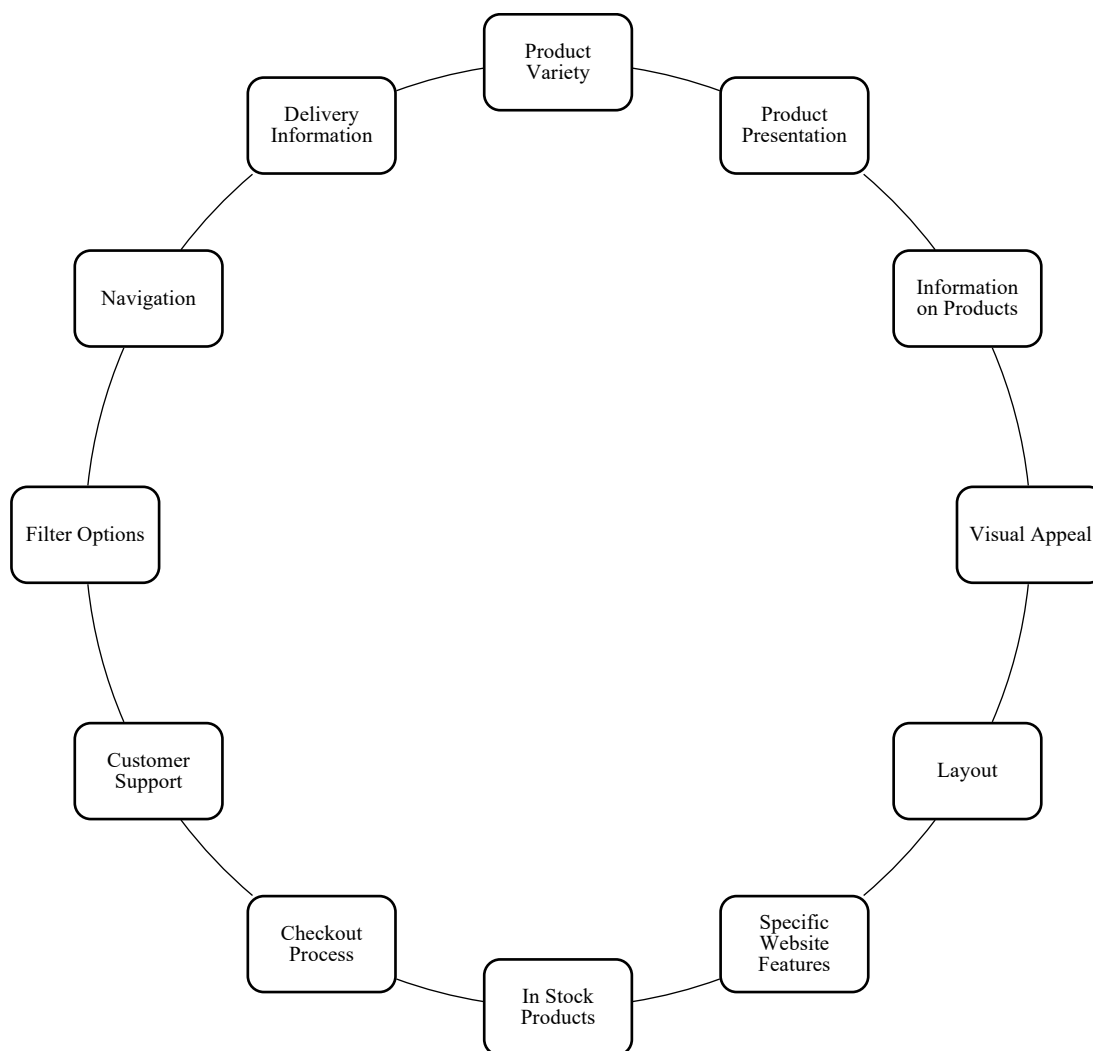


Figure 30 Website Design Attributes identified in Study One

Thereafter, Study two was undertaken to address the overall research objective and answer:

RQ1: How website design attributes influence the flow experience online?

RQ2: Subsequently, how a customer's flow experience online influence customer outcomes?

RQ3: Are customer outcomes online mediated by the flow experience?

In study two, the conceptual model as proposed in section 4.2 of the thesis was tested. The model was designed to develop a body of evidence relating to the mediating role of flow in designing websites for customer outcomes. Specifically, relationships between nine design characteristics and the six 'flow' variables were tested. Three of the six components of a customer's state of flow directly lead to positive customer outcomes, these are Focused Attention, Exploratory Behaviour and Control. Of the other components of a customer's state of flow, Telepresence (i.e. being acutely immersed in the virtual environment) was not found to affect the desired outcomes of satisfaction and intention to buy. It is important to note however that a customer's state of flow is itself enhanced by telepresence, even if telepresence on its own it has no direct effect on customer outcomes (Hoffman, Novak and Yung, 2000).

The other two remaining components, skill and challenge, were found to have an indirect effect on customer outcomes. Interestingly, challenge was found to have a negative direct effect, that is to say, the more challenge in the activity, the less the likelihood of a customer's intention to buy and be satisfied. However, it should be noted that challenge did lead to focused attention, which does have a positive relationship on desired outcomes. Challenge can, therefore, be regarded as having an indirect effect. Skill was also found to have an effect on control which has a positive relationship on desired customer outcomes. Although it is important to understand how various components of a customer's state of flow effect a customer's satisfaction and their intention to buy, the relationships found between the flow variables themselves suggest that flow should be considered as an overriding state that collectively has a positive effect on customer outcomes.

Next, we explored the role of website design from a flow perspective. The findings related to website design are presented in order of importance. Product presentation is essential for the creation of numerous flow elements - specifically control, exploratory behaviour, focused attention and skill. The results of the analyses suggest that these relationships are both significant and strong. Product Presentation is vital in an online environment as customers cannot physically examine or try on products online, they rely on their experience with the products online. Product presentation should be a true representation of the product and include multi-angle views

From a flow perspective, interactivity is vital as it also leads to the creation of several flow elements – focused attention, control and exploratory behaviour. Interactivity is two dimensional, i.e. it includes navigability and responsiveness. The website should be easy to navigate and should respond quickly to customer interactions. Existing studies indicate that one in four customers abandon sites if the website is slow to react to their interactions. Thus, navigability and interactivity are paramount in the delivery of excellent customer experience online. Product variety is the range of product subcategories and products within each subcategory. Essentially, there should be enough selection of products for customers to make a choice from. Product variety is an important web design element as it facilitates focused attention on a website.

Successively, product searchability, availability and information are essential to the flow process. Searchability is the presence of related/recommended products as well as the presence of a search engine. Searchability prolongs the browsing experience and additionally enables customers to reach the required products swiftly. Information refers to product-related information on sizes, materials and product features. Availability is inversely related to the presence of out of stock notifications on a website. Product unavailability is known to hamper the browsing experience. Searchability, availability and information are all important design elements as they lead to several flow elements – control, exploratory behaviour and focused attention which in turn directly leads to desired customer outcomes on a website.

Channels of customer support and customer assistance are important, but less critical, design variables. On a website, there should be more than one channel of customer support available. Secondly, there should be features that offer pre-purchase and post-purchase customer assistance. Frequently asked questions, size guides and other customer support guides can help provide much of the pre-purchase information. Returns information is most likely to be information sought after purchase.

Finally, a crucial finding is that designing websites with the objective of affecting flow leads to a more significant impact on customer satisfaction and their intention to buy. Website design elements have little effect on customer outcomes when not mediated by flow. This therefore affirms the importance of flow in the pursuit of desired customer outcomes such as intention to purchase and satisfaction.

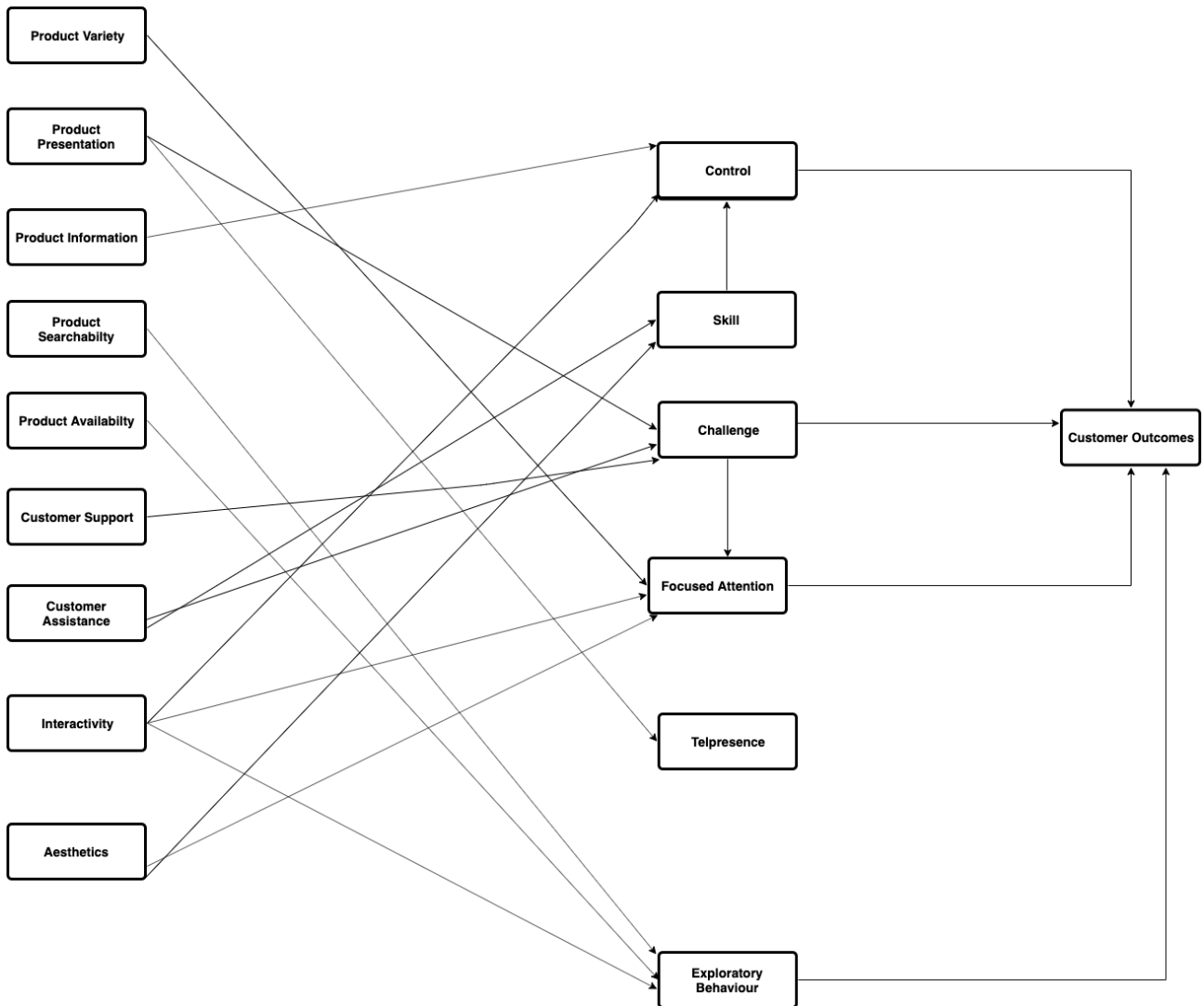


Figure 31 Final Model

5.2 Contributions to Knowledge

The contribution of this thesis comprises of three dimensions. First, the research establishes flow online influences customer outcomes. Second, the research establishes how website design attributes can influence flow in online retail. Finally, this research establishes designing websites for flow has a more significant impact on customer outcomes; as website design elements have little impact on customer outcomes directly.

The thesis establishes three of the six components of a customer's state of flow directly lead to positive customer outcomes; these are focused attention, exploratory behaviour and control. The other two remaining components, skill and challenge were found to have an indirect effect. Telepresence does not have any effect on customer outcomes.

Second, we successfully identify nine website design attributes and empirically test their influence on flow experience. To effectively guide how online retail website design can be used to produce an immersive flow experience. As designing websites in online retail to influence flow affects customer outcomes. The research also finds that product presentation is significant from a flow perspective in online retail. Interactivity is another significant design attribute in online retail impacting several flow elements (focused attention, control and exploratory behaviour). Product variety, product searchability, availability and information are also found to be significant in online retail. Channels of customer support, types of customer support and aesthetics were found to be significantly less important from a flow perspective.

Third, we establish the role of flow as a mediator on desired customer outcomes. The data suggests designing websites for flow has a more significant impact on customer satisfaction and intention to purchase. Website design elements have little effect on customer outcomes directly. Establishing, retailers should focus on the delivery of a flow experience through the management of website attributes to effectively influence commercial outcomes such as purchase intent and customer satisfaction.

5.3 Managerial Implications

Study One suggests a few practical implications. The results indicate retailers should consider the number of fields required at checkout stage. The quantity of fields required by the retailer to complete a purchase led to negative customer emotions. Practice could potentially benefit from assessing the time and fields required at this stage to reduce cart abandonment rates on a retail website. Moreover, when approaching customer journeys in practice, online retailers could benefit from aligning customer journey maps to the customer's decision-making process. As a result, gain a useful insight into consumer behaviour and fundamental insights into purchase intention. Finally, when approaching website attributes, it is vital to understand how website features impact customer decisions.

Results from study two, suggest a few practical implications for effectively managing customer experience online. Within literature, there is a great deal of emphasis on customer experience and its influence on customer behaviour. Knowledge surrounding the influence of website design on customer experience is absent. The findings of this thesis suggest retailers should focus on this experience but drive it through website design attributes. These attributes are mentioned above in section 5.1. The findings provide a practical approach to pursue online customer experience. This can be achieved through the management of website cues. Notably, product-related attributes and interface attributes had the most significant impact on online experience. When approaching the design of a website; strong evidence supports including design attributes that drive flow experience which in turn influence customer behaviour.

5.4 Limitations and Future Research

While the research provides significant evidence for the design for experience in online retail context, there are some limitations which should be noted. First, the majority of the respondents were female. This may be explained by the typical customer profile who use the online retailer, and which was central to the empirical study. Secondly, two measures identified as relevant for website design were dropped as they were not relevant to this specific retailer. Furthermore, the research primarily considers buying behaviour and does not account for browsing behaviour as it only includes respondents who had purchased from the retailer's website. Finally, the research focuses on goods bought through online retail websites, and the research has limited application concerning services such as hotel booking and flights. Additionally, we do not consider pricing as a factor which could influence purchase intent.

Furthermore, study one suggests that future research exploring cart abandonment and non-linear customer journeys should be undertaken. These phenomena surfaced in study one while addressing website attributes and associated measures. These phenomena were not pursued as they were only indirectly related to the overall research objective. Future research could address both cart abandonment and refine knowledge concerning customer journeys.

5.5 Conclusion

Flow is a cognitive state in which an individual is acutely involved in an activity (Pace, 2004). In online environments, flow has been critical due to its influence on business outcomes such as purchase intent and customer satisfaction (Obada, 2013). In summary, this doctoral thesis builds on the flow model given by Hoffman, Novak and Yung (2000), empirically identifying a set of nine website design attributes that influence a customer's flow experience in online retail which in turn leads to customer outcomes. Providing a better understanding in designing online retail websites to influence customer flow. Several authors have published articles exploring flow and its impact on customer outcomes. While there is a general indication that retailer cues influence the customer's experience during their interaction with the website (Berry, Wall, and Carbone 2006; Schmitt, 1999) there is no specific understanding of website cues that influence optimum experiences or flow. As a result, the existing literature does not capture website attributes and determine their impact on the overall customer experience. This thesis addresses the gap in understanding customer experiences by exploring website attributes and their influence on flow. Furthermore, the thesis establishes whether favourable customer outcomes need to be mediated through experience. The findings of this thesis confirm that website design has limited direct effects on customer outcomes. The thesis provides a body of empirical evidence that suggests that the relationship between design and customer outcomes must be mediated by flow attributes. Furthermore, the study successfully identifies website attributes that are essential for the generation of flow experience to drive customer behaviour. Product Presentation is considered the most vital website cue; given the inability to physically examine products in online environments. This is followed by interactivity, product variety, searchability, availability and information. While customer support options are least important from an experience perspective, they are still significant. The crucial finding of the thesis is that flow has a more significant impact on purchase intention and customer satisfaction while the design has little effect on outcomes when not mediated by flow.

5.6 Critical Reflection

Online retail is an interesting topic with endless possibilities. The thesis enabled me to critically question existing knowledge in online retail to effectively derive a research gap and build an evidence-based theory of commercial and academic significance. Reflecting on the completed thesis, there are a few details relating to the research that could have been carried out differently. First, the

empirical data set could have included two different online retailers. Second, price and checkout design features could have also been considered overall within the research. Finally, the effect of reverse coded items could have been mitigated by including more items overall.

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7 Appendix

7.1 Interview Transcripts from Online Customer Journey Mapping (Study One)

7.1.1 Interview Transcripts - Rachael (1) ASOS

I: How was your shopping experience? Did you enjoy shopping online or not?

P: Yes, I did. It was a nice break from work.

I: Was there any aspect of your experience with the website that you particularly liked?

P: Ummm, I went on to the trends sections and looked at the trends and quite enjoyed what is in the fashion at the moment.

I: Anything with the website that you disliked or weren't happy with?

P: Umm, they showed clothes on there that they didn't actually sell. So there was a jacket that was quite nice but it was just a picture and couldn't click on it or find it anywhere.

I: Ok so now we are going to go thru the different stages and if you could tell me how you felt ... when you were entering the website

P: Optimistic

I: And when you were browsing

P: Happy

I: Assessing the Products

P: Ummm, Optimistic I think

I: And when you were managing the cart

P: Ummm, Probably Happy

I: Checkout and Order Process

P: A bit frustrated, I got confused

I: What did you think of the product variety?

P: Its huge, there are loads of products on ASOS

I: Where there things on the website similar to those on your shopping list?

P: Yeah, Not as many as I anticipated but there was thing similar

I: What did you like or dislike about the product presentation?

P: I quite like the catwalk, as that way you can see how the products will actually look. One of the tops it said the material was silk but I can kind of wanted to not feel it but see it closer and the zoom was good was but it didn't show what the material was like. How it flowed.

I: Was there enough information about the products on the website? Eg materials,

P: Aside from that there was quite a bit on the whole

I: How easy or difficult was it to find the information on returning items purchased using a gift voucher easily?

P: Yeah that was quite easy

I: Were there many ways to contact customer support?

P: Yeah, Popups kept coming up about chatting to people from ASOS. Really easy

I: What do you think of product recommendations on the website?

P: I didnt look at them to much. In the past I do tend to look at them but yeah they seemed like relatively good summer items that I was interested in looking in

I: What aspect did you like or dislike about navigating thru the website?

P: Yeah, Fairly easy. I used price low to high and quite often easier and it was quite good

I: What did you think of the visual appeal of the website? Example layout, graphics

P: Ummm, Its relatively plain but I guess you are there to shop so doesn't really matter

I: Would you have liked it different

P: Maybe, Slightly more colourful the trends page is more colorful everywhere else is white

I: Do you think you will use this website in the future to make purchases?

P: Yeah, most likely

I: Have you used it before

P: Yes

I: Were the products you wanted available in stock? How did you feel about the lack of product availability

P: There was one jacket and I was gutted as it was really nice. But there wasn't any similar to it either

7.1.2 Interview Transcripts - Naomi O'Brien (2) NEXT

I: How was your shopping experience? Did you enjoy shopping online or not?

P: It was a bit stressful, trying to scroll up and down was a bit hard.

I: Other than the computer issues, how was the website experience

P: Yeah that was fine

I: Was there any aspect of your experience with the website that you particularly liked?

P: Ummm, I liked how I went on to women's jewellery and everything and it had everything laid out and all the similar styles and all the different collections. Having all the similar styles in the same place, I quite like that

I: Anything with the website that you disliked or weren't happy with?

P: No, Not really

I: Ok so now we are going to go thru the different stages and if you could tell me how you felt ... when you were entering the website

P: Happy

I: And when you were browsing

P: Optimistic

I: Why was that

P: Because of the different styles, I could try and find

I: Assessing the Products

P: Worried and Helpless. I liked four different ones, but I only had £20 to spend. So, I felt like I had to make the right decision

I: And when you were managing the cart

P: Helpless

I: Checkout and Order Process

P: A bit frustrated

I: What did you think of the product variety?

P: Good product variety, but I put down my three things and there were a variety of things for each item

I: Do you think there were too many products too choose from

P: Yeah lots and lots of camis. Each style they repeated it and it wasn't usually each different colour as an different product. It seemed they had way more than they actually did. It was abit confusing

I: What did you like or dislike about the product presentation?

P: I liked that they would show it from the front and behind. But, there were these earrings i couldn't see what the looked like from the side

I: Was there enough information about the products on the website? Eg materials,

P: I didn't look exactly

I: How easy or difficult was it to find the information on returning items purchased using a gift voucher easily?

P: I had look thru different things. I typed in returns but couldn't find it. So, i typed the whole thing and then found it but it wasn't as easy as I suspected

I: What do you think of product recommendations on the website?

P: I thought that was quite good, the stuff was similar to the things before

I: Do you think it would motivate you to buy more?

P: Maybe, which is probably a bad thing. But, I would look to see what it was

I: What aspect did you like or dislike about navigating thru the website?

P: I liked that everything was together by style. But, I disliked they showed each style individually when not have them one on one in each section

I: What did you think of the visual appeal of the website? Example layout, graphics

P: I thought that was quite good, I liked the sliding between pages and each of the things was shown on models.

I: Do you think you will use this website in the future to make purchases?

P: Yeah,as there was more stuff on there that I liked

I: Have you used it before

P: I always thought it was somewhere where my mum would shop. I realised there is quite a few things on there

I: Were the products you wanted available in stock? How did you feel about the lack of product availability

P: There was one that took two weeks, so i decided against getting it

7.1.3 Interview Transcripts - Jessica Abigail (3) ASOS

I: How was your shopping experience?Did you enjoy shopping online or not?

P: Yeah, I enjoyed shopping but sometimes when I receive the good its not the same ones

I: Was there any aspect of your experience with the website that you particularly liked?

P: Ummm, we can save the items. we can go back and see if we want them before and we can also see the ones at the bottom that we have seen before and go back to them. When I filtered by size, it will show many dress but when I open it its not available in my size.

I: Ok so now we are going to go thru the different stages and if you could tell me how you felt ... when you were entering the website

P: Happy

I: And when you were browsing

P: Happy but frustrated because when I opened as more than 5 items were out of stock but the photos were still there

I: Assessing the Products

P: Happy and Optmistic

I: And when you were managing the cart

P: Optimistic

I: Checkout and Order Process

P: Happy and Contented

I: What did you think of the product variety?

P: The products from dress, trousers

I: Do you think there were too many products too choose from

P: Yeah lots and lots of camis. Each style they repeated it and it wasn't usually each different colour as an different product. It seemed they had way more than they actually did. It was abit confusing

I: What did you like or dislike about the product presentation?

P: The one that I liked because they have catwalk, I can see whether i like it or not. Dislike is the one that is out of stock, it doesn't make sense.

I: Was there enough information about the products on the website? Eg materials,

P: Yeah, Yeah its helpful

I: How easy or difficult was it to find the information on returning items purchased using a gift voucher easily?

P: No but when I opened pay securely, the gift voucher is only a small sentence.

I: What do you think of product recommendations on the website?

P: When I opened them they were so expensive, for eg student they dont have £200 -£300 to spend on one top. Its a good product but it didn't suit my needs

I: What aspect did you like or dislike about navigating thru the website?

P: Its quite easy to use they have the details shown so i can sort by it by size, price

I: What did you think of the visual appeal of the website? Example layout, graphics

P: Its good actually, whether they are the same colour as I saw on the website. I am asian, when I open it they are all western models so I am not sure if it will suit me

I: Do you think you will use this website in the future to make purchases?

P: Yeah, I think so

7.1.4 Interview Transcripts - Harry Penrose (4) NEXT

I: How was your shopping experience? Did you enjoy shopping online or not?

P: I did enjoy it. I got a pair of shorts

I: Was there any aspect of your experience with the website that you particularly liked?

P: The thing for me when I am shopping on the website is if you can open a number of tabs just by holding the command button that's really key, I don't want to sidetrack things but still stay on the main page. The fact that I could do that was very useful. If it had just taken me to the product page or it popped out it would have annoyed me a lot.

I: Anything that you disliked or weren't happy with?

P: I didn't like the fact that there wasn't a great deal of product information, for eg: with the shorts, I would like to know how long the inseam was and a pair of chinos probably would have bought if they were how wide they were

I: Ok so now we are going to go through the different stages and if you could tell me how you felt ... when you were entering the website

P: Contented

I: And when you were browsing

P: Optimistic that I would find something

I: Assessing the Products

P: Happy, that there were a couple of things that I liked

I: And when you were managing the cart

P: Worried, it was asking for a load of details that I didn't think they needed. Like such as address, as I was ordering in store.

I: Checkout and Order Process

P: Happy with the purchase

I: What did you think of the product variety?

P: There was actually more variety than i expected.

I: How easy or difficult was it to find the information on returning items purchased using a gift voucher easily?

P: I tried having a look at the bottom, there wasnt much so ended up searching.

I: What do you think of product recommendations on the website?

P: I had noticed them, I didn't look at them though.

I: What aspect did you like or dislike about navigating thru the website?

P: I liked the fact that you could click thru the tabs but i dint like the product descriptions being a bit vague. Someone of them didn't have pictures of them on a model, which is quite a big thing for me. Fit is more important than the design

I: What did you think of the visual appeal of the website? Example layout, graphics

P: I thought it was nice, I liked the font.

I: Do you think you will use this website in the future to make purchases?

P: Yeah

7.1.5 Interview Transcripts - Emily Morgan (5) NEXT

I: How was your shopping experience?Did you enjoy shopping online or not?

P: Yeah, it was fine. I enjoyed looking through all the items.

I: Was there any aspect of your experience with the website that you particularly liked?

P: I liked that you can look at all the items at once. It was quite easy. At the side you have all the specific details, to filter by particular size, price. That was quite easy.

I: Anything that you disliked or weren't happy with?

P: The only thing was that I was looking for jewellery, they had only one picture and not different angles.

I: Ok so now we are going to go thru the different stages and if you could tell me how you felt ... when you were entering the website

P: Optimistic

I: And when you were browsing

P: Happy

I: Assessing the Products

P: Happy

I: And when you were managing the cart

P: Happy

I: Checkout and Order Process

P: Frustrating

I: What did you think of the product variety?

P: I think it was just right after choosing the right choices

I: Were there things similar to those on your shopping list?

P: Yeah there was

I: What did you like or dislike about the product presentation?

P: I liked that they had various photos and see different angles

I: Was there enough product information

P: Not really, there wasn't enough information and it wasn't obvious

I: How easy or difficult was it to find the information on returning items purchased using a gift voucher easily?

P: I couldn't find it quite easily.

I: What do you think of product recommendations on the website?

P: I didn't really like any

I: What aspect did you like or dislike about navigating thru the website?

P: It seemed quite straight forward.

I: What did you think of the visual appeal of the website? Example layout, graphics

P: I have got used to it quite traditional.

I: Do you think you will use this website in the future to make purchases?

P: Yeah

7.1.6 Interview Transcripts - Agniya Lax (6)

I: How was your shopping experience? Did you enjoy shopping online or not?

P: Was good, enjoyed it.

I: Was there any aspect of your experience with the website that you particularly liked?

P: I liked the product range and everything was clear. I could select the items I needed easily.

I: Anything that you disliked or weren't happy with?

P: Not really

I: Ok so now we are going to go through the different stages and if you could tell me how you felt ... when you were entering the website

P: Optimistic

I: And when you were browsing

P: Happy

I: Assessing the Products

P: Optimistic

I: And when you were managing the cart

P: Happy

I: Checkout and Order Process

P: Frustrated

I: What did you think of the product variety?

P: It was a good range, I liked it

I: Were there things similar to those on your shopping list?

P: No they were actually very different

I: What did you like or dislike about the product presentation?

P: Yeah I did

I: Was there enough product information

P: The ones I purchased yes, some off them didn't have much, thats why i didn't get them

I: What do you think of product recommendations on the website

P: They were helpful, I looked at more items because of them

I: What aspect did you like or dislike about navigating thru the website?

P: Sometimes, It would get stuck

I: What did you think of the visual appeal of the website? Example layout, graphics

P: Its good, for eg: the eyeliner they give a face look

I: Do you think you will use this website in the future to make purchases?

P: Yeah, I think so

I: Was everything you wanted in stock

P: I wanted to buy a laptop case, but it wasn't in stock and I wanted a makeup bag, That wasn't available either.

7.2 Task List (Study Two)

7.2.1 Customer Journey Mapping - Task List – Website A

TASK LIST

Thank You for taking the time to participate in this study. The main objective of the study is to help identify website characteristics that account for a memorable online shopping experience. This session is divided into two sections, Section A requires you to go to ASOS.com and follow the given task list. Section B is a small interview about your shopping experience.

INSTRUCTIONS

(a) Please read all the steps in the task list and complete carefully

(b) Please only purchase items up to the value of £20, you may purchase an item less than £20 and

keep the remaining amount on the voucher.

- (c) Please do not use or enter your own card details.
- (d) Please use the voucher provided to make a purchase.
- (e) One purchase is mandatory.

SECTION A

1. Name:

2. How would you describe your mood right now? Please tick the relevant emotions that would describe your mood right now.

Angry

Worried

Sad

Content

Optimistic

Anxious

Joyful

Irritated

Happy

Other

3. Please list three apparel items that you would like to go shopping for today. Be as specific as possible, For e.g. Green Suede Pumps

-
-
-

4. Now, go to ASOS and look for these items.

5. Save the items you like to saved items.

5. Please check out items that you like up to the value of £20 using the voucher provided.

6. Now, find the information on returning items purchased using a gift voucher.

7.2.2 Customer Journey Mapping - Task List – Website B

Thank You for taking the time to participate in this study. The main objective of the study is to help identify website characteristics that account for a memorable online shopping experience. This session is divided into two sections, Section A requires you to go to Next.co.uk and follow the given task list. Section B is a small interview about your shopping experience.

INSTRUCTIONS

- (a) Please read all the steps in the task list and complete carefully
- (b) Please only purchase items up to the value of £20, you may purchase an item less than £20 and keep the remaining amount on the voucher.
- (c) Please do not use or enter your own card details.
- (d) Please use the voucher provided to make a purchase.
- (e) One purchase is mandatory.

SECTION A

1. Name:

2. How would you describe your mood right now? Please tick the relevant emotions that would describe your mood right now.

Angry

Worried

Sad

Content

Optimistic

Anxious

Joyful

Irritated

Happy

Other

3. Please list three apparel items that you would like to go shopping for today. Be as specific as possible, For e.g. Green Suede Pumps.

-
-
-

4. Now, go to Next and look for these items.

5. Please check out items that you like up to the value of £20 using the gift voucher provided.

6. Now, find the information on returning items purchased using a gift voucher.

7.3 Pretest Questionnaires

7.3.1 Pretest – Seasoned Shopper

SURVEY ON ONLINE EXPERIENCE IN ONLINE FASHION RETAIL

The main objective of the survey is to identify website characteristics that account for a memorable online shopping experience. The aim of this exercise is to identify any key issues of validity and/or reliability with the survey questions. We appreciate your taking the time to review the following survey. Please follow the instructions given below and review the survey.

INSTRUCTIONS

1. Please first fill out section A below about your online shopping habits.
2. After which, please visit an online fashion retail website of your choice and look for an item you may wish to purchase.
3. Thereafter, start from question one and identify any problem in each set of questions. Each question has a problem indicator box and space for notes below. If you cannot understand question or think it is confusing, please tick the box and write in the notes sections, the problems you have identified
4. Finally, if you think the question should be reworded please use notes or the last page and indicate the suggested changes to the question.
5. In the end is a section where you can give your thought on the instructions and introductions of the questionnaire.
6. Please also use that section for writing and further suggestions you may have for the survey, if you thought something could be improved.

SURVEY QUESTIONS

Thank you for taking the time to participate in this survey. The main objective of the study is to help identify website characteristics that account for a memorable online shopping experience. The survey is divided into two sections, the first section contains questions regarding your shopping habits and the second section requires you to visit one out of the two given online shopping websites and answer questions on your experience with the given website.

Section A

Please tell us a bit about your shopping habits

1. How often do you visit online fashion retailers?

Once a week

Every Fortnight

Once a Month

Every Six Months

2. How often do you purchase online?

Once a Month

Every Fortnight

Every Six Months

3. When shopping for clothes online, do you mostly browse to see the latest trends and clothing items, or you only go online with the intention of buying clothes?

Browsing

Buying

4. How much do you spend each month on clothes?

£0 - £50

£50 - £100

£100 - £200

£200 - £500

More than £500

Section B

Now tell us a bit more about your experience with online shopping. Please visit one of the following websites and answer the questions in Section B. Please shop for a clothing item or accessories you need (e.g. Shirt for work, outfit for dinner etc) and/or are planning to purchase in the next few weeks. Please also indicate which of these websites you visited for answering Section B

www.asos.com

www.next.co.uk

Please describe your online shopping experience by indicating your level of agreement using the following scale.

Strongly Disagree 1 2 3 4 5 Strongly Agree

To what extent do you agree with the following statements about product variety -

Q		1	2	3	4	5
1	The website offered a wide variety of items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	There was a wide selection of products to choose from	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	There was a sufficient number of products to make a choice from	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROBLEM INDICATOR BOX

Notes -

To what extent do you agree with the following statements about product presentation -

Q		1	2	3	4	5
4	It was difficult to determine what the products looked like	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	The products looked real	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Products can be viewed from many angles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROBLEM INDICATOR BOX

Notes -

Q		1	2	3	4	5
77	Information was provided about how to care for the product	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
88	Information was provided about shipping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

99	Information was provided about product dimensions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
110	Information was provided about product features	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
111	Information about different materials/fabrics was provided	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

To what extent do you agree with the following statements about product information

PROBLEM INDICATOR BOX



Notes -

To what extent do you agree with the following statements about searchability of products

Q		1	2	3	4	5
112	The product recommendation were close to what I was browsing before	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
113	The website has a search engine that assisted me in finding products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
114	The product recommendations were items I was interested in looking at	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
115	I was able to browse the website by product category	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
116	The website allowed me to filter products using several options such as size and color for example	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROBLEM INDICATOR BOX



Notes -

To what extent do you agree with the following statements about product availability

Q		1	2	3	4	5
117	On the website, the products I was looking for were out of stock	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
118	The website displayed prodts that were out of stock	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119	The products I selected were not available to purchase	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROBLEM INDICATOR BOX

Notes -

To what extent do you agree with the following statements about channels of customer support.

Q		1	2	3	4	5
220	There were several options to contact customer support	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
221	The website had useful alternative methods of reaching customer support	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
222	One of two channels(E.g. live chat, telephone, social media etc.) of customer support were provided.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROBLEM INDICATOR BOX

Notes -

To what extent do you agree with the following statements about customer assistance

Q		1	2	3	4	5
---	--	---	---	---	---	---

223	Assistance to return an items was available	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
224	Assistance to select products was available	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
225	Assistance was provided at the checkout stage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROBLEM INDICATOR BOX



Notes -

To what extent do you agree with the following statements about interactivity and navigability-

Q		1	2	3	4	5
226	The website responded quickly to my interactions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
227	The website had many error messages	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
228	The pages on the website loaded rapidly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
229	The website often got stuck	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
230	The website was easy to use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
331	The website was difficult to navigate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
332	On the website, moving from one page to another was seamless	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROBLEM INDICATOR BOX



Notes -

To what extent do you agree with the following statements about website features and aesthetics

Q		1	2	3	4	5
333	On the website, prices were displayed in my local currency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
334	The website was presented in my local language	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
335	The layout of the website was designed in a manner I was accustomed too	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
336	The website displayed products using models that were representative of the website's region	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
337	The website was visually appealing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
338	The website was pleasing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
339	The visual design of the website was attractive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40	The layout of the website was aesthetically pleasing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROBLEM INDICATOR BOX



Notes -

To what extent do you agree with the following statement about sound on the website

Q		1	2	3	4	5
441	The sounds on the website disrupted my shopping experience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
442	The sounds on the website enhanced my experience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
443	The website provided sounds that were annoying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

444	I enjoyed the sounds playing on the website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-----	---	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

PROBLEM INDICATOR BOX



Notes -

To what extent do you agree with the following statement about satisfaction on the website

Q		1	2	3	4	5
445	I wanted to buy some clothes and/or accessories from this website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
446	I will make purchase from this website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
447	I wouldn't buy the clothes and accessories on this website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
448	I would use this website again	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
449	I was satisfied with the website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
450	I really enjoyed using the website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
451	I liked shopping on the website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROBLEM INDICATOR BOX



Notes -

To what extent do you agree with the following statements

		1	2	3	4	5
552	While browsing the website, I felt in control of the shopping process.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

553	On the website, I got the responses from the website that I expected	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
554	I knew what to expect on the website at each step	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
555	I consider myself knowledgeable about the process of online shopping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
556	I know somewhat less than most internet users about shopping for clothes online	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
557	I consider myself knowledgeable about shopping for clothes online.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
558	I am more skilled at using clothes shopping websites than most thing I do online.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
559	I found the experience of shopping online challenging	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
660	I found that buying clothes online provided enough challenge for me not to get bored	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
661	Shopping Online for clothes is a good test of my abilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
662	While shopping for clothes online, I was in a new world created by the website which disappears when I stop browsing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
663	I was so absorbed in the virtual environment I forgot my immediate surroundings.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
664	When I was shopping online, the world generated by the website was as real as the real world.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
665	Online Shopping makes me forget where I am	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

666	I focused all of my attention on shopping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
667	While navigating through the website, I thought of other things	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
668	I was deeply engrossed by the online shopping experience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
669	The activity of shopping online captivated me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
770	While shopping for clothes online, I feel I am in a world created by the website.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
771	I feel browsing websites for clothes is a waste of my time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
772	I often click on links out of curiosity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
773	I like to browse websites to find out about the latest trends	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
774	I was curious to explore the website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROBLEM INDICATOR BOX



Notes -

Finally please use the space below to indicate any problems you might have identified in the introduction, the instructions or anywhere else within the survey. Please also can you indicate how you felt about having to visit a website before answering the questions, did you think it was very time-consuming and would deter respondents from taking the survey.

Confusing or complicated introductions or explanations. Yes No

Conflicting or complicated instructions. Yes No

Time consuming visiting the website

Yes No

Notes -Any further suggestions -

7.3.2 Pretest –Researcher

SURVEY ON ONLINE EXPERIENCE IN ONLINE FASHION RETAIL

The main objective of the survey is to identify website characteristics that account for a memorable online shopping experience. The aim of this exercise is to identify any key issues of validity and/or reliability with the survey questions. We appreciate your taking the time to review the following survey. Please follow the instructions given below and review the survey.

INSTRUCTIONS

1. Please first fill out section A below about your online shopping habits.
2. Thereafter, start from question one and identify any problem in each question. Each question has a problem indicator box and space for notes below. If you identify problems within the question please tick the box and write in the notes sections, the problems you have identified and any suggestions you may have for the same.
3. Furthermore, if you have identified any problems with the wording, interpretation of questions please use the table below and write the question number against the problem identified wherever relevant.
4. Finally, if you think the question should be reworded please use notes or the last page and indicate the suggested changes to the question.
5. The items marked with a ✎ ✎ are the ones I am having trouble with if you have any suggestions for improvement on those, it would be very helpful.

Problem	Question No
- Question is lengthy, awkward and or ungrammatical.	
- Question is difficult to read.	
- Multiple ways to interpret the question.	

SURVEY QUESTIONS

Thank you for taking the time to participate in this survey. The main objective of the study is to help identify website characteristics that account for a memorable online shopping experience. The survey is divided into two sections , the first section contains questions regarding your shopping habits and the second section requires you to visit one out of the two given online shopping websites and answer questions on your experience with the given website.

Section A

Please tell us a bit about your shopping habits

1. How often do you visit online fashion retailers?

Once a week

Every Fortnight

Once a Month

Every Six Months

2. How often do you purchase online?

Once a Month

Every Fortnight

Every Six Months

3. When shopping for clothes online, do you mostly browse to see the latest trends and clothing items or you only go online with the intention of buying clothes?

Browsing

Buying

4. How much do you spend each month on clothes?

£0 - £50

£50 - £100

£100 - £200

£200 - £500

More than £500

Section B

Now tell us a bit more about your experience with online shopping. In the actual survey, the respondents are required to visit one of the following websites and answer the questions in Section B. They are required to shop for a clothing item or accessories they need (e.g. Shirt for work, outfit for dinner etc) and/or are planning to purchase in the next few weeks.

www.asos.com

www.next.co.uk

Please describe your online shopping experience by indicating your level of agreement using the following scale.

Strongly Disagree 1 2 3 4 5 Strongly Agree

To what extent do you agree with the following statements about product variety -

Q		11	22	33	44	55
1	The website offered a wide variety of items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	There was a wide selection of products to choose from	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	There was a sufficient number of products to make a choice from	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROBLEM INDICATOR BOX



Notes -

To what extent do you agree with the following statements about product presentation -

Q		1	2	3	4	5
4	It was difficult to determine what the products looked like	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	The products looked real	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Products can be viewed from many angles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROBLEM INDICATOR BOX



Notes -

Q		1	2	3	4	5
7	Information was provided about how to care for the	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	product					
8	Information was provided about shipping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	Information was provided about product dimensions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	Information was provided about product features	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	Information about different materials/fabrics was provided	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

To what extent do you agree with the following statements about product information

PROBLEM INDICATOR BOX



Notes -

To what extent do you agree with the following statements about searchability of products

Q		1	2	3	4	5
1	The product recommendation were close to what I was browsing before	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	The website has a search engine that assisted me in finding products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	The product recommendations were items I was interested looking at	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	I was able to browse the website by product category	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	The website allowed me to filter products using several options such as size and color for example	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROBLEM INDICATOR BOX



Notes -

To what extent do you agree with the following statements about product availability





Q		1	2	3	4	5
1	On the website, the products I was looking for were out of stock	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	The website displayed products that were out of stock	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	The products I selected were not available to purchase	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROBLEM INDICATOR BOX



Notes -

To what extent do you agree with the following statements about channels of customer support.

Q		1	2	3	4	5
2	There were several options to contact customer support	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	The website had useful alternative methods of reaching customer support  	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	One of two channels(E.g. live chat, telephone, social media etc.) of customer support were provided.  	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROBLEM INDICATOR BOX



Notes -

To what extent do you agree with the following statements about customer assistance

Q		1	2	3	4	5
2	Assistance to return an items was available	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Assistance to select products was available	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Assistance was provided at the checkout stage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROBLEM INDICATOR BOX



Notes

To what extent do you agree with the following statements about interactivity and navigability-

Q		1	2	3	4	5
	The website responded quickly to my interactions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	The website had many error messages	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	The pages on the website loaded rapidly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	The website often got stuck	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	The website was easy to use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	The website was difficult to navigate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	On the website, moving from one page to another was seamless	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROBLEM INDICATOR BOX



Notes -

To what extent do you agree with the following statements about website features and aesthetics

Q		1	2	3	4	5
3	On the website, prices were displayed in my local currency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	The website was presented in my local language	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	The layout of the website was designed in a manner I was accustomed too 🗍 🗍	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	The website displayed products using models that were representative of the website's region 🗍 🗍	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	The website was visually appealing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	The website was pleasing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	The visual design of the website was attractive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	The layout of the website was aesthetically pleasing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROBLEM INDICATOR BOX



Notes -

To what extent do you agree with the following statement about sound on the website

Q		1	2	3	4	5
	The sounds on the website disrupted my shopping experience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	The sounds on the website enhanced my experience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	The website provided sounds that were annoying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	I enjoyed the sounds playing on the website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROBLEM INDICATOR BOX



Notes -

To what extent do you agree with the following statement about satisfaction on the website

Q		1	2	3	4	5
4	I wanted to buy some clothes and/or accessories from this website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	I will make purchase from this website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	I wouldn't buy the clothes and accessories on this website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	I would use this website again	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	I was satisfied with the website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	I really enjoyed using the website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	I liked shopping on the website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROBLEM INDICATOR BOX



Notes -

To what extent do you agree with the following statements

		1	2	3	4	5
5	While browsing the website, I felt in control of the shopping process.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	On the website, I got the responses from the website that I expected	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5	I knew what to expect on the website at each step	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	I consider myself knowledgeable about the process of online shopping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	I know somewhat less than most internet users about shopping for clothes online	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	I consider myself knowledgeable about shopping for clothes online.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	I am more skilled at using clothes shopping websites than most thing I do online. ✎ ✎	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	I found the experience of shopping online challenging	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	I found that buying clothes online provided enough challenge for me not to get bored	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Shopping Online for clothes is a good test of my abilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	While shopping for clothes online, I was in a new world created by the website which disappears when I stop browsing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	I was so absorbed in the virtual environment I forgot my immediate surroundings.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	When I was shopping online, the world generated by the website was as real as the real world.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Online Shopping makes me forget where I am	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	I focused all of my attention on shopping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6	While navigating through the website, I thought of other things	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	I was deeply engrossed by the online shopping experience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	The activity of shopping online captivated me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	While shopping for clothes online, I feel I am in a world created by the website.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	I feel browsing websites for clothes is a waste of my time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	I often click on links out of curiosity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	I like to browse websites to find out about the latest trends	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	I was curious to explore the website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROBLEM INDICATOR BOX



Notes -

Finally please use the space below to indicate any problems you might have identified in the introduction, the instructions or anywhere else within the survey. Please also can you indicate how you felt about having to visit a website before answering the questions, did you think it was very time-consuming and would deter respondents from taking the survey.

Confusing or complicated introductions or explanations. Yes No

Conflicting or complicated instructions. Yes No

Time consuming visiting the website Yes No

Notes -

Any further suggestions -

7.4 Final Study - Questionnaire Items

The questionnaire items that measure each of individual constructs (pertaining to website design, flow and customer outcomes) are shown below. Definitions of each construct are also provided.

Each of the respondents will be required to describe their online shopping experience by indicating level of agreement using the following five point likert scale within the actual questionnaire.

Strongly Disagree 1 2 3 4 5 Strongly Agree

The questions for each construct will be randomly ordered when administered but are grouped here for clarity

1. Product Variety

Product Variety reflects the extent to which there is a wide range of clothes and accessories available.

- The website offered a wide variety of items (Adapted from Ding et al. 2009).
- There was a wide selection of product categories to make a choice from on the website.
- There were sufficient products to choose from on the website.

2. Product Presentation

Product Presentation refers to the extent to which product images and videos are a realistic representation of the product.

- The products look real.
- Products can be viewed from many angles.
- It was difficult to identify what the products looked like (reverse coded)

3. Product Information

Product Information refers to the extent to which product information is provided.

- Enough information was provided about how to care for the product.
- Enough information was provided about product dimensions.
- Enough information was provided about product features.
- Enough information on different materials/fabrics was provided.

4. Product Search-ability

Product Search-ability refers to the extent to which the website allows products of interest to be found.

- The product recommendations were similar to the products I was browsing before.
- The website has a search engine that assisted me in finding products.
- The product recommendations were items I was interested in looking at.
- The website allowed me to browse the product easily.
- The website allowed me to adequately filter products using several options (e.g. size and colour).

5. Product Availability

Product Availability refers to the extent to which the website has products displayed available in stock.

- Many of the products I was looking at were in stock.
- The website displayed many products that were out of stock (reverse coded)
- When I selected products they were often out of stock (reverse coded)

6. Channels of Customer Support

This represents the extent to which there is availability of multi-channel customer support.

- There were sufficient options to contact customer support.
- The website had useful alternative methods of reaching customer support services.

7. Customer Assistance

Customer Assistance refers to the extent to which assistance is available at all stages of the shopping experience.

- Sufficient help to return an item was available.
- Sufficient help to select products was provided.
- Sufficient help was provided at the checkout stage.

8. Responsiveness

Responsiveness is the extent to which the website responds quickly to customer interactions.

- The website responded quickly to my interactions.
- The website had many error messages such as page not found and server busy (reverse coded)
- The pages on the website loaded rapidly.
- The website often got stuck. (reverse coded)

9. Navigability

Navigability is the extent to which a website is easy to use, intuitive and simple (Chang and Chen, 2008).

- The website was easy to use.
- The website was difficult to navigate.
- On the website, moving from one page to another was seamless.

10. Website Aesthetics

Website Aesthetics refers to the visual appeal of a website (Cai and Xu, 2011).

- The website was visually appealing.
- The website design was pleasing.
- The visual design of the Web site was attractive.

11. Purchase Intent

Purchase intention refers to a plan to purchase a product or service at the time or in the future.

- I wanted to buy some products from this website.
- I will make a purchase from this website soon
- I wouldn't buy the anything from this website. Reverse coded

14. Customer Satisfaction

Customer satisfaction refers to the extent to which the customer enjoyed using the website (Ding et al. 2010).

- I would use this website again.
- I was satisfied with the website.
- I enjoyed using the website.
- I liked shopping on the website.

15. Control

Control is the perception, that the activity of navigating a website is within the power of an individual (Hoffman and Novak, 1996)

- While browsing the website, I felt in control of the shopping process (HNY).
- On the website, I got the responses from the website that I expected (Ding et al 2007).
- I knew what to expect on the website at each step of the shopping experience (Ding et al 2007).

16. Skill

Skill is an individuals' self-assessment of their ability to browse a fashion retail website (Florsheim and Bridges, 2007).

- I consider myself knowledgeable about shopping for online.
- I know comparatively less than most Internet users about buying online. Reverse coded
- Shopping online is something I am confident with compared to other web activity

17. Challenge

Challenge is the perception that an individual's abilities are being tested (Florsheim and Bridges, 2007).

- I found that browsing shopping website online provided enough challenge for me not to get bored (HNY).
- Shopping online is a good test of my skills (HNY).

18. Telepresence

Telepresence is a cognitive state wherein the individual is acutely immersed in the virtual environment (Turkle, 1984).

- While shopping online, I was in a new world created by the website which disappear when I stop browsing.
- I was so absorbed in the virtual environment I forgot my immediate surroundings.
- When I was shopping online, the world generated by the website was as real as the real world.
- Online shopping often makes me forget where I am.

19. Focused Attention

Focused attention is when an individual focuses on a limited stimulus field, thoughts not relevant to the field are filtered out (Ding et al. 2007).

- I focused all my attention on shopping while making my last purchase from XX website.(HNY).

20. Exploratory Behaviour

Exploratory behavior is an individual's curiosity being aroused to further browse the website (Hoffman, Novak, Yung 2000).

- I found that browsing XX website provided enough challenge for me not to get bored.(HNY).
- I often click on links out of curiosity
- I like to browse website to find out about the latest trends
- I was curious to explore the website.

7.5 Problems Identified in Pretest

Q No	Problem Identified - Suggestion
1	Do you real need to choose from? either way you should not end a sentence with from.
2	Similiar to Q3
2	Could use categories to have dissimilarity to Q1
3	Sentence ending with choose from
3	Sufficient products not sufficient number of products
4	Not easy to identify what the products looked like
5	It does not convey much meaning for me as a virtual shopper.
7	Add washing instructions
11	Add enough information
12	Not clear
12	The question might be better phrased as 'To what extent do you agree with the following statements about the ease of finding products I am looking for?'
12	The product recommendations were similar to the ones I was browsing before
12	Product recommendations not recommendation
14	add browsing before
16	Use for example or such as only
17	Similar to Q19
17	Most products were in stock or needed should be added to the sentence
17	Remove on website

18	Frustrating to select products and find out they were out of stock
19	To purchase or for purchase
20	Change Customer Support to Channels of Support
20	Remove channels
21	There were alternative ways to contact customer support
22	Dont understand the question
22	One of two
26	Change to 'you agree with the following statements about the user-friendliness of the website?' Instead of Navigability and Interactivity
27	Add e.g., server busy, page not found)
35	The layout was designed in a manner to which I was accustomed. Either way it should be 'to' rather than 'too'
35	The website felt Natural to use
35	The website layout was familiar to em
35	The layout of the website was one that I was familiar with
36	Pleasing? What do you mean?
36	The website displayed products using models I could identify with.
36	Confusing
36	The website displayed products that were relevant to my location
39	The website needs more features to look modern

40	Depending on your target sample- do you think they will know the word 'aesthetically'
46	Missing a before purchase
47	Change on to from
50	Don't use the word really
56	Change somewhat to comparitively less
58	things not thing
58	Shopping for clothes online is something I am confident with compared to other web activity
58	I consider myself competent to go shopping online
60	Stick to one not buying use browsing
61	What does abilities mean
62	Interesting question!!!
62	Shopping provides me an escape from reality
64	Not clear
66	Is in past tense
67	Not clear, rephrase
71	Browsing not browning
7-11	Information was provided is a binary choice. I think it needs a modifier like good information or enough information

41-44	Audio vs Sounds
45- 51	Too similar

7.6 Ethics Form

University of Exeter Business School

Ethics Form: PGR Research Projects

Please use the ‘Guidance for completing Business School ethics form’ to help you complete this form

This form is to be completed by PGR student and signed by the primary project supervisor. Only students with a lead supervisor in the Business School can apply for ethics clearance to the Business School ethics panel. Those with a lead supervisor in another school or institution should seek advice from their relevant ethics panels.

When completing the form be mindful that the purpose of the document is to clearly explain the **ethical considerations** of the research being undertaken. Please include relevant and adequate detail for the ethics review panel to make their decisions about the ethical considerations you have made for your project. Please note that it is the responsibility of the student and supervisors to identify where their research may raise ethical issues, familiarise themselves with the ethics procedures and submit their work for review well in advance of starting their project. **Retrospective ethics applications will not be considered.**

Once completed, please submit the form electronically to and post a hard copy to Business School Research Office, Forms will only be forwarded for approval once the hard-copy has been received.

University of Exeter’s Ethics policy relating to research

The University of Exeter is research intensive and dedicated to furthering knowledge in a responsible and exacting manner. In the conduct of research by academic staff and students the University strives to protect the safety, rights, dignity, confidentiality and anonymity (except where covered by an appropriate protocol) of research subjects, the welfare of animals and the sustainability of the environment. The University also endeavours to safeguard the wellbeing, rights and academic freedom of researchers and the reputation of the University as a centre for properly conducted, high quality research. The University maintains a separate *Code of Good Practice in the Conduct of Research* which it requires all researchers to follow¹.

Ethical issues are manifest in a wide variety of research activities and arise especially when the conduct of research involves the interests and rights of others. The adoption of an ethical position in respect of such research requires that the researcher observes and protects the rights of would-be participants and systematically acts to permit the participants to exercise those rights in full accordance with UK law. Ethical practice in such cases requires that participants and/or legal guardians, at a minimum, be fully informed, free to volunteer, free to opt out at any time without redress, and be fully protected in regard to safety according to the limits of best practice. The Business School follows the policy set by the University of Exeter.

The University also upholds principles of **integrity** and the need for researchers to be honest in respect of their own actions in research and their responses to the actions of other researchers. Researchers will be required to comply with requests to the University under the Freedom of Information Act 2000 and practice **openness** in their research endeavours wherever possible.

¹ <http://www.exeter.ac.uk/research/toolkit/throughout/goodpractice/>

Part A: Background of the research project

Title of project	Designing for an Optimum experience in Online Fashion Retail
Name of lead researcher / Primary investigator for this project and affiliation	Nimrita Singh Innovation and Service Research Center, University of Exeter Business School
Name(s) of other researchers and affiliation (s)	
Start and estimated end date of project	Mid April
Source of funding for the project	University of Exeter Business School
Is this application being made prior to a grant application? Which funder?	NO
Aims and objectives of the project	The aim of the research is to identify key website characteristics that lead users to have an optimum experience when they are interacting with online fashion websites and

	in turn exhibit outcomes such as loyalty towards the retailers, cause to intention to purchase and leave satisfied either there experience
<p>Is the main applicant employed by the UEBS for the duration of this project?</p> <p>Note: only researchers employed by the Business School can apply for ethics clearance by the UEBS ethics panel.</p>	No, I am a PhD student in the business school.

Part B: Ethical Assessment

Please complete the following questions in relation to your research project. If you answer Yes to any of the sections, please elaborate

	Yes	No
--	------------	-----------

Research that may need to be reviewed by NHS NRES Committee or an external Ethics committee (If yes please provide details as an annex)		no
Will the study involve recruitment of patients or staff through the NHS or the use of NHS data or premises and/ or equipment?		no
Does the study involve participants age 16 or over are unable to give informed consent? (e.g. people with learning disabilities: see mental Capacity Act 2005. All research that falls under the auspices MCA must be reviewed by NHS NRES)		no
Research that may need a full review		no
Does the research involve other vulnerable groups: children, those with cognitive impairment, or those unequal relationships ?(e.g. your own students) Have you read the appropriate Act; ethical practices governing research with the group you aim to study?		no
Will the study require the co-operation of a gatekeeper for initial access to the groups or individuals to be recruited? (e.g. students at school, members of self-help group, residents of a nursing home?)		no
Will it be necessary for participants to take part in the study without their knowledge and consent at the time ?(e.g. covert observation of people in non-public places?)		no

Will the study involve discussion of sensitive topics? (e.g. sexual activity, drug use)		no
Are drugs, placebos or other substances (e.g. food substances, vitamins) to be administered to the study participants, or will the study involve invasive, intrusive or potentially harmful procedures of any kind?		no
Will tissue samples (including blood) be obtained from participants?		no
Is pain or more than mild discomfort likely to result from the study?		no
Could the study induce psychological stress or anxiety or cause harm or negative consequences beyond the risks encountered in normal life?		no
Will the study involve prolonged or repetitive testing?		no
Will the research involve administrative or secure data that requires permission from the appropriate authorities before use?		no
Is there a possibility that the safety of the researcher may be in question? (e.g. in international research: locally employed research assistants)		no
Does the research involve members of the public in a research capacity?		no
Will the research take place outside the UK?		no

Will the research involve respondents to the internet or other visual/ vocal methods where respondents may be identified ? (i.e. through the findings)		no
Will research involve the sharing of data or confidential information beyond the initial consent given?		no
Will financial or other inducements (other than reasonable expenses and compensation for time) be offered to the participants?		no

[ESRC ethics initial checklist²]

² ESRC ethics initial checklist, Framework for Research Ethics (FRE), (2010).

Part C: Further and brief details for any sections answered 'Yes'. If you answered 'yes' to any of the above sections, please elaborate with detail here. Each in turn

NA

Part D: Project Summary (Ethical Considerations)

Provide an overall summary of the Research that will be employed in the study and methods that will be used (**no more than 250 words**)

The study aims to identify key website design features that cause users to experience a state of optimum experience known as flow as a result of their interaction with the website in fashion retail. The study presents the derivation of a conceptual model and associated hypotheses suggesting a relationship between website design characteristics, elements of flow and behavioural outcome.

To test the hypothesis a 74 item measurement instrument has been devised that will be distributed as a part of the first study. These are all questions pertaining to the respondents experience with the website which they will be required to visit at the start of the questionnaire. These two website are ASOS and Next, two fashion retail website.

The questionnaire is divided into two parts, in the first part each respondent was asked about their online shopping habits, the rationale behind this was to assess the capability of each respondent to assess the items effectively and gain an understanding about their

online shopping habits. The second section required each of the two respondents to visit one of two online shopping websites and then assess the questions in section B. This is to ensure that the online shopping experience is fresh in their minds before answering the questions.

The main aims and objectives of carrying out the pilot study before the full empirical research is to help identify any problems with the items within the instrument and validating the instrument. After which a full empirical study will follow.

Part E: Ethical Considerations for method(s).

List each of the methods you aim to use to recruit participants and describe the methods you will use to gain their 'informed consent' (If written consent will not be obtained for any of your methods, this must be justified). At the least the following should be considered for each method.

- Confidential and anonymity for all participants and organisations
- Storing of data according to the UK Data Protection Act and also any additional provisions you have to make for the data in other countries where your study is based. *[Note: If the project involves obtaining or processing personal data relating to living individuals, (e.g. by recording interviews with subjects even if the findings will subsequently be made anonymous), you will need to ensure that the provisions of the Data Protection Act are complied with. In particular you will need to seek advice to ensure that the subjects provide sufficient consent and that the personal data will be properly stored, for an appropriate period of time.*

- Voluntary participation following informed consent
- *Please attach a copy of every Information Statement and Consent Form that will be used, including translation if research is to be conducted with non-English speakers. Document in verbatim to be provided in cases where consent is to be obtained verbally.*

Participants will be recruited online via email asking to take part in an online questionnaire.

This will be voluntary participation following informed consent.

Further, minimal personal data will be calculated, names of participants will not be collected any only age group and gender will be the data pertaining to personal information that will be asked. Further a question might be asked about their shopping spending online but nothing further.

An incentive will be offered as a raffle or lucky draw for participation.

The consent form is given below which participants will be asked to tick if they agree to participate in the study.

CONSENT FORM

This research project is looking into optimum experiences in online fashion retail.

You will be asked to complete a questionnaire about the factors that affect your online shopping experience with online fashion retailers. For most of the questions you will be asked to rate your answer on a scale of 1 (strongly disagree) to 7 (strongly agree). There are also some questions about you, such as your age, gender and your online shopping habits. Some of the questions may appear to be repetitive, but each requires a slightly different piece of information.

Participation in the study should take 20- 30 minutes.

You will have the opportunity to enter a prize draw to win £50 ASOS voucher.

Your responses will be treated confidentially.

Participation in this study is entirely voluntary.

You have the right to stop at any time without having to give a reason. You have the right to ask for your data to be withdrawn, as far as this is practical. All personal information you provide will be kept securely and you have the right to ask for it to be destroyed.

Agreement

The nature and purpose of this research have been sufficiently explained and I agree to participate in this study. I understand that I am free to withdraw at any time without incurring any penalty.

Will there be any possible harm that your project may cause to participants (e.g. psychological distress or repercussions of a legal, political or economic nature)? What precautions will be taken to minimise the risk of harm to participants?

No possible harm will be caused to the respondents.

Part F: Data protection

How will you ensure the security of the data collected? What will happen to the data at the end of the project, (if retained, where and how long for). Please follow guidelines provided by the University of Exeter on Data protection to complete this section <http://www.exeter.ac.uk/recordsmanagement/>.

All Data collected be kept in secure storage in a dedicated password protected hard drive.

Part G: Notes and Additional Information: Please provide any additional information which may be used to assess your application in the space below

NA

END

Part G: Checklist: Please ensure that all sections are ticked before submission. The form will be rejected without review if any sections are incomplete.

All sections A, B, C (if relevant), D,E,F and G (if relevant) in this form have been completed	✓	The study has not started yet	✓
Number of methods to be used (note each below and place in tick in the box for consent forms attached to application form)	✓	The form has been signed and dated by the principle investigator/ lead researcher/supervisor	✓
Any other relevant documents have been attached (e.g. copies of CRB certificates)		Other attachments:	

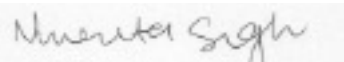
Where an ethics application has also been submitted to an external ethics panel (NRES) copies of approval letters have been attached			
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Signatures:

I have considered all ethical implications for this project and declared all the relevant aspects for consideration of the University of Exeter Business School ethics panel.

Name: Nimrita Singh

(PhD candidate)

Signature: 

Date: 4th April, 2015

Part D: Supervisor's Declaration

As the supervisor for this research I can confirm that I believe that all research ethics issues have been considered in accordance with the University Ethics Policy and relevant research ethics guidelines.

Name: Prof. P A Smart

(Primary Supervisor)

Signature:



Date: 25/04/15

For administration use only: Ethical Approval

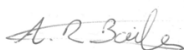
Comments of Research Ethics Officer and Research Strategy Group.

[Note: Have potential risks have been adequately considered and minimised in the research? Does the significance of the study warrant these risks being taken? Are there any other precautions you would recommend?]

This project has been reviewed according to School procedures and has now been approved.

Name: Adrian R. Bailey (Research Ethics Officer)

Signature:



Date: 17th May 2015

End