The role of interactive technologies in the physical retail fashion store

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I, Mian Wang, confirm that the work submitted is my own and that appropriate credit has been given where reference has been made to the work of others.

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Abstract

Numerous fashion brands have integrated interactive technology into their retail spaces to offer consumers immersive digital experiences. This technology empowers customers, acting as store visitors, to actively engage with the brand's digital realm while simultaneously experiencing the physical store environment. However, the existing literature reveals a significant research gap in the integration of interactive technology within physical retail environments, particularly in fashion stores.

The purpose of this research was to explore the role of interactive technology in retail design. More specifically, it focuses on investigating the impact that interactive technology has on customer engagement and shopping experiences within fashion retail environments. The research adopted a case study approach, selecting five cases including Canada Goose, Burberry, Ralph Lauren, Lily, and Uniqlo. Data were collected via semi-structured interviews with 27 experts directly involved in the selected cases. The data were analysed using a thematic analysis approach with six stages: data familiarisation, initial code generation, searching for themes, reviewing themes, defining and naming themes, and producing the report.

The findings are presented thematically, with three main themes and twelve subthemes. These provide insights and narratives for responding to the research questions. The contributions indicate the role of interactive technology in enhancing the retail store, which are: (1) stimulating dynamic and multi-dimensional experiences, (2) supporting channel integration and gamification, (3) encouraging social media engagement and promotional footprints, and (4) extending in-store engagement and strengthening the relationship between brands and customers. By embedding interactive technology, retailers can create an environment that not only meets but exceeds the expectations of modern consumers, blending physical and digital realms into a cohesive and engaging retail experience.

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Abbreviations

AI	Artificial intelligence
AIDSAS	Attention-Interest-Desire-Search-Action-Share
AR	Augmented reality
eWOM	Electronic word-of-mouth
LIDAR-powered floor	Light Detection and Ranging powered floor
QR codes	Quick-response codes
RFID	Radio Frequency Identification
SMFT	Smart mirror fashion technology
VFR	Virtual Fitting Room
VR	Virtual Reality
2D	Two-dimensional
3D	Three-dimensional

Chapter 1 Introduction

1.1 Background of this Research

The proliferation of digitalisation and emerging technologies has ushered in a transformative era in retail formats, compelling an increasing number of customers to gravitate towards online shopping platforms. This trend is particularly pronounced within the fashion sector, where an expanding and youthful segment of customers has enhanced digital proficiency and is particularly adept at using smartphones for navigating fashion shopping (Koo, 2016; Fuentes et al., 2017). The onset of the pandemic further accelerated this trend, compelling a greater number of retailers to expand their conventional retail provision and adopt more innovative retail offerings to meet evolving customer demands (Heinonen and Strandvik, 2020). However, physical stores account for the majority of sales and therefore remain relevant for the majority of customers (Stott and Walker, 2018). Many consumers continue to regularly visit physical stores as a recreational experience, especially for fashion consumption (Mintel, 2023a). The allure of a multi-sensory encounter, particularly one that appeals to tactile sensations, emerges as a significant driver for visiting these stores, influencing purchasing decisions (Spence et al., 2014; Alexander and Nobbs, 2020; Mintel, 2023b).

However, the purpose of a visit to a physical fashion store extends beyond mere transactions (McCormick et al., 2014). Customers frequently seek experiential elements such as entertainment, leisure, direct brand engagement, social interaction, and inspiration during their visits (Kent, T., 2007; Kent, A. et al., 2018; Wang et al., 2023a). Consequently, the significance of the physical store experience is increasingly important in contemporary society (Siregar and Kent, 2019; Mintel, 2023b). Technological innovations play a pivotal role in shaping the retail landscape, particularly through the integration of innovative in-store technologies, as customers seek out novel touchpoints to enhance their shopping experiences (Savastano et al., 2016). This trend has led to a gradual evolution of the retail industry towards greater sophistication, with numerous fashion brands incorporating interactive technology into their physical stores (Bonetti and Perry, 2017; Siregar and Kent, 2019; Mintel, 2023b; Wang et al., 2023b).

Interactive technology is techniques, tools, or instruments that facilitate mediated communication to support the planning and execution of exchanges between various entities, such as individuals, machines, or organisations (Varadarajan et al., 2010). Technologies such as augmented reality (AR), smart mirror fashion technology (SMFT), and interactive installations are offer customers novel opportunities to interact with products during their in-store visits (Wang et al., 2023c). However, the current use of such technologies remains limited in scope, for instance, the deployment of digital displays or touchscreen kiosks, while attention-grabbing, cannot frequently foster meaningful or personalised customer interactions (Dennis et al., 2012; Dennis et al., 2014; Siregar and Kent, 2019).

This gap highlights the need for further research to explore not only the functional deployment of interactive technology but also its role in creating more meaningful and sustained customer engagement. Existing studies often overlook the long-term impact of integrating such technologies in fashion retail and how they can shape the relationship between customers and brands. As such, more comprehensive research is required to investigate how these tools can better bridge the digital-physical divide, offering a more seamless and immersive shopping journey. This sets the stage for the rationale of the present study, which aims to address these limitations and contribute to a deeper understanding of the role of interactive technology in modern retail environments.

This research is focused on the fashion retail discipline, which in this thesis includes fashion retail design, customer-brand engagement and the retail experience of fashion. This study primarily centres on the physical, offline channel of fashion retail, and the role of interactive technology in physical fashion stores.

1.2 Research Rationale

There are a limited number of studies that have investigated interactive technology within a physical store. These studies have mostly covered either the application of technology, the antecedents for technology usage or the function of technology (Loker et al., 2004; Pepper et al., 2010; Adikari et al.,

2020; Lee, H. and Xu, 2022). Despite their insight into other technology areas, these studies do not explain the role of interactive technology in retail stores within the broader retail and brand experience. For example, previous studies have explored various aspects of interactive technology in different research contexts. Early research focused on the functional performance of technologies, such as estimating body size using 3D body scan data and self-administered body measurement (Loker et al., 2004; Pepper et al., 2010; al-Qerem, 2016). More recent studies have examined consumer acceptance of digital technologies in retail environments and explored new management strategies for technology integration (Perry, A., 2016; Willems et al., 2017; Pantano et al., 2018b; Roy et al., 2018). All of this highlights the importance of the integration of interactive technology in fashion stores. However, the integration of interactive technology in fashion stores remains in its early stages; such technology integration still requires improvement, as it is relatively limited and underexplored.

Notably, customers frequently use their personal devices when they visit retail stores (Verhoef et al., 2015; Perry, P. et al., 2019; Grewal et al., 2020), engaging in activities such as searching for detailed product information, price comparisons, and style matching (McCormick et al., 2014; Herhausen et al., 2015; Perry, P. et al., 2019). These behaviours indicate both an opportunity and a necessity to integrate interactive technology within physical retail spaces (Huang and Hsu Liu, 2014; Pauwels and Neslin, 2015). Through the incorporation of interactive technology, fashion brands can cater to customers' inclination towards digital interaction while delivering immersive experiences. Importantly, the integration of interactive technology enables customers to engage with a brand's digital ecosystem while being immersed in the physical store environment (Alexander and Alvarado, 2017).

Branding fundamentally serves to communicate information to customers (Erdem and Swait, 2001) therefore it is imperative to demonstrate the increasing significance of the digital channel in marketing channel design. Consequently, effective brand-customer communication and engagement are paramount, particularly within the realm of fashion marketing, where the integration of both digital and physical channels holds pivotal importance. The incorporation of interactive technology within physical fashion stores has the

potential to cultivate distinct experiences and foster novel forms of interaction between fashion retail brands and their customers (Alexander and Alvarado, 2017). Such initiatives are poised to yield benefits not only for the brands themselves but also for customers (McCormick et al., 2014; Belghiti et al., 2018).

In this context, where there has been an emphasis on instore technology as a functional enhancement of retail transactions, there is a theoretical gap in the limited understanding of how in-store interactive technologies can shape customer experiences and brand engagement beyond mere purchasing convenience. Consequently, this research centres on the role of interactive technology in fashion stores. Specifically, this research focuses on technologies that enhance retail experiences by creating dynamic, multi-dimensional interactions, supporting channel integration and gamification, fostering social media engagement and promotional activities, and extending in-store engagement to strengthen brand-customer relationships. These timely insights are valuable for both scholars in retail and fashion design and retail practitioners seeking to innovate in-store experiences through interactive technology.

1.3 Research Aim and Objectives

The principal aim of this research was to explore the role of the interactive technology in retail design, specifically in fashion retail stores. Through a deeper understanding of the engagement caused by interactive technology, implications for the theory and practice of the fashion retail space can be understood. To achieve the aim, it is essential to address several research questions that will guide the exploration and analysis of interactive technology within fashion retail environment. The research questions guiding this study are following:

RQ1: How do customers interact with technology in fashion stores?

RQ2: How does interactive technology change the way customers engage with the brand?

RQ3: What is the role of interactive technology in retail design?

To answer these research questions, three objectives were established:

(1) To evaluate what technology has been used to enhance customer shopping experiences and engagement in the physical retail environments
(2) To consider the implications of how the technology might influence the future of retailing, particularly in delivering immersive and engaging brand experiences.
(3) To establish a theory for comprehending the role of interactive technology within fashion retail environments and develop a theory in retail design that specifies how interactive technology can be effectively incorporated.

1.4 Research Methodology

This research adopted a case study approach, as case studies are particularly suited to nascent research areas where the aim is to uncover research insights in areas that have deficient existing theory (Eisenhardt, 1989). Specifically, five cases were selected regarding their successful incorporation of interactive technology within a retail setting. These cases include Canada Goose, Burberry, Ralph Lauren, Lily, and Uniqlo.

Data were collected via semi-structured interviews with the experts directly involved in the design, development and delivery of the retail flagship stores in the five selected cases, consisting of designers, planners and technicians. Store managers and staff, who had first-hand experience of delivering the retail experiences within the stores, were also included in the interview panels. In total, 27 interviews were conducted, each lasting approximately 60 minutes using Microsoft Teams software. The interviews were transcribed and analysed using Braun, V. and Clarke (2006) Six Stages of Thematic Analysis, which include data familiarisation, initial code generation, searching for themes, reviewing themes, defining and naming themes, and producing the report. The aim was to systematically identify themes and patterns of meaning, summarise categories, and incorporate key quotes to gain interpretive understanding (Ridder, 2014).

1.5 Thesis Structure

Chapter one sets the trajectory of the thesis, beginning with an exposition of its background before delving into the rationale behind the research. Subsequently, the primary aim and objectives of the study are delineated. The chapter culminates with the methodology of the research.

Chapter two undertakes a comprehensive review of relevant literature and theoretical frameworks, critically analysing their significance. The chapter concludes with the identification of research gaps followed by the articulation of research questions.

Chapter three outlines the methodology, presenting a meticulous plan encompassing the research philosophy, the adoption of case study methods, and the utilisation of analytical tools and interviews.

Chapter four unveils the principal findings derived from the research. These findings are thematically presented within each case, encapsulating the essence of the primary research.

Chapter five engages in a detailed discussion of the findings, juxtaposing them with existing literature and theoretical underpinnings introduced in Chapter two. The contributions from the findings are dissected, and Implications for both theoretical advancement and practical application are expounded upon.

Chapter six encapsulates the conclusion of the thesis, responses to the research questions with a discussion on research limitations and recommendations for future endeavours.

1.6 Chapter Summary

This chapter serves as an introduction to the thesis, presenting an overview of the current landscape, elucidating the significance of the research, and outlining its objectives and methodology. In a contemporary context where digital devices are increasingly pervasive and individuals exhibit growing proficiency in their use, physical fashion outlets continue to retain their relevance. The integration of interactive technologies by fashion brands within physical retail spaces presents an avenue for creating unique customer experiences and fostering engagement by merging the realms of digital and physical experiences. Despite the evident importance of this subject matter, both scholarly literature and practical implementations remain limited. The precise role of interactive technology within retail environments remains ambiguous. Hence, the primary

aim of this research is to investigate the role of interactive technology within fashion stores.

Chapter 2 Literature Review

2.1 Introduction

The literature review encompasses three main bodies of knowledge. The first is a holistic view of retail design, which forms the foundation of the phenomenon under study. This review covers a detailed exploration of retail design, brand experience, and technology within the fashion retail store. The second part reviews in-store interactive technology, discussing the essential characteristics of this technology, how customers perceive it and how such technology has been incorporated into retail settings. This leads to the third section, which focuses on the fashion customer, including their engagement with technology and in-store behaviour in an omnichannel environment. Subsequently, the review introduces theoretical frameworks that combine McCarthy and Wright (2004) 'Four Threads of Technology Experience' with frameworks from Hollebeek, L.D. and Chen (2014) and Vivek et al. (2014) to measure customer engagement. To aid in the simplification of the literature review, a conceptual framework for Chapter Two is presented in Figure 2.1.

Figure 2.1 Literature review conceptual framework

At the end of this chapter, the gap identified from the literature review is presented, with a statement of research questions. The chapter closes with a summary.

2.2 Retail Design

2.2.1 Understanding Retail Design

The significance of design within the realm of retail has been well-established and debated in scholarly literature (Bellizzi and Hite, 1992; Kent, T. and Stone, 2007; Foster and McLelland, 2015). An efficacious store layout serves to draw consumers in, optimally showcase merchandise, reinforce brand perception, and generally form the backbone of an effective retailing strategy. To realise these objectives, the design of a retail space is composed of an array of environmental elements, including but not limited to, the design of the storefront

display, the interior aesthetic, the selection and arrangement of fixtures and fittings, and the strategic use of lighting (Kent, T., 2007; Morgan et al., 2011).

Accordingly, retail design must navigate a delicate equilibrium between aesthetic interior design and the pragmatic aspects of retail operations, which are subject to variation among different types of retailers. Supermarkets, for instance, might prioritise operational functionality, whereas fashion and luxury retailers could be more invested in cultivating an engaging retail atmosphere. Consequently, it is reductive to conceive of retail store design as mere aesthetic embellishment. However, research in retail design still has a constrained viewpoint that positions retail design as a mere subset of interior design primarily concerned with the physical layout (Claes et al., 2016). Rather, it encompasses critical functional dimensions such as the attraction of customers, regulation of customer traffic, enhancement of the shopping experience, management of inventory and product presentation, operational effectiveness, establishment of competitive advantage, and the creation of an ambient environment through visual and tactile elements (Moore et al., 2007).

Petermans and Van Cleempoel (2009) demonstrated that retail design is a rapidly emerging discipline within the realm of interior design, encompassing a multifaceted scope that extends to both material and immaterial components. These range from tangible elements like storefront design, flooring, and display fixtures to intangible qualities such as ambient temperature, olfactory elements, and colour schemes. This specialisation requires a comprehensive appreciation for aesthetic integration within a space and a strategic approach to spatial dimensions that significantly influence functional and commercial efficacy. Moreover, retail design involves careful consideration of fiscal constraints and compliance with regulations governing public space utilisation (Kindleysides, 2007). Petermans and Van Cleempoel (2009) used Starbucks and Build-A-Bear Workshop as case studies to demonstrate the effectiveness of tailoring retail spaces to embody specific values and atmospheres. Their work emphasises that retail design is critical for retailers to create personal connections with customers, with authenticity and originality being essential to crafting these experiences. Their findings are noteworthy because they suggest that retail design is not merely an aspect of interior design but is also gaining recognition in retail management and is starting to be appreciated for its intrinsic value to

customers. However, one limitation of this perspective is that it confines retail design to physical stores and does not extend to consider virtual storefronts, such as online stores.

Christiaans, HHCM and Almendra (2012) posit from an educational standpoint that retail design is an emergent, autonomous discipline at the intersection of design and social science. They conceptualise retail design as a holistic field that melds aesthetic and functional elements of both tangible and virtual retail environments. This includes external features such as storefront presentations, fascia, and signage, as well as internal components like store layout, merchandise organisation, display arrangements, lighting, in-store communication systems, transaction points, and finishing materials. The practice of retail design requires a comprehensive understanding that extends beyond visual aesthetics; it involves considerations of how a store operates within its space, fulfils functional and commercial objectives, adheres to budget constraints, and complies with regulations governing public space use. Retail design, as described by the authors, is a pivotal medium for nurturing the relationship between a brand and its customers, ensuring meaningful engagement and brand extension. Christiaans, HHCM and Almendra (2012) argue that the field of retail design is increasingly focused on enhancing the experiential aspects of consumer interactions with products and within spaces. This enhancement is achieved by integrating design thinking and techniques, informed by human behavioural insights, and leveraging contemporary technological innovations. Their research is worth noting as it underscores the importance of retail designers being agile in response to new technical, socio-cultural, and commercial developments. Retail designers are advised to consider sensory engagement, service models, visual merchandising, multi-faceted communication strategies, and the subtleties of interior or interactive design. Moreover, the authors emphasise the objective of retail design to align spaces, services, and products with a firm’s strategic direction, product range, and brand identity, while simultaneously offering sustainable experiences to customers. Emerging technologies such as digitalisation, sensory devices, and artificial intelligence are expanding interaction possibilities, redefining retail spaces, and blurring lines between physical and digital worlds.

Concurring with these perspectives, Quartier et al. (2020) conducted semi-structured interviews with experts to explore the competencies required of retail designers. Their findings suggest that future retail designers will need a broad spectrum of skills. Not only must they understand consumer behaviour, but they also need to translate retailers' needs into actionable design narratives. Essential to this role is an in-depth knowledge of the factors influencing retail dynamics. A retail designer should synthesise expertise from diverse fields, including marketing, strategic planning, brand development, and the integration of omnichannel and digital platforms into the retail experience.

Several scholars have observed that the traditional focus of retail design on physical spaces is misaligned with the evolving omnichannel nature of retail (Christiaans, Henri, 2016; Quartier et al., 2020), Nevertheless, the extant literature on retail design lacks a comprehensive theoretical framework that adequately addresses the complexities of digital retail environments. Madsen and Petermans (2020) addressed this research gap and offered a comprehensive perspective on digitised retail design. At the heart of this model lies what is termed the 'observable universe' of digitised retail designers, an expansive realm that encompasses the full spectrum of retail spaces. These spaces extend from the geographical—towns and streets—to the digital landscapes of web shops and social media platforms, colloquially referred to as 'SOME'. In parallel, physical retail formats are recognised for their enduring significance. Integral to this ecosystem is the inclusion of human elements; staff interactions that can animate the retail experience, and the product and brand mix that define a retailer's essence. This framework does not merely map the terrain but suggests an intricate interplay between these components. By recognising the fluidity between online and offline environments, the authors propose a flattened ontology where each aspect is as pivotal as the next, thus enabling retail designers to orchestrate experiences that resonate with depth and cohesion in the digitised retail domain. This approach reflects a nuanced appreciation of digital and physical convergence, suggesting a blueprint for crafting retail ecosystems that are attuned to the dynamic rhythms of contemporary consumer engagement.

Previous research has indicated the significance of technology in retail design (Christiaans, Henri, 2016; Madsen and Petermans, 2020; Quartier et al., 2020).

The current research specifically examines the role of interactive technologies in bridging the gap between physical and digital storefronts, a critical consideration in an era where consumers' shopping journeys seamlessly integrate virtual and tangible experiences. This study is exclusively focused on retail design within physical stores, with a particular emphasis on fashion retail. The following section will delve into retail design within the context of fashion stores.

2.2.2 Retail Design In Fashion Store

Fashion inherently operates within both the sartorial and spatial dimensions. It not only involves the physical attributes of attire but also engages with the intangible aspects of the spatial environment where it is presented and experienced (Clarke et al., 2012). Beyond merchandise and marketing, fashion retailers also deploy their storefronts as a medium of expression. The ambience of their stores is strategically crafted to convey specific narratives and connotations about their offerings to consumers. Similarly, for fashion labels with physical retail locations, these spaces provide an additional dimension to manipulate the connotations attached to their products. For example, luxury fashion brands houses strategically situate expansive retail venues in celebrated urban centres to broadcast their brand's stature. They enlist art and artists to forge artistic displays within their storefronts, thereby extending the brand's visual narrative and its cultural resonance (Crewe, 2016). Given that visual and aesthetic elements are deeply embedded in the fabric of fashion, the retail space itself metamorphoses into an embodiment of the values associated with the brand’s products. Hence, ideas of luxury, quality, and perceived worth are shaped by the interplay of retail design, merchandising, consumer experience, and geographic placement (Crewe, 2016). It shows that the environments in which fashion items are purchased and consumed are instrumental in moulding consumer perceptions of the merchandise on offer. In addition, the design of the fashion retail spaces can also influence the way consumers interact with the products (Crewe, 2017). For example, the layout and display of the products can affect how easily they are noticed and future impact on customers’ shopping behaviour. Underhill (2009) delves deeply into customers' behavioural responses in various retail environments. His findings on customer flow, such as the importance of "decompression zones" at store

entrances, have informed the field of retail scholarship, particularly on how experts use store layouts to enhance engagement. Incorporating Underhill's insights allows for a critical examination of whether these design elements encourage effective customer engagement in the digital-physical retail space, particularly in the context of interactive technologies.

The retail environment serves as a visual canvas that not only captivates the customer's imagination but also sculpts their experiential, cognitive, and perceptual engagement with fashion (Crewe, 2016). In fact, the design of fashion retail spaces can greatly influence the visual and material experiences of fashion, which has been highlighted by Quinn (2003) who suggests that these spaces create a sense of something more, an intensified experience, or a broader horizon to explore. Sensory stimulation is crucial in the design of fashion retail spaces, as it enhances memories and emotions that could improve the shopping experience (Song, J., 2010).

Floor (2006) posits that sensation-seeking individuals are drawn to a multifaceted spectrum of retail environments that offer inspiration through immersive experiences. Such settings extend beyond aesthetically pleasing arrangements to include multisensory engagement—encompassing tactile, olfactory, auditory, and gustatory interactions with products. This perspective suggests that contemporary consumers pursue not merely tangible goods but rather distinct and shareable experiences. Rodriguez (2020) advances this notion, highlighting that emotional resonance and narrative play pivotal roles in shaping consumer-brand relationships. The emotive response elicited by a brand frequently surpasses the importance of the physical product. Accordingly, enterprises are tasked with the deliberate curation of experiences that strike a chord with consumers on an emotional plane. Storytelling that captures consumer interest and fosters connectivity has the power to cultivate brand loyalty and enhance consumer contentment. These insights underscore the evolving nature of retail as an experiential dialogue, surpassing mere economic transactions to become an arena where brands and consumers forge meaningful connections. Brands adept at orchestrating unforgettable experiences that resonate with the sensory and emotional appetites of their clientele are poised for greater success within the dynamic landscape of modern retail. Building on these theories that place brand experience at the

heart of retail design in fashion stores, it is imperative to explore the concept of brand experience in greater depth, a topic that will be discussed in the following section.

2.2.3 Brand Experience And Retail Design

There is a generally accepted view in retail design literature of starting from the perspective of the brand when designing interiors (Mesher, 2010; van Tongeren, 2013; Madsen and Petermans, 2020). Pegler (1983)'s work on Visual Merchandising and Display provides a foundational perspective on using storytelling in retail environments to create a compelling brand experience. However, this traditional approach, which relies heavily on static displays and layout, warrants revaluation in the context of modern interactive technologies. While storytelling remains central to visual merchandising, the integration of digital elements introduces both opportunities and challenges. On the one hand, interactive technologies have the potential to enhance engagement, offering immersive and dynamic experiences that traditional displays cannot achieve. On the other hand, there is a risk that these technologies may disrupt the visual cohesion and narrative flow that is crucial to effective storytelling. A critical question, then, is whether the introduction of interactive elements seamlessly enhances the brand narrative or, conversely, fragments the consumer experience, diluting the intended message.

Branding fundamentally serves to communicate information to customers. It signifies the standard of product quality (Erdem and Swait, 2001), and highlights the distinctive attributes and advantages of products or services. This differentiation, in turn, facilitates consumer decision-making, guided by the unique visual presentation and promotional strategies of the brand (Low and Fullerton, 1994). Retail design functions as a communicative bridge between the brand and its customers, enabling the translation of retail branding into a language that resonates with both current and potential customers. Retail design strategically incorporates subliminal cues to augment brand imagery, with the objective of forging a palpable link between the products offered and the specific needs, preferences, aspirations, lifestyles, and attitudes of the intended consumer demographic (SACKRIDER et al., 2009). This implies that designing a retail space, whether it be offline, online, through apps, or other

channels, transcends simple product presentation; it is an act of crafting and elevating the overall brand experience (Riewoldt, 2002).

Brand experience has been defined as “subjective, internal consumer responses (sensations, feelings, and cognitions) as well as behavioural responses evoked by brand-related stimuli that are part of a brand's design and identity, packaging, communications, and environments” (Brakus et al., 2009, p. 53). This definition emphasises the significant influence of retail design on the brand experience. The research by Brakus et al. (2009) delineates brand experience into four distinct dimensions: sensory, affective, intellectual, and behavioural. The sensory dimension is aimed at creating a strong visual impact on the consumer; the affective dimension is charged with eliciting emotions and feelings; the intellectual dimension engages the consumer's cognitive faculties, stimulating thought; and the behavioural dimension relates to physical experiences, lifestyle compatibility, and interactive engagement with the brand (Zarantonello and Schmitt, 2010; Jung and Soo, 2012). It is crucial to acknowledge that these experiences are interrelated rather than discrete. For instance, within the four experience dimensions proposed by Brakus et al. (2009), the sensory and emotional dimensions exhibit a high degree of empirical interrelation. Moreover, multiple dimensions of experience can be concurrently activated, culminating in a comprehensive, integrated experience.

In fact, the literature has generated a number of frameworks concerning the different brand experience dimensions. Schmitt (1999) proposes that brand experience consists of five strategic experiential modules, labelled as sense (aesthetic quality), feel (moods and emotions), think (experience consists of convergent/analytical thinking), act (behavioural) and relate (social experience). Berry et al. (2006) acknowledge the validity of Schmitt (1999) dimensions of brand experience but contend that it is the cultivation and orchestration of three categories of cues—emotional, affective, and behavioural—that encompass the five dimensions in various forms, which empowers retailers to realise the intended brand experience and foster proximity with consumers. In an extension of this discussion, Franzen and Moriarty (2015) concurred with Berry et al. (2006) on the importance of these triadic cues but proposed an alternate categorisation, asserting that brand experience can be encapsulated within three core dimensions: cognitive, relational, and behavioural. This proposition

finds resonance with the work of Nysveen et al. (2013), who have tested the brand experience scale of Brakus et al. (2009) in service and proposed relational experience as one more additional brand experience dimension.

Moreover, Barnes et al. (2014) focused their research on destination brands and concluded that the sensory dimension is paramount. This finding underscores a significant shift in consumer expectations, highlighting a trend towards purchasing not merely products and services, but rather seeking emotional and sensory experiences that surround them (Ratneshwar and Mick, 2005). Lindstrom (2005) corroborates this viewpoint, emphasising the necessity of engaging all five senses in crafting experiences of heightened emotional intensity. This perspective aligns with Floor (2006), who observed that individuals inclined towards sensation-seeking favour diverse experiential shopping environments that offer sensory engagement. According to Euromonitor international (2021) , over half of global consumers exhibit a preference for shopping in environments that provide such multisensory experiences. These environments extend beyond visually stimulating displays to encompass opportunities for engaging all senses, including touch, smell, sound, and taste. This trend is predicated on the notion that consumers are in pursuit of experiences that transcend the mere acquisition of a product, seeking memorable and shareable experiences.

Expanding on this concept, Rodriguez (2020) emphasised that emotional resonance and storytelling significantly shape customers' brand experiences. This perspective suggests that the emotional response elicited by a brand is often more important than the tangible product. Consequently, it is imperative for companies to intentionally craft experiences that resonate emotionally with customers. Through captivating storytelling, brands have the potential to forge a sense of connection, cultivate loyalty, and enhance customer satisfaction. Collectively, these theories underscore the evolution of the shopping experience from a transactional interaction to an opportunity for deep engagement with brands.

In the context of brand setting, visual cues are the most important tool for priming because they can simultaneously gather information about aesthetic, social, and functional elements (Sample et al., 2020). Research by Stillman et

al. (2020) indicates that approximately 70% of human cognition is attributable to visual cues, underscoring their significant influence on consumer behaviour. Auditory cues also play an important role in brand recall. Distinct from visual cues, auditory cues transcend visual limitations, enabling the creation of soundscapes that foster relaxed and non-threatening environments (Biswas et al., 2019). Brands that can successfully create such an atmosphere are highly desirable. Furthermore, olfactory signals are processed in the more primitive areas of the brain, requiring fewer cognitive resources for behaviour automation (Roschk and Hosseinpour, 2020). A pleasant fragrance can prime hedonic states and bolster brand recall or information retrieval. The olfactory system possesses a unique neural connection to the emotional and sensorial cortices of the brain, making it adept at triggering emotional memories and responses to scent (Krishna and Elder, 2021). Additionally, tactile cues are crucial in establishing a physical connection between the brand and the consumer, particularly in the fashion industry. Recent studies have broadened the understanding of tactile response from a haptic mode, which involves only sensory receptors in the hands, to encompass receptors across the skin, the body's largest sensory organ (Sinha and Bagchi, 2019). This expansive interpretation of touch encompasses various sensory experiences, such as the feel of slickness, roughness, or the sense of massiness or lightness, which are captured by receptors embedded in our muscles, as well as sensing temperature changes in the environment.

Overall, visual, auditory, olfactory, and tactile cues play different yet essential roles in creating unique and memorable experiences that appeal to customers' senses and emotions. These multi-sensory experiences are crucial for effective retail design in fashion stores, as it can influence the way customers perceive a brand and their purchasing decisions (Zha et al., 2021). Additionally, these experiences can forge emotional connections between the brand and consumers, thereby facilitating purchase and consumption processes (Hauser and Schwarz, 2021). Brands are situated in distinct spaces, utilising the creation of display spaces to further assert their dominance and accentuate their exclusivity. Space is not merely a static or inert backdrop; it is an active and engaged setting where individuals interact, continually revitalising and transforming it (De Certeau and Mayol, 1998). Potvin (2013) extends this idea

to the context of the fashion store, portraying them as sites of performance where the interplay of creator, commodity, and consumer takes place. Hence, space is not just a physical locale but a dynamic, evolving entity continually shaped by human activity.

However, the introduction of new technology altered the way different elements interact in a brand's environment and also impacted how consumers perceive the sensory aspects of that environment in their minds (Hoyer et al., 2020b; Petit et al., 2022). Advancements in mobile technology are acknowledged as offering significant opportunities for retailers to enhance their brand experiences by adopting an omnichannel approach to retailing (Doherty and Ellis‐Chadwick, 2010; Brynjolfsson et al., 2013). Besides online channels, Schlinke and Crain (2013) contend that social media serves as a multi-faceted platform facilitating customer-brand interactions within the framework of an omnichannel retail strategy. Furthermore, it enables the co-creation of online communities that ensure uniform brand messaging and engage with customers through the most suitable channels. The integration of a seamless brand experience that transcends both online and offline realms is essential. The function of brick-and-mortar stores is evolving to complement the online brand presence. Physical stores are being leveraged to offer immersive and distinct sensory experiences that enrich the customer's interaction with the brand when they visit in person (Brynjolfsson et al., 2013). Although previous research has recognised the impact of technology on changing retail formats, with a predominant focus on online channels (Barlow et al., 2004; Kim, J. and Forsythe, 2008; Kim, J. and Forsythe, 2010; Lee, H. and Leonas, 2018), there appears to be an oversight in terms of addressing the role of technological interventions within physical brand environments (Zha et al., 2022).

More recently, Hoyer et al. (2020b) have recognised the significance of emergent technologies, particularly Artificial Intelligence (AI)-powered technologies, as catalysts for creating new experiential values encompassing cognitive, sensory/emotional, and social dimensions. The cognitive value represents the experiential benefits consumers derive through the assimilation of information and decision-making processes, closely linked to the analytical capabilities of AI technologies. Sensory/emotional value captures the satisfaction consumers obtain from sensory engagement and emotional

connections, emanating from the sensory and affective components of AI technologies. Social value involves the advantages consumers experience by integrating into their social environment, facilitated by the behavioural and relational functions enabled by AI (Hoyer et al., 2020b). The authors also indicate the need for future research to explore how new technologies influence consumer perceptions and interactions with brands, particularly in terms of sensory and emotional experiences. This study seeks to respond to this call, with the subsequent section delving into the interrelation between technology and retail design.

2.2.4 Technology As An Atmospheric Tool In Retail Design

Understanding customer behaviour is essential when designing a retail store. The physical elements within a store that can influence this behaviour are known as 'atmospherics'. Introduced by Kotler (1973), this concept encompasses the strategic design, manipulation, and control of an environment, aimed at exerting a positive influence on the visitors or consumers of a retail space. It is vital for retailers to establish an ambience that fosters positive consumer perceptions and emotions regarding brands (Kotler, 1973; Chebat and Dube, 2000). The atmosphere of a store is particularly crucial in product categories where the decision to purchase is influenced not only by the product's attributes but also by the in-store experience, as observed in the fashion industry (Robert and John, 1982). These insights underline the significant interplay between an individual's perception and their surrounding environment, with studies indicating that consumers respond to various types of stimuli (Turley and Milliman, 2000). In a retail setting, consumers primarily perceive the atmosphere through visual and other sensory stimuli. Visual perception is identified as the foremost sensory mechanism for interpreting and processing a store's atmospherics, followed by auditory, olfactory, and tactile perceptions (Spence et al., 2014). The capacity to influence consumers' emotions, intentions, and behaviours through atmospheric design underscores its critical importance. Thus, it is essential for fashion retailers to consider these elements in the design and implementation of their physical store atmospherics.

Baker et al. (1992) critically examined the influence of store cues on consumer quality inferences and overall store image. They developed a typology

incorporating three distinct cues: design, ambient, and social. Building on this foundational work, Turley and Milliman (2000) reviewed the burgeoning literature on store atmospherics, leading to the categorisation of store cues into five primary proxies. Echoing the earlier study, they acknowledged the pivotal role of human factors (social) in shaping consumer behaviour within a retail environment. Beyond this, their framework introduced additional dimensions: exterior, general interior, layout and design, point-of-purchase (POP), and decorations. These five proxies collectively encompass a broad range of 57 cues, offering a nuanced understanding of the atmospheric elements that influence shopping behaviour. Furthermore, Ezeh and Harris (2007) advanced a classification framework delineating the roles of ambient, design, and social factors in the retail atmosphere context. Ambient factors include background stimuli, such as auditory or olfactory elements, while design factors relate to visual stimuli, both aesthetic and functional. This encompasses aspects such as architecture, lighting, colour, materials, style, and texture. It is emphasised that retail design plays a crucial role in influencing shopper behaviour. This influence is manifested through the generation of attention, the elicitation of emotional responses, and the conveyance of diverse messages via a multitude of signals and stimuli.

In response to the growing importance consumers attribute to the overall experiential aspect in their decision-making process, retailers have been actively striving to enrich the in-store experience. This enhancement strategy includes providing distinctive, immersive, and interactive engagements that are both enjoyable and unique, thereby catering to the idiosyncratic preferences of consumers (Alexander and Alvarado, 2017). The integration of technologies has been posited to augment the features of physical stores, encompassing various aspects such as product display, location, access to information, and modalities of purchase (Papagiannidis et al., 2013; Demirkan and Spohrer, 2014; Baek et al., 2015). In the fashion retail sector, many technologies are a part of atmospherics (Ballantine et al., 2015; Pantano, 2016). These technologies provide enriching information about the items, while evoking positive feelings in customers (Dennis et al., 2010). For example, digital signage, with its conspicuous presence and the content displayed on-screen, creates impactful visuals that influence store visitors or consumers (Dennis et al., 2012).

Technology, inherently capable of being designed and manipulated, plays a pivotal role in conjunction with other elements in constructing the atmospherics of a fashion store. It is imperative that a fashion store's atmospheric design articulates stimuli that are discernible and perceptible through human senses (Kotler, 1973; Berman and Evans, 1995). Therefore, in-store technology, as a component of atmospheric cues, ought to be a sensory-compatible technological system. This implies that the technology should be conspicuously visible and perceptible, aligning with the sensory dimensions of the store's atmosphere.

Previous atmospheric studies have not explicitly addressed the role and integration of technology within store atmospherics. Within the framework proposed by Baker et al. (1992), technology could arguably be categorised under the ambience and design elements. Conversely, typology by Turley and Milliman (2000) potentially places in-store technology within the in-store and decoration categories. However, only a few studies in the field of atmospherics have explicitly recognised in-store technology as an integral component of store atmospherics (Dennis et al., 2012; Poncin and Mimoun, 2014; Ballantine et al., 2015; Kim, H.Y. et al., 2020).

Poncin and Mimoun (2014) conducted an empirical investigation into the effects of visible digital technologies within a physical retail environment. Their study focused on the deployment of an augmented reality (AR) system and an interactive tabletop in a toy store setting. Their findings reveal that such technologies foster a favourable perception of the store and can potentially influence purchase intentions. This effect is noted even when the interactive aspect of the technologies is not the primary focus, highlighting their significant impact on consumer behaviour. Kim, H.Y. et al. (2020) explored the influence of the digital atmosphere on consumer purchasing behaviour, utilising the Attention-Interest-Desire-Search-Action-Share (AIDSAS) model as their theoretical framework. Their research shows the pivotal role of attention as a precursor to subsequent stages in the consumer journey, including interest, desire, and behavioural responses such as search, action, and sharing. The study also underscores the effectiveness of oversized digital displays and touch screens in fashion retail stores, demonstrating that they significantly enhance consumers' perception of products and encourage the sharing of experiences

on social media, thus fuelling effective electronic word-of-mouth (eWOM) advertising.

These studies highlight that the visibility and perceptibility of in-store technologies by customers are crucial in shaping the store's atmospheric dynamics. Such observable and discernible technological elements are integral to the store's atmospherics, offering fashion retailers a potent mechanism to influence consumer behaviour. It can be argued that non-interactive technology in a fashion store can create its own atmospheric presence, it elicits only a reactive response from visitors or consumers (Dennis et al., 2010). In contrast, interactivity emerges as a critical factor in enhancing the experience of digital atmospherics. This emphasis on interactivity aligns with the growing focus on interactive in-store technology. Such technology not only satisfies the expectations of digitally savvy consumers for active engagement but also potentially amplifies the impact on both the stores and digital atmospherics. Research and market trends indicate that fashion retailers are progressively adopting interactive technologies, extending beyond digital signage (Bonetti and Perry, 2017). This has been particularly evident in store atmospherics – comprising lighting, interactive screens, and audio elements – in which the balance of traditional and digital design features are considered for maintaining a comfortable and engaging shopping environment. Such technological considerations, like digital signage and smart mirrors, can enhance the store's atmosphere or introduce elements that detract from the experience by overwhelming the customer with excessive stimuli.

In the current digital era, interactivity stands out as a pivotal element in technology, particularly in fostering relationships between brands and consumers (Varadarajan et al., 2010; Huang and Hsu Liu, 2014). The next section will review different technologies in fashion stores, with a particular focus on interactive technology.

2.3 Technology In Fashion Stores

Recently, fashion retailers have garnered recognition for their innovative adoption of technology, as evidenced by the array of technological advancements integrated within their physical stores (Lemon and Verhoef,

2016; Pantano and Vannucci, 2019). This study concentrates on a specific subset of in-store technologies: consumer-facing devices that facilitate the shopping process, distinct from technologies that do not permit consumer interaction. The integration of such technologies within retail environments primarily focuses on three key areas: consumer acceptance and sense of ownership (Venkatesh and Davis, 2000; Inman and Nikolova, 2017), strategies employed by retail management for their integration (Hagberg et al., 2017; Pantano et al., 2018b; Roy et al., 2018), and their contribution to enhancing store atmospherics, thereby augmenting the overall shopping experience (Blázquez, 2014; Poncin and Mimoun, 2014; Pantano and Vannucci, 2019).

These technologies can be classified based on various criteria, including their physical location within the store (Pantano et al., 2018b), the dichotomy of ownership and control between the store and the consumer (Bèzes, 2019), their specific applications (Pantano et al., 2017), and considerations of cost and service (Roggeveen and Sethuraman, 2020). They play a pivotal role in enhancing both the consumer experience and managerial operations, exemplified by the implementation of self-checkout systems (Fernandes and Pedroso, 2017) and retail applications (Perry, P. et al., 2019). Furthermore, they offer more intricate and immersive experiences through the adoption of virtual reality (VR) and augmented reality (AR) technologies (Rese et al., 2017; Watson et al., 2018). The range of consumer-facing technologies has expanded to include interactive touchscreens, digital signage, and self-service kiosks, further enriching customer engagement. Specifically, in the clothing sector, the incorporation of technologies in interactive smart mirror fashion technology (SMFT) and virtual fitting rooms offers a more personalised fitting experience (Wang et al., 2023c). Table 2.1 categorises types of consumer-facing technologies in fashion stores.

Table 2-1 In-store fashion technology typologies

Category	Technology	Description
Info/product display technologies	**Virtual catalogue**	**A digital representation containing details and pictures of products currently being offered by the retailer.**

	Digital wallpaper	**A technology-driven image (usually displayed on large screens) that can display changing images, patterns, videos, or interactive content of icon products.**
	Digital signage	**A digital sign board is used to convey information and advertise products. Display visual content such as digital images, video, streaming media, and information.**
Shopping experience technologies	**SMFT**	**A device that simulates the actual fitting experience of clothes shopping but without the physical need to remove clothing.**
	AR	**A type of technology that overlays digital content, such as images, text, or 3D models, onto the real world.**
	Mobile application	**A type of software designed to run on a mobile device like a smartphone. Usually, individual software units provide functions such as access to additional content, facilitating appointment scheduling, collecting virtual currency, unlocking special items, sharing online information, interacting with other customers, etc.**
	Sensing technology	**A type of technology encompasses a wide range of devices and methods designed to perceive and respond to various physical or environmental stimuli.**
	Touch-based sensor	**A type of technology designed to detect and respond to human touch, facilitating interaction between users and digital systems.**
	Interactive art installation	**A digital device designed to engage customers actively, encouraging them to touch, move, or otherwise interact with it.**
Information search technologies	**Tablet**	**A wireless touchscreen computer that is larger than a smartphone, but smaller than a laptop.**
	Quick response (QR) code	**A two-dimensional barcodes that can be scanned using a smartphone camera to provide quick access to digital content about the products.**
	Intelligent robot	**A digital device that stimuli the role of a sales assistant to provide the information of the products for customers.**

Payment technologies	**Self-checkout**	**A checkout where customers scan, pack and pay for their goods in a store without being served by a sales assistant.**
Other technologies/ services	**Click and collect**	**An e-commerce system where customers order products online and pick them up in a specific collection place in the store.**
	Self-service kiosk	**A standalone device that allows customers to perform various tasks independently, without the need for direct assistance from store staff (i.e. searching, browsing, choosing and paying for the products).**

Source: Adapted from Pantano et al. (2017) in-store technology categorisation.

The integration of technology within store environments can be categorised into four distinct tiers (Kent, A. et al., 2018). The primary tier is characterised by the absence of any technological enhancements within the store. Progressing to the second tier, technology is utilised to enhance the store's ambience. An example of this is the use of digital signage to display continuous videos of recent products. This tier typically features non-interactive, passive technological elements, which hold a medium level of prominence, balancing their impact with other key store elements such as visual merchandising (Ballantine et al., 2015). The third tier represents technology as a facilitative tool within the retail environment, with product finders being a quintessential example. The apex of this hierarchical structure is the fourth tier, where technology is employed to amalgamate the physical and virtual realms. This is epitomised by innovations such as SMFT in the store (Wang et al., 2023c). Notably, this upper echelon of technological application tends to focus more on providing an experiential and interactive element to the consumer experience, transcending mere functionality.

In light of the research's primary focus on interactive in-store technology, it was deemed pertinent to exclude the first and second levels, which represent stores devoid of technology and those equipped with non-interactive technology, respectively. This strategic decision facilitates a concentrated exploration of the remaining two levels. Within this refined framework, the third level positions technology as a facilitative element, while the fourth and highest level views

technology as a conduit for integrating the physical and virtual dimensions. These latter two tiers are distinguished by their inherent interactive characteristics, making them more relevant to the study's core investigation.

2.3.1 Interactive Technologies In Fashion Stores

Emerging interactive technologies have fundamentally transformed the retail landscape. While it may be perceived that contemporary consumers are inextricably linked to their digital devices and derive satisfaction from online shopping, their continued patronage of physical retail outlets persists (Mintel, 2023b; Mintel, 2023a). Scholarly research suggests that these visits are propelled by the desire for a multi-sensory experience, incorporating elements such as entertainment, leisure, direct brand interaction, social engagement, inspiration, and the opportunity to scrutinise products in person (Dennis et al., 2012; McCormick et al., 2014; Spence et al., 2014).

Web and mobile technologies provide avenues for enriching experiences both before and during visits to physical shops, as consumers engage with their personal mobile devices or make use of interactive devices offered by the stores themselves (Brynjolfsson et al., 2013; Pantano and Priporas, 2016; Shankar et al., 2016a). Accustomed to the distinctive experiences available online, customers increasingly expect a comparable level of interaction, convenience, and visual stimulation in brick-and-mortar stores (Blázquez, 2014). This presents both an opportunity and an emerging necessity to integrate interactive technology within the physical store setting (Alexander and Alvarado, 2017). Particularly in fashion retail, considering the integration of interactive technology not only caters to consumers' preference for digital engagement but also augments the overall store experience.

In the realm of fashion, the role of interactivity is paramount. As Titton (2015) contends, fashion is fundamentally linked to one's appearance, particularly clothing, which reflects an individual's identity, values, and communicative intentions. Consequently, fashion demands a predominantly visual engagement (McCormick et al., 2014). This visual dimension involves the richness of creativity, style, and detail (Cheung and Vazquez, 2015). Simultaneously, tactile sensation holds equal importance in evaluating a product's quality and comfort

(Herhausen et al., 2015). Collectively, these factors underline the significance of multisensory integration in fashion.

Interactive technology offers novel avenues for sensory marketing by fostering immersive and interactive user experiences (Crofton et al., 2019). Current research on employing interactive technology for multisensory information primarily focuses on stimulating one or two sensory modalities at once, with vision and hearing being the most frequently examined (Cornelio et al., 2021), while the tactile domain remains less explored (Gallace et al., 2012). Physical retail spaces may offer unique opportunities to accentuate tactile sensations. Previous studies have shown that stimulating multiple sensory modalities simultaneously in a virtual environment enhances perceptual experiences (Crofton et al., 2019; Petit et al., 2019). However, there seems to be a gap in understanding how interactive technologies within a physical brand environment (Zha et al., 2022) can effectively stimulate multiple senses.

In practice, a multitude of fashion brands have incorporated interactive technologies into their retail spaces, thus offering digital experiences to consumers (Bonetti and Perry, 2017). Such technologies permit store visitors to interact with the brand's digital aspect while simultaneously engaging with the physical elements of the store. This dual engagement provides consumers with the opportunity to experience shopping in both physical and digital realms. It has been suggested that this integration of interactive technology within fashion retail spaces could markedly enhance the overall consumer experience (Dennis et al., 2014; Kent, A. et al., 2016; Alexander and Alvarado, 2017). Interactive technologies empower store visitors to engage more profoundly with the brand and its messaging (Bonetti and Perry, 2017; Kent, A. et al., 2018). Unlike digital signage, which passively conveys information to store visitors, interactive technologies encourage active participation (Alexander and Alvarado, 2017). Thus, the attribute of interactivity differentiates these technologies from digital signage and other non-interactive modalities, enhancing their significance in the retail context. The adoption of such technologies can cultivate distinctive experiences and initiate innovative forms of interaction between fashion brands and their consumers (Huang and Hsu Liu, 2014; Armstrong and Rutter, 2017).

Nonetheless, previous research in the realm of interactive technologies has predominantly centred on their functional performance. For instance, early investigations into virtual reality technologies were conducted within health and obesity research, focusing on estimating body size using 3D body scan data (Loker et al., 2004; Pepper et al., 2010), and self-administered body measurement (al-Qerem, 2016). The relevance of this technology in retail and fashion has been recognised, with studies exploring the real-time simulation of 3D clothing (Adikari et al., 2020) and assessing customer receptivity to such simulation technologies. Lee, H. and Xu (2022) argue that the primary value of an online Virtual Fitting Room (VFR) is its functional benefit of enabling customers to more effectively evaluate garments. However, this study's focus on VFR technology in online retail contexts means its conclusions are not wholly transferable to physical retail environments.

A significant barrier to the adoption of this technology among retailers is the concern over the accuracy of simulations (Gao, Y. et al., 2014). Furthermore, retailers seem reluctant to introduce simulation technology in physical stores if its purpose is solely to fulfil utilitarian fitting needs. Kim, H.-Y. et al. (2017) discovered that in the sphere of smart in-store technology, perceived enjoyment is more influential for consumers than its perceived usefulness. Consequently, when deploying simulation technology, it is imperative to consider its distinct roles across different channels. While Lee, H. and Xu (2022) have categorised smart technologies in terms of online customer experience, the impact of interactive technologies in physical retail settings has received relatively less attention.

In fact, current studies on the importance of integrating digital technologies within offline retail settings primarily focus on consumer acceptance of these technologies (Perry, A., 2016; Roy et al., 2018; Chang and Chen, 2021), and new management strategies for technology integration (Willems et al., 2017; Pantano et al., 2018b), such as the use of technologies to transform traditional retail management into smart retailing (Roy et al., 2017; Pantano et al., 2018b; Bourg et al., 2021). However, there are only a few research studies that investigate digital technologies as a component of store atmospherics to enhance the shopping experience and meet customer expectations (Kozinets et al., 2002; Blázquez, 2014; Wang et al., 2023c).

Blázquez (2014) study elucidates the pivotal role of technology in enriching the retail experience within the fashion industry. It highlights the capacity of technology to facilitate enhanced information acquisition, review processes, and social connectivity for consumers. This research posits that in-store technological integrations should not be perceived merely as tools for concluding the shopping journey, but rather as dynamic conduits for experience throughout the entire customer engagement process. Consequently, the utilisation of in-store technology emerges as a crucial element in augmenting a superior customer experience. Furthermore, Huang and Hsu Liu (2014) study corroborates this view, suggesting that an immersive, technology-driven shopping simulation can substantially elevate experiential value. This underscores the significance of interactive virtual spaces in creating an impactful simulation effect. These literature point to a gap in understanding whether these interactive technologies truly enhance customer engagement or whether they merely serve as functional tools to streamline the shopping process. It remains unclear therefore whether these technologies are seen as a means to increase convenience or whether they can provide a deeper, more emotional connection to the brand through personalised experiences.

More recently, Wang et al. (2023c) investigated smart mirror fashion technology (SMFT) in the offline retail format, highlighting that the functional value of interactive technology can translate into a more personalised experience. This research reveals that SMFT could transform the retail experience into a richer, more engaging journey that potentially improves the relationship between customers and brands. The authors indicate that by integrating SMFT into physical stores, brands have the opportunity to transform the in-store retail experience into a paradigm that offers enhanced convenience, augmented interactivity, and deeper personalisation. This evolution can result in an experience that is not only memorable but also readily shareable, thereby broadening its impact. However, considering the dynamic nature of retailing and technology, it would be useful to deeply understand the implications of the advantages of interactive technologies. The following section will introduce the essential traits of interactive technologies.

2.3.2 Essential Trait of Interactive Technologies

Interactive technology can broadly be viewed as a type of technology that enables customers to interact with retailers. Interactivity is the most distinctive dimension of this technology, elevating the shopping experience to a higher level (Siregar and Kent, 2019). Varadarajan et al. (2010) have identified interactive technology as techniques, tools, or instruments that enable mediated communication to assist in planning and completing exchanges between various entities (people, machines, or organisations). The authors define the characteristics of interactive technology from a wide-reaching scope that includes interactivity and communication entities.

The concept of interactivity originates from the term 'interaction', a notion deeply rooted in behavioural interaction theory within sociology (Johnson, G.J. et al., 2006). Interaction typically involves the dynamic process where individuals or groups modify their actions and reactions based on the responses of their counterparts (Turner, 1988). Furthermore, the term embodies the principle of reciprocity, resonating with Goffman and Newill (1967) concept of mutual action, which is perceived as the reciprocal exchange of benefits within a community.

The discourse on interactivity gained significant momentum following the emergence of computer technologies in the 1980s (Varadarajan et al., 2010). Its prominence further escalated with the widespread adoption of the Internet (Kaplan and Haenlein, 2010). In the contemporary era, where digital technology is intricately woven into the fabric of daily life (Llamas and Belk, 2013). interactivity is widely recognised as a crucial element that enables individuals to control and utilise devices for various everyday tasks (Varadarajan et al., 2010). These perspectives collectively imply that technological products are pivotal in facilitating interactivity. In the realm of e-shopping, the term 'interactivity' is defined as the extent to which users can alter the structure or content of a digital environment in real-time (Zhu et al., 2007). This reveals that, apart from the technological products themselves, the content, as well as how individuals engage with and react to it, are additional elements that significantly influence the level of interactivity.

On the one hand, interactivity levels in interactive technology vary significantly (Bolton and Saxena-Iyer, 2009). For example, interactive technology consists of static web pages and self-service technologies, such as automated teller

machines belong to the low-end interactivity (Collier and Kimes, 2013). This kind of interactive technology primarily serves as a facilitator of information provision and a shopping assistant (Pantano and Naccarato, 2010). On the other hand, technologies such as mobile marketing with high bandwidth (Shankar and Balasubramanian, 2009) and sensory enabling technology (Kinzinger et al., 2022), like smart mirrors represent high-end interactivity. Their application has expanded to include entertainment provisions for store visitors or customers (Alexander and Alvarado, 2017). Consequently, it is plausible to postulate that interactive technology can be adeptly tailored to satisfy both utilitarian (such as in its role as a shopping assistant) and hedonic (such as in providing entertainment) requirements for individuals frequenting stores.

Interactive technology designed to fulfil utilitarian purposes typically adopts a product-centric approach. Such technology prominently features the merchandise within its system content (Kent, A. et al., 2018), ensuring that comprehensive details about the products are readily accessible. This aids customers in finding their preferred products. At its core, the design of product-centric interactive technology aims to augment the probability of purchase transactions. For instance, Unique has integrated an intelligent robot named ‘Little U’ to stimulate the role of a shopping assistant, thereby providing customers with product information.

In contrast, interactive technology tailored for consumers' hedonic needs represents a paradigm shift from traditional, direct sales approaches to a nuanced, experience-centric strategy. Contrary to explicitly displaying merchandise, this type integrates products subtly within narrative-driven or gamified content. For example, Burberry collaborated with social media platforms to establish a gamified application, using ‘social currency’ rewards to transform product exploration into a captivating experience. This approach subtly promotes products through enjoyable interactions, prioritising user enjoyment and emotional engagement over direct product promotion. The aim is to build lasting brand loyalty and a deeper connection with the consumer.

Nevertheless, interactive technologies in retail settings offer more than just functional or entertainment features. Many such technologies blend entertainment with task-based functions (Kim, J. and Forsythe, 2008). For

example, the SMFT, as described by Wang et al. (2023c), is a device that simulates an actual fitting experience without the need to change clothes. This technology allows customers to quickly browse clothing options and conveniently access them via the mirror's screen (Blázquez, 2014; Lee, H. and Xu, 2020). It was also able to transform the physical retail environment into an exceptionally enjoyable experience, by mirroring the lives and requirements of customers through personalised experiences and enabling the dissemination of these experiences across social media platforms (Wang et al., 2023c).

In such scenarios, the primary objective of interactive technology is to provide entertainment, particularly targeting consumers with the aim of eliciting feelings of pleasure and enjoyment. This form of technology is especially relevant for consumers with a hedonic inclination, while it may also appeal to those with a utilitarian mindset (Scarpi et al., 2014). In the meantime, studies have demonstrated that fashion product categories are typically perceived as more hedonic due to their inherent aesthetic appeal and symbolic or sensory attributes (Lim and Ang, 2008). When shopping for such items, consumers are often driven by hedonic motivations (Clarke et al., 2012), making the experiential dimensions of shopping significantly important (Joo Park et al., 2006).

In the fashion domain, interactive technologies are frequently adopted as experiential technology (Kent, A. et al., 2018). A significant reason for their experiential value lies in their ability to offer consumers a sense of control and stimulation through tangible actions (Kim, E. et al., 2013). O'Brien and Toms (2008) in their study on engagement, posit that active participation involving bodily movements inherently cultivates a heightened experience. Furthermore, such participation fosters a sense of collaboration between consumers and the marketing entity, thereby enriching the overall experience (Mathwick et al., 2001).

It can be argued that interactive technology in a fashion retail environment fulfils two primary roles. Firstly, refer to the previous section, it was shown that technologies, including non-interactive and interactive technologies, play a role in physical store atmospherics, thereby influencing customer emotions, intentions, and actions towards the store, its products, or brand through

perceived experiences (Dennis et al., 2012; Ballantine et al., 2015). Secondly, it acts as a tool to aid and augment the consumer experience (Huang and Hsu Liu, 2014).

Moreover, interactive technology is not limited to the communication between a person and a device; it also encompasses communications mediated by interactive technology between two individuals, and even between two devices (Varadarajan et al., 2010). Merrilees (2016) argues that this communication process essentially pertains to interaction with brands, elucidating the three-tiered benefits of interactivity in brand-consumer engagement. At its foundational level, this interactivity strengthens consumer understanding of brands and products. Progressing to an intermediate stage, it fosters a positive perception of the brand or product in the consumer's mind. The zenith of this interactive model is its capacity to cultivate and enhance online relationships between brands and consumers. This form of interactivity represents a hybrid model of communication, advocating for active consumer participation. Consequently, it endows brands with a formidable competitive edge (Bezjian-Avery et al., 1998; Varadarajan et al., 2010). This means that understanding how customers perceive interactivity is crucial, which will be discussed in the next section.

2.3.3 Perceived Interactivity

The previous section discussed the various degrees of interactivity between technologies (Bolton and Saxena-Iyer, 2009). However, a device's interactive capabilities may not always align with consumer perceptions. In some instances, a device exhibiting high levels of interactivity from a technical standpoint might unnoticed by users. Conversely, consumers may perceive a device as highly interactive, despite its limited technical interactive features. This discrepancy is exemplified in cases where a device or system, though technically sophisticated in terms of interactivity from a computational or software design viewpoint, may appear less interactive to the end-user (Johnson, G.J. et al., 2006).

From the perspective of perception, 'perceived interactivity' is characterised as the degree to which individuals discern their experiences as mirroring

interpersonal interaction and feel the presence of a 'social other' (Thorson and Rodgers, 2006). This study utilises this definition, prioritising the assessment of user perceptions and experiences of technological features over the mere availability of these features (Sohn, 2011). Liu and Shrum (2002) were the first to measure three dimensions of interactivity: active control, two-way communication, and synchronicity. Building on these theories, Zhao and Lu (2012) posit that perceived interactivity in the context of micro-blogging services comprises four dimensions: control, playfulness, connectedness, and responsiveness. Control is paramount, denoting the degree to which individuals perceive mastery over their interactions, both with the technology and fellow users, closely aligning with the theory of planned behaviour; it incorporates aspects such as self-efficacy and ease of use (Ajzen, 2002). Playfulness transcends mere technological attributes, embodying the joy and entertainment derived from social engagement within these digital platforms. Connectedness delves into the emotional realm, capturing the essence of shared experiences and the communal bond felt amongst users. Lastly, responsiveness is integral, highlighting the promptness and frequency of interactions, thereby sustaining a dynamic and engaging communication flow. Collectively, these dimensions address not only the functional and technological aspects but also embrace the social and emotional intricacies inherent in online communication platforms, offering a holistic understanding of perceived interactivity. Song, J.H. and Zinkhan (2008) align with this theory, arguing that the quality of the message or content is a fundamental determinant in shaping positive perceptions of interactivity. They illustrate this with an example where website content that allows for personalisation fosters a sense of interactivity. The manner in which consumers engage with and manipulate this content can give rise to a perception of active control.

Numerous studies have identified a range of factors contributing to the perceived interactivity of technological products. An immediately noticeable aspect of such products is their physicality. The physical form of a technological product, including its placement and positioning, can enhance perceptions of interactivity (Walter et al., 2014). This insight is particularly relevant in retail spaces, where the arrangement and design elements play a crucial role in engaging customers. While users may be deeply engaged with the content of

interactive technology, the importance of the surrounding physical environment cannot be understated. The presence of nearby decorative elements and visual merchandising, including merchandise and signage, not only elevates the perceived quality of the content but also plays a crucial role in fostering an immersive experiential atmosphere (Siregar and Kent, 2019).

The perception of interactivity plays a pivotal role as it constitutes the initial factor that may encourage individuals to utilise a technological product. Elevated levels of perceived interactivity can not only spark interest in usage but also shape users' perceptions of the content and system during their interactions. Prioritising the consideration of the surrounding environment before incorporating interactive technology into a retail setting is essential. Adopting such a comprehensive approach to design is instrumental in ensuring profound and significant engagement with the product, thereby cultivating a memorable and favourable consumer experience.

The integration of interactive technology within retail fashion environments might be evident or even prominent to certain consumers. Yet, this technological presence does not invariably encourage customer engagement or approachability. This reticence could stem from a perception that such technology merely constitutes rudimentary digital displays, which repetitively showcase videos or motion graphics (Müller et al., 2012). This phenomenon, where individuals fail to acknowledge or pay attention to a visible display, is termed 'display blindness' (Müller et al., 2011). This concept - where customers fail to notice or engage with visible displays - was a critical factor in shaping questions about the effectiveness of interactive installations and how stores can avoid overloading customers with too much technology, thereby diminishing its impact. Display blindness can be mitigated by carefully considering the design of the position and nearby area. Visitors should be able to connect with and feel immersed in the physical elements, enhancing the display's vividness and making it more perceivable to consumers.

2.4 Fashion Customers And Technology

2.4.1 Customer Engagement And Technology

Global technological advancement has heightened businesses' awareness of the significance of customer engagement (Brodie et al., 2011). Van Doorn et al. (2010) characterise customer engagement as the behavioural expressions of customers directed towards a brand or firm by customers, going beyond mere purchase actions and fuelled by underlying motivations. Hollebeek, L. (2011) and Hollebeek, L.D. et al. (2014) conceptualise engagement as a two-way communication between the customer and the brand, fostering an interactive relationship. Expanding this concept, Imtiaz et al. (2019) view customer engagement as an emotional connection between firms and their customers, rooted in communication and mutual contribution.

The framework developed by Pansari and Kumar (2017) sheds light on the key drivers of consumer engagement. It is structured as follows: (1) an exploration of the concept of customer engagement, highlighting its primary elements of direct and indirect contribution; (2) identification of precursors to engagement, specifically satisfaction and emotion, and the dynamics that govern the interaction between these precursors and customer engagement; and (3) an analysis of the outcomes resulting from customer engagement. Their model also accounts for both tangible benefits (products or services purchased) and intangible benefits (experiences and satisfaction) that consumers gain from engaging with a brand. Additionally, Pansari and Kumar (2017) illustrate that direct contributions encompass customer purchases and subsequent recommendations (Kumar, Vita et al., 2010), while indirect contributions involve referrals to new customers, leading to new feedback and suggestions, and participation in social media dialogues for product or service reviews, offering valuable insights (Kumar, Vineet, 2013).

From the previous research, customer engagement encapsulates a range of experiences, interactions, and connections between customers and entities such as brands, websites, activities, and fellow consumers (Mollen and Wilson, 2010). Engagement with brands occurs through both offline and online channels. When consumers interact with a company, they expect to be recognised and serviced promptly, regardless of the specific channels they are using (Hyken, 2018).

In a physical retail environment, customers experience a curated interaction with retailers, often in a somewhat predetermined manner (Pine and Gilmore, 2013). Cox et al. (2005) suggest that shopping in retail stores can be a pleasurable experience, providing sensory experiences not achievable through online shopping. From a business perspective, engaging with a brand is crucial for promoting products or services and amplifying word-of-mouth recommendations (Lin et al., 2017).

Online brand community communication can yield tangible benefits for brands and vendors, often eliciting emotional responses from customers (Hsu, 2017). Hyken (2018) notes that customer communication with companies has evolved significantly in recent times. The internet serves as a potent platform for customer interaction, with numerous brands actively engaging on social media platforms like Facebook and Twitter (So et al., 2016). Ather et al. (2018) observe that social media has emerged as a primary avenue for people worldwide to express themselves and interact with others. The increasing trend of consumers using platforms such as Twitter, Facebook, and Instagram to share their experiences with brands, conveying their opinions and attitudes towards them (Seifert and Kwon, 2020). Bilal et al. (2014) argue that the use of online platforms significantly influences consumer purchasing decisions, as these platforms provide insights into various companies and their offerings. Analogous to offline engagement, online engagement plays a vital role in shaping the overall customer experience.

The primary differences between offline and online customer engagement lie in the nature and extent of customer involvement in brand interactions, and the degree of customer autonomy in the engagement process (Algharabat et al., 2020). According to Hollebeek, L.D. et al. (2014), in offline settings, customers may dedicate more time and effort to brand interactions, yet possess limited control over the engagement process compared to online environments. Conversely, online platforms provide a wider scope for customer engagement with brands and enhanced control over the engagement process, though typically, customers invest less time and effort in these interactions. Interactive technology thus holds the potential to blend the advantages of both offline and online customer engagement by delivering a cohesive and integrated experience. For instance, such technology can offer personalised and

interactive customer experiences, support social sharing, and facilitate peer feedback.

Technological platforms play a significant role in fostering real-time connections between fashion houses, clothing brands, and their customers (Ahmad et al., 2015). These platforms, particularly social media channels, enhance communication with consumers, positively influencing their purchasing decisions and providing insights into shopping trends. Barhemmati and Ahmad (2015) note that while some customers prioritise price or quality, others are attracted to brands that effectively engage through technological means, valuing both virtual and physical customer interactions. The adept use of modern technologies not only facilitates greater customer involvement in value co-creation but also allows companies to better meet customer needs and requirements in a timely and precise manner. Therefore, it is important to offer online shopping experiences in a familiar and accessible environment (Büttner and Göritz, 2008).

2.4.2 Omnichannel And In-store Behaviour

Previous sections have discussed how interactive technology integrated into the physical retail environment should account for not only ease of use but also the enjoyment aspect, to provide a distinctive experience for customers (Wang et al., 2023c). Therefore, retail design must address both the utilitarian and hedonic needs of customers (Rogers et al., 2002).

Consumer shopping behaviour is influenced by a blend of utilitarian and hedonic motivations (Babin et al., 1994; Longoni and Cian, 2022). Within the realm of fashion, Scarpi (2006) observes that consumers driven by hedonic impulses tend to shop more frequently and spend more than those motivated by utilitarian factors. Hedonic consumption is characterised by the pursuit of multisensory experiences, fantasies, and emotional arousal, including the enjoyment derived from product use and experience (Hirschman and Holbrook, 1982; Arnold and Reynolds, 2012; Wu and Holsapple, 2014). McCormick et al. (2014) suggest that browsing predominantly caters to hedonic values. Historically, however, shopping has been primarily viewed through a utilitarian lens, as a rational process (Kang and Park‐Poaps, 2010). Utilitarian

motivations are linked to enhancing the efficiency of shopping activities (Pookulangara et al., 2011), focusing on the task-oriented and rational aspects of consumer behaviour (Hirschman and Holbrook, 1982; Babin et al., 1994).

The decision to migrate between shopping channels can also be influenced by both hedonic and utilitarian factors (Pookulangara et al., 2011) . Online channels cater to both cognitive (utilitarian) and aesthetic (hedonic) shopping needs, offering functional product and pricing information alongside entertainment and engagement opportunities (Childers et al., 2001). Conversely, physical stores satisfy the tactile needs of consumers, an aspect crucial to the shopping experience (Pookulangara et al., 2011). Multichannel retailing thus provides avenues for both utilitarian and hedonic engagement (Kwon and Jain, 2009; Kokku, 2021). The degree of hedonic and utilitarian experiences encountered by a consumer is influenced by their engagement in cross-channel shopping (Chen et al., 2020). Indeed, multichannel shoppers represent a significant segment for categories of products that fulfil hedonic needs (Melero et al., 2016). In the context of cross-channel shopping, interactive technology, like SMFT in the retail store, enhances the experience on both fronts (Wang et al., 2023c). The hedonic aspects are amplified through engaging, personalised, and socially interactive experiences, while the utilitarian aspects are served through convenience, efficiency, and streamlined processes. This dual enhancement encourages consumers to seamlessly switch between channels, enjoying the benefits of each, leading to a more comprehensive and satisfying shopping experience.

An increasing number of fashion consumers are becoming adept at digital interaction, skilfully navigating various devices and platforms (Blázquez, 2014). However, despite their digital fluency, they continue to utilise traditional channels, notably brick-and-mortar stores (Herhausen et al., 2015; Pauwels and Neslin, 2015). It is observed that consumers do not adhere to a fixed pattern of channel usage; rather, they employ channels in a simultaneous and interchangeable manner (Blázquez, 2014; Verhoef et al., 2015), leading to unpredictable patterns in channel shifting. This unpredictability underscores the need for fashion brands to focus not solely on one channel but to integrate various channels cohesively. Notably, consumers who are adept and frequent users of technology tend to harbour heightened expectations of such

consistency across channels, indicating the importance of incorporating technology within physical stores (Newman and Foxall, 2003; Kent, A. et al., 2018). In response, fashion retailers have begun to integrate interactive technology within their stores, aligning more closely with consumer expectations and behaviour. This in-store technology enables consumers to engage in typical online activities, including browsing, reviewing, and e-commerce (Kent, A. et al., 2018). The introduction of technology within the store environment significantly influences consumer behaviour in terms of how they search for, compare, and select products, fostering a novel mode of interaction with both the brand and its products (Pantano and Naccarato, 2010; Wang et al., 2023c).

However, predicting consumer patterns in the use of in-store technology remains a challenging task, as does discerning the specific technological needs of consumers. In certain instances, despite the availability of in-store technology, consumers appear to prefer utilising their personal mobile phones (Lazaris et al., 2015). This preference may stem from their familiarity with these devices, a factor contributing to their reluctance to embrace store-provided technology (Lazaris et al., 2015). Burberry is a case that efficiently addresses this problem, the brand collaborates mini program launched in social media. By using their smartphone to scan the QR code on the tag of the clothes in their store, customers could explore more information about the products.

Additionally, there is a perception among consumers that technology necessitates a learning curve and adaptation period (Burke, 2002; McCormick et al., 2014). While younger demographics may exhibit a greater willingness to engage with new technology, the general consensus is that it can be perceived as complex (Burke, 2002). This presents a challenge for the development of more user-friendly in-store technological solutions (Bonetti et al., 2018).

Predominantly, consumers employ digital technology to gather detailed product information and to compare prices across various categories. However, the final purchase decision is often made in physical stores after directly experiencing the products (Burke, 2002; Mintel, 2023a). This behaviour aligns with the concept of showrooming, where consumers visit brick-and-mortar stores to physically interact with products before purchasing them online (Gao, F. et al., 2022). However, in more recent developments, while consumers continue to

engage in similar activities, they now have the capability to conduct both the search and purchase processes using in-store technology (Lazaris et al., 2015). Traditionally, online purchases were completed outside of physical stores, but the advent of in-store technology has made it possible for consumers to finalise transactions within the store premises instantaneously. This offers consumers the flexibility to choose between traditional payment at tills or through online transactions facilitated by in-store technological systems (Lazaris et al., 2015). Additionally, interactive technology also creates a more immersive and enjoyable shopping experience by providing engaging, personalised, and socially interactive experiences (Wang et al., 2023c). It is emphasised that despite its apparent utilitarian foundation, it is argued that the decision-making process in shopping can be rendered more enjoyable, captivating, and entertaining through the utilisation of in-store technology. Concurrently, numerous studies have highlighted the experiential aspect of fashion shopping, suggesting that experiential value can be achieved irrespective of the underlying motivation (Mathwick et al., 2001; Mathwick et al., 2002).

Retail design is a comprehensive and multifaceted discipline that transcends traditional interior design, blending aesthetic appeal with practical retail operations. It requires an understanding of consumer behaviour, marketing, and brand development, integrating both material and immaterial elements to create engaging environments (Song, J., 2010; Christiaans, HHCM and Almendra, 2012). With a growing focus on omnichannel approaches, retail design also involves the integration of digital technologies and online platforms, ensuring customers have seamless physical and digital engagement with a brand. Interactive technology plays a crucial role in fostering the relationship between customers and brands by engaging more with the brand and its messaging within a multiple-channel environment (Bonetti and Perry, 2017; Siregar and Kent, 2019).

This study focuses on the role of interactive technology in retail design. In this context, it is crucial to understand what interactive technology brings to customer experiences, how customers engage with interactive technology and its influence on the relationship between brands and customers. The field of retail design is still relatively new, and the frameworks for retail design are mostly derived from an educational perspective (Christiaans, Henri, 2016;

CLAES et al., 2017). Therefore, after careful consideration, the approaches used for analysing experience with technology by McCarthy and Wright (2004), combined with the holistic view of measuring customer engagement based on Hollebeek, L.D. and Chen (2014) and Vivek et al. (2014) are considered in this study. These frameworks are discussed in the next subsection.

2.5 Theoretical Frameworks

In their influential work "Technology as Experience," McCarthy and Wright (2004) propose a paradigm in which technology is not merely a tool for utilisation but an integral component of our daily lives. They argue that experiences are co-constructed phenomena, emerging not only from human agency but also from the objects and environments with which we interact. Consequently, these experiences are the result of a dynamic interplay between the individual and technological entities. During this interaction, the device and its underlying system become collaborative agents in the process of experience creation, intertwining with a person's subjective knowledge and perceptions to create a unique experiential realm. Therefore, it is essential to consider the psychological state of customers engaging with technology, which includes cognitive, emotional, and behavioural dimensions. This state is referred to as 'customer engagement' (Brodie et al., 2011; Hollebeek, L.D. and Chen, 2014; Braun, C. et al., 2017). The current study specifically conceptualises this as arising from collaborative and engaging experiences with a brand, facilitated by interactive technologies in-store.

Over recent decades, the importance of experiences derived from, and most notably during interactions with, technology has been increasingly emphasised by numerous researchers (Hassenzahl and Tractinsky, 2006; Siregar and Kent, 2019; Wang et al., 2023c). McCarthy and Wright (2004) highlight that the essence of 'felt-life' experiences is central to technological interactions. These interactions evoke a heightened state of perception in individuals, potentially enhancing the quality of the resultant experience. Fundamentally, technology should facilitate activities and relationships that enrich user experiences (Shneiderman, 2002). As a consequence, technology can and should be designed by incorporating aspects of the human psychological state and behaviour.

To comprehensively understand the role of interactive technology, it is beneficial to amalgamate frameworks of technology experience with dimensions of customer engagement. To aid subsequent research in examining interactions with technology, McCarthy and Wright (2004) developed the 'Four Threads of Experience' framework, comprising sensual, emotional, compositional, and spatio-temporal dimensions. This framework does not aim to define or categorise aspects of experience. Instead, it presents conceptual tools intended to facilitate a more nuanced understanding of technology as an experiential entity. In the meantime, for measuring customer engagement facilitated by interactive technologies, frameworks from Hollebeek, L.D. and Chen (2014) and Vivek et al. (2014) are instrumental. These frameworks encompass 'conscious attention', 'cognitive engagement', 'affective engagement', and 'enthused participation'. The following discussion delves into these frameworks in greater detail.

2.5.1 Four Threads of Experience

The sensual thread pertains to the direct sensory engagement with technology and its contextual environment. Such experiences primarily originate from tangible real-world objects and settings, encompassing the physical embodiment of the technology and its surrounding milieu. Human sensory faculties are pivotal in the process of sensorial perception. Visual (sight), auditory (sound), and tactile (touch) senses are, arguably, the most frequently engaged when interacting with technology. The human sensory experience involves more than a single sense (Augustin et al., 2009). McCarthy and Wright (2004) highlight the primacy of visual perception in experiencing technology, while also recognising the value of a holistic sensory approach. They suggest that relying solely on senses like sound or smell offers limited perception. Conversely, Spence et al. (2014) stress the importance of a multi-sensory experience, not prioritising the visual but advocating for the integrated use of all senses to enrich the experience. This multi-sensory engagement leads to emotional responses, linking closely to the next aspect of their framework.

The emotional thread, as the second element of the framework, is about valuing technology based on personal needs and desires. Emotions, often directed towards people, objects, or situations, interlink closely with the sensual thread.

As Wright et al. (2008) note, emotions quickly arise from initial perceptions and colour the experience. The emotional dynamic changes throughout the technology interaction, influenced by sensory perceptions and evolving in tandem. This interaction ends with a defining emotion, critical for memorising the experience. For example, a playful feeling from using SMFT (Wang et al., 2023c) can create a positive memory, unless overridden by frustration due to usability issues. Rather than being just an outcome, the emotional thread is a composite of moment-specific emotions that form a memorable overall emotion, intertwining with other threads and highlighting crucial feelings for the experience's memorability.

The compositional thread, the third aspect, deals with constructing a narrative and making sense of an experience, forming a coherent story with defined beginnings and endings. McCarthy and Wright (2004) compare this to experiencing a painting, where initial viewing, appreciation of elements like colour and texture, and final impressions form a complete narrative. Applied to interactive technology, this begins with the first visual engagement, continues through interactions with its interface (involving colours, text, and layout), and ends with the user's departure. This thread is intricately linked with the sensual and emotional threads. Visual perception is crucial for narrative understanding, starting from the first glance at the technology and its interface. Emotional responses, which can be immediate and varied, accompany this process. Additional sensory experiences, such as touch and sound, also contribute. The aesthetic experience, as described by McCarthy and Wright (2004), is central to this thread, enabling individuals to 'frame' their experience, differentiating it from everyday experiences. While the start and end of an interaction are typically clear, in cases where the technology does not fully engage, the boundaries of the experience may become less distinct.

The spatio-temporal thread addresses the influence of space and time on experiences, emphasising their context dependence. McCarthy and Wright (2004) note that experiences are unique to a particular person in a particular situation at a particular time. While they often use 'space' and 'place' interchangeably, a distinction may be more apt: 'space' refers to a physical area, while 'place' encompasses abstract meanings or values attached to a location, both crucial in shaping experiences (Akpan et al., 2013). Consider a

shopping mall: its 'space' is the physical structure, whereas 'place' is the subjective value it holds—be it leisure, social connection, or a work environment. This illustrates the interlinked yet distinct nature of space and place (Harrison and Dourish, 1996). The spatio-temporal thread also highlights how personal and public spaces affect interactions. Using a mobile phone in a private bedroom versus public transport offers comfort, but the context alters the interaction experience (Marshall et al., 2011). Similarly, the physical and temporal aspects of a fashion store influence how one engages with technology within that environment.

2.5.2 Measuring Customer Engagement

Conscious attention to customer engagement, as outlined by Vivek et al. (2014) , refers to the focus a customer actively directs towards collaborating with a company. This concept aligns with Hollebeek, L. (2011) engagement dimensions. The importance of attention as a key component of engagement is highlighted in various studies, with Rothbard (2001) defining it as sustained focus and involvement in work. So et al. (2014) argue that attention is an intangible resource that customers varyingly allocate, with highly engaged individuals focusing more intensely on the subject of engagement. Kahn (1992) associates such engagement with being attentive and focused in one's role, emphasising attention's relevance in professional engagement. Marketing theories also validate attention as a crucial aspect of customer engagement. Regulatory engagement theory views engagement as continuous attention, where shifting focus away leads to reduced engagement (Higgins and Scholer, 2009). Vivek (2009) connects this with conscious participation in brand engagement, suggesting that an engaged customer actively seeks brand-related information.

Cognitive engagement involves a customer's active mental participation in interactions with a company, both in and beyond transactional contexts (Vivek et al., 2012). This engagement type encourages consumers to think deeply about a company's practices, influenced by their natural inclination towards cognitive activities. Halaszovich and Nel (2017) highlight the role of cognition in processing and utilising information, with Hollebeek, L.D. and Chen (2014) linking it to the customer's level of brand-related thinking during interactions.

This concept is exemplified in digital contexts, such as social media, where platforms like Facebook fan pages can enhance cognitive engagement by serving as knowledge sources (Halaszovich and Nel, 2017). It emphasises the potential of integrating interactive technologies, including social media platforms, in physical stores to enhance cognitive engagement.

Affective engagement involves a customer's positive emotional response to a brand during interactions (Hollebeek, L.D. and Chen, 2014). This type of engagement reflects emotions towards a company and its processes (Vivek et al., 2012). Brand effect, as Chaudhuri and Holbrook (2001) define, is a brand's ability to evoke positive emotions in consumers. This emotional response is influenced by the brand experience (Halaszovich and Nel, 2017) and encompasses positive thoughts and attitudes towards the brand. Moreover, customers with strong brand affection are more receptive to brand communications, enhancing customer-brand relationships (Halaszovich and Nel, 2017).

Enthusiastic participation denotes the degree of customer involvement in the creation or delivery of services (Dabholkar, 2014). creating mutually beneficial collaborations between customers and firms (Vivek et al., 2012). It embodies a customer's eagerness and focus in engagement activities (Vivek, 2009). In academic discussions, enthusiasm in both work and customer engagement is linked to positive emotions, including feelings of value, eagerness, motivation, and satisfaction (Schaufeli and Bakker, 2004; Salanova et al., 2005). Unlike satisfaction, which is a general assessment of service performance based on past experiences (Johnson, M.D. and Fornell, 1991), enthusiasm is characterised by a deep sense of joy (Bloch, 1986) and is indicative of a dynamic, active state. Engaged customers at a brand level are marked by strong feelings of anticipation and enthusiasm, essential indicators of customer engagement with a brand (So et al., 2014).

2.6 Gap Identification And Research Questions

2.6.1 Research Gap

The review of existing literature indicates a disconnect between the traditional emphasis on physical space in retail design and the emerging omnichannel

approach to retail (Christiaans, Henri, 2016; Quartier et al., 2020). Integrating digital channels within retail spaces is of paramount importance. The interactive nature of these channels empowers consumers by granting them control and the ability to select desired information (McCormick and Livett, 2012; Koo, 2016). Additionally, digital channels, coupled with the Internet, provide efficient access to extensive information (Verhoef et al., 2015), which underpins the growing consumer preference for digital interaction experiences in-store.

The elements of a physical store can significantly enhance the visitor experience, leading to positive outcomes (Kotler, 1973; Clarke et al., 2012; Crewe, 2016). A key benefit of a physical store is the provision of a multi-sensory experience for customers (Song, J., 2010; Spence et al., 2014). Incorporating interactive technology into these elements further amplifies this experience (Clarke et al., 2012; Petit et al., 2019). The inclusion of technology not only imbues the store with a contemporary atmosphere but also offers digital interaction opportunities for users (Dennis et al., 2014; Perry, P. et al., 2019; Wang et al., 2023c).

Numerous fashion brands are now incorporating interactive technologies to offer digital experiences within their physical stores (Alexander and Alvarado, 2017; Wang et al., 2023c). These technologies in physical fashion outlets are designed to not only satisfy the growing consumer appetite for digital engagement but also to facilitate interactive communication and foster relationships with customers (Armstrong and Rutter, 2017; Wang et al., 2023c). Consumers engaging with these technologies can simultaneously interact with digital content and immerse themselves in the physical aspects of the store (Alexander and Alvarado, 2017). Consequently, the integration of interactive technology into physical retail environments is posited to significantly enhance the consumer experience and customer engagement.

Several studies have established that interactive technology enhances the consumer experience in stores, thereby enriching the overall experience (Dennis et al., 2014; Alexander and Alvarado, 2017; Siregar and Kent, 2019). However, these studies predominantly focus on the impact of interactive technology on consumers and the value it creates for them. The augmentation of experience through interactive technology is rooted in the perception-action

process during the interaction (McCarthy and Wright, 2004; Wright et al., 2018). This process defines the user's perception of the technology and their subsequent actions and reactions to it (Wright and McCarthy, 2010; Jantzen, 2013).

The centrality of interaction experience underscores the need for further research in this domain. A more profound comprehension of the interaction experience and customer engagement with interactive technologies could provide valuable insights for the design and enhancement of their integration in fashion retail environments. This pursuit aligns with the objective of this research, which is to explore the role of interactive technology in the retail design of fashion stores. Existing studies primarily focus on the implementation of interactive technology in fashion stores (Bonetti and Perry, 2017; Kent, A. et al., 2018; Siregar and Kent, 2019); the precursors to its use (Huang and Hsu Liu, 2014) , or the impacts of the technology (Dennis et al., 2014) , rather than its role. Moreover, these studies have neglected the significance of the wider implications on customer engagement, particularly in terms of interactive and enjoyment-based engagement with brands. Research exploring customer engagement within technological contexts has predominantly been confined to online technologies and social media platforms (Hollebeek, L.D. et al., 2014; Hughes et al., 2019; Algharabat et al., 2020). As the digital revolution continues to facilitate a closer integration among customers, brands, and technology, there remains a scarcity of research dedicated to examining this convergence within the realm of in-store interactive technology (Kent, A. et al., 2016; Zha et al., 2022). Consequently, there is a gap in understanding how customers interact with interactive technology in physical retail environments and how such interactions may contribute to enhancing customer brand engagement. Understanding the role of interactive technology from a holistic point of view in retail design is crucial. This highlights a notable gap in the literature and underscores the imperative to delve deeper into this subject area.

2.6.2 Research Questions

The relationship between humans and technology is increasingly intimate, characterised by an interaction experience comprising perception, action, and knowledge. This experience, as outlined by McCarthy and Wright (2004),

follows a narrative structure with a beginning, middle, and end, allowing it to be detailed and recounted due to its overlapping nature (Forlizzi and Battarbee, 2004; Hansen and Mossberg, 2013). Consequently, such experiences are often termed “peak experiences” (McCarthy and Wright, 2004). The designation of “peak” in the context of technological interaction refers to moments eliciting the most intense emotional and reactive responses from users (Blythe and Hassenzahl, 2018). These moments are marked by heightened physical responses, as stimuli are more fully absorbed, leaving a lasting imprint in one's memory (McCarthy and Wright, 2004). Hence, peak experiences are central to interactions with technology, elevating the user to a heightened state of perception, and potentially enhancing the overall quality of the experience (Wright and McCarthy, 2010; Wright et al., 2018).

Technologies act as conduits for these experiences, shaping but not embodying the influence they exert on human emotions, thoughts, and behaviours (McCarthy and Wright, 2004; Hassenzahl, 2010). This demonstrates the importance of understanding interactions with interactive technology from a holistic, efficient, and experiential perspective. However, research into technology integration in physical retail store remains relatively limited and underexplored, especially for the research that focus on interactive technology in fashion stores. This rationale leads to the generation of research question one (RQ1):

RQ1 How do customers interact with interactive technology in fashion stores?

Prior studies indicate that the incorporation of interactive technology within fashion retail environments can significantly enhance the consumer experience (Huang and Hsu Liu, 2014; Poncin and Mimoun, 2014; Siregar and Kent, 2019). This enhancement is attributed to the dual sensory engagement offered to consumers: a direct, immersive experience of the store's physical environment complemented by the digital, interactive experiences afforded by the integrated technological features. However, these studies have tended to neglect the broader implications for customer brand engagement, particularly in terms of interactive and pleasure-driven engagement with the brand. The literature identifies two principal benefits of customer participation in services: utilitarian and hedonic (Dabholkar, 1996). Retail shopping generates both utilitarian and

hedonic values: the former pertains to the efficient acquisition of products, while the latter is associated with emotional experiences such as excitement and enjoyment (Babin et al., 1994). It is suggested that interactive technology like Smart Mirror Fashion Technology (SMFT) can strike a balance between the utilitarian and hedonic facets of shopping by offering customers a convenient and pleasurable means to try on clothes and explore fashion choices (Wang et al., 2023c). Despite the diverse applications of SMFT in physical retail stores, the potential of SMFT to enhance customer interaction and foster deeper engagement with fashion brands in the retail context remains an area ripe for exploration. This constructs research question two (RQ2):

RQ2 How might interactive technology change the way customers engage with the brand?

Retail design is a bridge between brands and customers. Existing research highlights that interactive technology in retail design significantly contributes to the physical store's atmosphere, consequently affecting customer emotions, intentions, and behaviours towards the store, its offerings, or its brand through their perceived experiences (Dennis et al., 2012; Ballantine et al., 2015). Furthermore, it serves as an instrumental tool in enhancing and augmenting the consumer experience (Huang and Hsu Liu, 2014; Siregar and Kent, 2019). Additionally, interactive technology is pivotal in nurturing the relationship between customers and brands, particularly by deepening engagement with the brand and its messaging within a multi-channel context (Bonetti and Perry, 2017; Wang et al., 2023c). However, there appears to be a lack of literature that offers a holistic view focusing on the role of interactive technology in retail design. Addressing this gap can provide valuable insights for practice, guiding retail designers in integrating interactive technology into retail spaces. Consequently, research question three (RQ3) has been formulated:

RQ3 What is the role of interactive technology in retail design?

2.7 Chapter Summary

The discipline of retail design is undergoing a transformative shift, driven by the integration of interactive technology. This shift is not merely aesthetic but is deeply rooted in consumer behaviour, marketing strategies, and brand

development. Retail design amalgamates practical functionality with creative design to cultivate engaging consumer environments (Song, J., 2010; Christiaans, HHCM and Almendra, 2012). This integration becomes even more crucial with the advent of omnichannel approaches, where the seamless blend of digital and physical experiences is paramount (Bonetti and Perry, 2017; Siregar and Kent, 2019).

To understand retail design in a holistic view, it is crucial to understand customers experience with technology as well as consider their psychological states and behaviours. McCarthy and Wright (2004) approach provides a lens through which the qualitative aspects of customer interactions with technology can be understood. Additionally, the models proposed by Hollebeek, L.D. and Chen (2014) and (Vivek et al., 2014) offer a comprehensive view of measuring customer engagement that helps to understand how interactive technology is reshaping customer interactions and brand engagement in the fashion retail sector. Together, they offer a robust theoretical foundation to explore and provide insights into both the nature of customer-technology interactions and their impact on customer engagement with the brand in the context of retail design.

Gaps identified in the existing literature have illuminated areas of inquiry critical to accomplishing the aims of this research and meeting one of its key objectives. Consequently, the following research questions have been formulated:

RQ1: How do customers interact with interactive technology in fashion stores?

This question delves into the nuances of customer behaviour and interaction patterns within technologically augmented retail environments.

RQ2: How might interactive technology change the way customers engage with the brand?

This explores the transformative potential of interactive technology in altering traditional customer-brand engagement models.

RQ3: What is the role of interactive technology in retail design?

This question seeks to understand the strategic significance of interactive technology in the broader context of retail design.

The first research question examines the dynamics of customer interaction with technology, such as digital fitting rooms or interactive displays, and how these interactions contribute to the overall shopping experience. The second question extends this inquiry to the realm of customer-brand relationships, investigating how technology can transform these interactions, potentially leading to enhanced brand loyalty and engagement. The third question aims to critical role of interactive technology in reshaping the landscape of fashion retail design and promises significant insights into the future of retail design.

The next chapter is a research methodology in which the plan and implementation of research design, methods and analysis are presented.

Chapter 3 Research Methodology

3.1 Introduction

This thesis aim of this research was to explore the role of interactive technology in retail design, specifically in fashion retail stores. Therefore, an in-depth case study methodology was conducted. This chapter begins with a discussion of the philosophy of this research, followed by a description of the research design and why the methods have been employed. In the following section, the data collection process is outlined including the ways of collecting data and the types of data collected. In the final section, the ethical issues of the research design are discussed.

3.2 Research Philosophy

It is important for researchers to identify their research philosophy, as the system can guide them to shape the research questions and select the most appropriate methods, research strategy, data collection techniques and the way of analysis (Saunders, M. et al., 2007). The research philosophy includes ontology, epistemology and methodology which can underpin the research methods and research strategies (Saunders, M.N. et al., 2015). As a result, the following sections will discuss the ontology, epistemology, and research approach as well as the adopted research philosophy and research approaches of this present study.

3.2.1 Ontology

Ontology refers to the researchers' perceptions of what constitutes facts, impacting the kind of knowledge that researchers want to explore and the approach that the researchers consciously adopt to discover the social truths (David and Sutton, 2004; Saunders, M. et al., 2007). There are several principal types of ontology, with two opposite ends of the spectrum being 'realism' and 'relativism'. The realist holds the view that one truth exists and can be discovered using objective measurements (King et al., 2018). On the other hand, relativist takes the exact opposite views of realists. They believe in multiple versions of reality which depend on different cultural and social frames

that can shape people's experience and views (King et al., 2018). In other words, reality is created by how people see things, it evolves and changes depending on personal experiences.

3.2.2 Epistemology

Epistemology is a branch of philosophy which relates to the possibilities, scope, nature, sources and limitations of knowledge in a certain field of study (Lewis-Beck et al., 2003; Klein, 2005; Dudovskiy, 2016). Epistemology can help to identify the nature of research questions, as well as the most appropriate methodology and methods that can address these research questions (Hammond and Wellington, 2012). Within the social sciences, there are multiple branches of epistemology, including but not limited to positivism and interpretivism.

Positivism suggests that the world is objectively real and can be directly observed and measured (Brophy, 2016). Researchers who use a positivist approach believe that they stand in a neutral position and observe the object without affecting it. Therefore, according to positivism, researchers test their hypotheses by using rigorous scientific methods like deductive reasoning. The aim is to develop and translate results into general laws to explain specific phenomena. Thus, the research findings are considered as objective facts that underpin the truths (Gray, 2013).

On the other hand, interpretivism, also called constructionism, takes the opposite view from positivism. Interpretivists believe that reality is complex and socially constructed, but not objectively determined (Husserl, 1965; Blaikie and Priest, 2019). The interpretivist approach emphasises human volition and social interaction to reflect human needs and interests rather than universal laws that are suitable for everybody (Della Porta and Keating, 2008; Hammond and Wellington, 2012). As a result, the interpretivist approach focuses on explaining social phenomena through the eyes and understanding of whom is involved (Brophy, 2016). Interpretivism is generally used to provide a detailed description of the specific social environment, processes or relationships to create a new and richer understanding and interpretation of the social world (King et al., 2018). In this research, the use of qualitative interviews is consistent with the

lens of interpretivism, as this research focused on understanding individual viewpoints relating to specific experiences.

3.3 Research Approach

Induction (theory derived from data) and deduction (theory-guided data) are research approaches and forms that are used in all social research (Layder, 1998). When researchers adopt an inductive approach to reasoning, they allow the data to lead to the emergence of empirical generalisations and theoretical statements. As a result, researchers who use the inductive approach look for patterns within the data and subsequently develop theories to explain these patterns (Miller and Brewer, 2003). Through this approach, qualitative data can be gathered to uncover diverse perspectives on the phenomenon being studied (Easterby-Smith et al., 2012).

In comparison, the deductive approach tends to begin with the specific concepts or rules, and then lead to the data that need to be collected to examine whether the raw data can support the relevant concepts or rules (Reichertz, 2013; Yin, 2015). Overall, deduction emphasises causality and focuses on using specific data to test or confirm hypotheses derived from existing concepts.

3.4 Adopted Research Philosophy and Research Approach

The ontology, epistemology and methodology should be explored in the prior stage, and they are closely related and tend to emerge together, thus, they should not be viewed individually (King et al., 2018). Figure 3.1 shows the adopted research philosophy and research approach in this present study, detailing the philosophical stances that inform the research methodology.

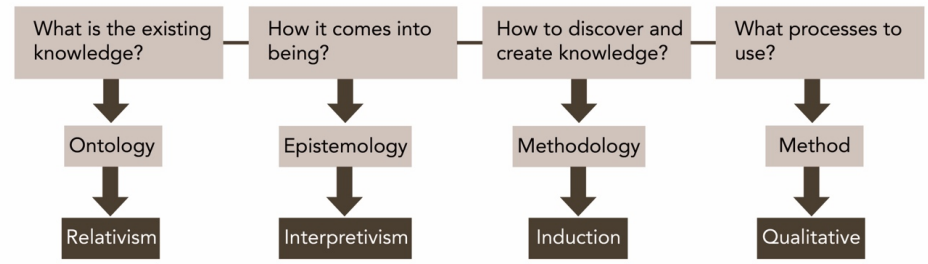

Figure 3.1 The Adopted Research Philosophy and Research Approach

As seen in Figure 3.1, the ontological stance for this research coincides with relativism, where meanings and concepts are derived from different people's experiences and views. This is linked with interpretivism, which is the epistemological approach adopted by this study. Interpretivism focuses on observing and describing social phenomena through human feeling, experience and understanding. Moreover, these views can be presented as evidence and interpreted to build theory and knowledge. This present research focuses on: 1) exploring the factors influencing the customers experience and brand experience in the physical retail environment; and 2) investigating the role and effectiveness of interactive technology in retail design. The concepts can be derived and constructed through the observation and expression as human interactions are the crucial part of customers experience and brand experience within physical retail design and retail environment context. In order to achieve the research objectives, this study adopts an inductive approach to progress the broader and richer theories from the result of the data analysis by observational cases. By following an inductive approach, this study determines: 1) the factors that improve customer experience and brand experience in the physical retail environment, and 2) the role of interactive technology as well as its effectiveness in retail design were largely discovered through the analysis of the data. Consistent with the inductive approach, this research uses qualitative research methods that will be discussed in detail in 3.5 section.

3.5 Research Design

Research design is the logical sequence that links empirical data with the initial research objectives and final conclusions of the research.

The objectives of the present research are:

1. To evaluate what technology has been used to enhance customer shopping experiences and engagement in the physical retail environments
2. To consider the implications of how the technology might influence the future of retailing, particularly in delivering immersive and engaging brand experiences.
3. To establish a theory for comprehending the role of interactive technology within fashion retail environments and develop a theory in retail design that specifies how interactive technology can be effectively incorporated.

The first objective was achieved by the literature review, which aims to classify the definition of 'interactive technology within retail settings', and to identify the characteristics and the factors that influence customer shopping experiences and engagement in a retail environment. The second and third objectives were addressed via a comparative case study approach, designed to identify exemplary cases of interactive technology used within retail settings. These cases enabled the author to examine the role of interactive technology within specific retail settings, evaluate the impact on customer retail experience and determine how such tools might enhance the brand experience.

3.6 Comparative Case Study Approach

The following sections will describe the rationale for the case study approach, sampling selection, data collection and analysis.

3.6.1 Introduction

A case study approach was chosen in this thesis as the case study is considered as a powerful tool for exploratory research areas (Glaser and Strauss, 1967; Eisenhardt, 1989). According to Yin (2009), case study methodology is perceived as an appropriate research methodology in that the objective of the research was explanatory, and the study was looking at the contemporary phenomenon to address the research questions that begin with 'how' and 'why'. The researchers who adopted the case study approach normally have little or no control over the behaviour of the participants.

Eisenhardt (1989) demonstrated that the case study is a suitable approach to study new research areas or research areas that seem to have deficient

existing theory. As a result, in this present study, the research area is almost novel, since there are only a few previous research studies on the role of interactive technology in retail design in the fashion industry. Thus, the case study method was considered suitable for this thesis to build a new theory from a very limited research area.

In addition, the case study approach benefits from providing in-depth assessment and rich event descriptions (McDonald, 1985). In this research, in-depth assessment and rich event descriptions are essential to clearly understand the expert view of the role of interactive technology in stores. Since any influences of using the interactive technology in the stores are counted as an event in this thesis, the expert who was directly involved in the designing processes of the store would produce a detailed description of their experience and views about the event. Moreover, participants provide a deep assessment of the influences of using interactive technology at stores.

3.6.2 Sampling Selection

Sampling selection is important to qualitative research as the process of selecting samples has deep influence on the data collected and ultimately the quality of the research (Boyatzis, 1998). The aim of the sampling selection is to reflect variedness or stance in relation to the research area (King et al., 2018). Patton (1990) suggest that cases that contain rich information would be considered as the prior choice.

In the first stage of sampling selection, the list of potential cases was identified by the secondary research. For example, finding sources by reading related articles and searching through social media. At the same time, the experts who were involved in the project of the cases were added to the list. The purposive and convenience sampling approach was considered for the selection of participants (Yin, 2015). During the second stage of the data selection, two key dimensions were classified to cover the diversity of the phenomenon in the current study and reflect the situation of the physical stores that incorporate interactive technology, especially in the fashion industry. These two dimensions are: (1) the way stores/brands were applying the interactive technology (setting in the retail stores or applying at the activities), and (2) the type of the

interactive technology that the retailers used. These two dimensions guide the process of sampling selection to produce the appropriate cases. The selected cases captured a sufficient range of positionings within the fashion industry to be theoretically interesting and, crucially, were considered appropriate for addressing the research questions and research objectives.

3.6.2.1 Brief Description of the Five Cases

Five cases were selected in the final sample (see table 3.1) including Canada Goose 'The Journey' flagship store, Burberry 'The Space' flagship store, Ralph Lauren flagship store, Uniqlo flagship store and Lily flagship store. These selected cases represent the most prominent brands that have implemented interactive technology within the retail sector. There are different types and levels of interactive technologies integrated into these retail flagship stores. Thus, it is meaningful to explore and discover the similarities and dissimilarities in influences and implications of interactive technology in these retail stores. Different tiers of fashion brands were chosen, ranging from premium brands to mass brands, to observe the evolution of the whole fashion industry. Participants who have domain expertise were contacted and interviewed between December 2020 to March 2021.

Participants possessing domain expertise were identified and interviewed, with network analysis tools employed to visually map the connections among team members and identify those most closely involved in the projects. To ensure a comprehensive representation of roles within each case, the focus was placed on engaging designers, planners, and technicians responsible for the development and execution of each project. Additionally, store managers and retail staff, who possessed firsthand experience of the retail experiences within the stores, were included in the interviews. Regarding sample size, each case had a varied number of respondents due to the different sizes of the design teams. For example, the cases for Uniqlo and Lily were involved with smaller design teams. Similarly, Ralph Lauren's flagship store was closed during the data gathering phase and therefore limited the number of design participants to two. While Canada Goose 'The Journey' flagship store was considered as a new retail store which opened in 2019, and the design team was much larger. As for the Burberry 'The Space' case, the design team consisted of a large

group of people in China. Meanwhile, the staff working in that store were introduced by one of the participants, and it was considered a valuable opportunity to gather their views, as they could easily observe customers' activities and behaviours. In this case, the largest number of participants were involved in the Burberry case. In addition, these five cases covered premium brands (Canada Goose, Burberry and Ralph Lauren) and less prestigious brands (Uniqlo and Lily) to have a broader view of the fashion industry and to test the wider applicability. Furthermore, the cases were derived from North America – Canada and the United States and Asia – China, which provided a broader viewpoint from different nations to gain an international understanding and assisted the researcher in obtaining richer data.

Table 3-1 Five Cases Under Study

Brand	Duration	Participants	Type	Location
Canada Goose	One month	7	Flagship Store	Sherway Gardens, 25 The West Mall Store 3060, Etobicoke, ON M9C 1B8, Canada
Burberry	Two month	10	Flagship Store	First Floor, Nanshan District, 2888 Keyuan South Road, Shengzhen, Guangdong Province, 518067, China
Lily	Two weeks	5	Flagship Store	1-2F, Zhongchuang Building, No. 819 Nanjing West Road, Shanghai Province, 200041, China
Ralph Lauren	One month	2	Flagship Store	711 5th Ave, New York NY 10022, United States
Uniqlo	One month	3	Flagship Store	F1-F3, Shenzhen MixC World, No. 9668, Shennan Avenue, Dachong Community, Yuehai Street, Nanshan District, Shenzhen City, Guangdong Province, 518053, China

3.6.3 Data Collection

Data on each case were collected from the following sources:

(1) In-depth semi-structured interviews with respondents who were directly involved in the project. Due to the pandemic and local distance, the interviews were conducted with online meetings using Microsoft Teams. The interviews lasted between 20 to 80 minutes with open questions concerning the topics covered. Although it was expected that the interviews would last for 20 minutes, some of the participants were quite generous to offer long interviews that covered the topic in greater depth. The interview questions were tailored to the specific interviewee, although the interviews generally covered the same topics. The interview questions guide is displayed in the Appendix. Different types of cases led to slightly different interview questions, as each case integrated different kinds of interactive technology. In the initial interviews, general questions were formulated to understand the background of the brand and the project. In the next step, more precise interview questions were formulated. The interviews were conducted consistent with the guide, and open-ended questions were used to encourage a guided but deep narrative that placed limited restrictions and information on the participants. Notes were taken during the interviews. With the permission of the participants, interviews were audio recorded to maintain accuracy and transcribed in the language of the interviewee (Chinese or English) before being translated to English to facilitate analysis. Full transcripts were developed, where meaning may have been lost in the translation, the analyses referred back to the original language which provided the researcher with contextual information that was drawn on in the analysis. All interviews followed the interview protocol to promote data dependability and to ensure that the acquired data addressed the research questions. These protocols were altered as case studies were performed based on the researcher's growing knowledge of the phenomena under-investigated (Yin, 2009). The researcher also used follow-up emails and/or telephone conversations to clarify any queries on the data collected.

(2) Documentary evidence played a supplement role from other sources (Yin, 2015). To adhere to local distancing restrictions during the pandemic, extensive reviews of pictures and videos from selected stores were conducted in lieu of field studies. This approach was adopted to ensure compliance with safety protocols while still gathering valuable insights into the store environment. However, the absence of direct interaction with the in-store environment may hinder the depth of understanding obtained from traditional field studies. Nuances such as customer interactions, staff behaviour, and ambient conditions are more challenging to discern solely through visual media. Additionally, the reliability of data gathered from pictures and videos may be influenced by factors such as camera angles, lighting conditions, and editing techniques, potentially introducing biases into the analysis. To mitigate these limitations, researcher employed rigorous methodologies and cross-referenced multiple sources of visual data to ensure the validity and reliability of their findings. Furthermore, supplementary measures, such as interviews with store personnel to gather information about customer behaviour and responses, were conducted to provide additional context and insights.

3.6.4 Data Analysis

For qualitative data thematic analysis category and key quotes were performed, in order to gain an interpretive understanding (Ridder, 2014; Silverman, 2015). In thematic analysis, the collected data is organised under different categories and grouped by similar theories, concepts and responses at the same time. The researchers can gain valuable insights into the field of the research by the emergence of unique themes from the data. Thematic review also helps to identify and clarify inconsistencies, so that researchers can make continuous progress in theoretical development (Agarwal et al., 2021). Guest et al. (2011) suggested that thematic analysis is a useful analysis technique for acquiring the complexities of meaning within a textual data set. Due to the exploratory nature of the qualitative interviews, thematic analysis seemed to draw emerging themes most appropriately.

This research adopts a six-phase analysis method, as proposed by Braun, V. and Clarke (2006), which included data familiarisation, initial code generation,

theme identification, theme review, theme definition and naming, and report production.

(1) Data Familiarisation

The process begins with data familiarisation. Each interview recording is transcribed into a separate document, and familiarity with the transcripts is gained by re-reading and noting ideas throughout. Relevant repeated words and phrases are identified and summarised after re-reading the transcripts (Braun, V. and Clarke, 2006). Drawing themes from the literature, as suggested by Boyatzis (1998), is also a common method. A theoretical approach and prior analysis of the literature help to sensitise the analyst to subtler data characteristics (Tuckett, 2005). Initial themes are drawn from the reviewed literature and applied to the context of interactive technology, including the retail environment, visitors' responses, and experiences.

(2) Initial Code Generation

Categorisation stage involves classifying or labelling units of data (Yin, 2015). Initial codes are obtained from the literature, and these codes are further developed from the interview data. The interactive coding process is continuous, with all aspects, including coding processes, code choices, emerging concepts, and initial ideas, recorded as analysis memos (Saldaña, 2021). This phase ensures a systematic approach to identifying and labelling significant data segments.

(3) Theme Identification

This stage refers to collapsing codes into higher-level conceptual constructs and developing them into meaningful and emergent themes, sub-themes, configurations, or explanations (Miles and Huberman, 1994). Some codes are merged and elevated to a higher conceptual level, forming broader categories, themes, or concepts (Yin, 2015). For example, codes sharing similar meanings are classified into one interpretive code (King et al., 2018). This process reduces the vast quantity of data into a smaller number of analytical units.

(4) Theme Review

The comparison step explores differences and similarities across various cases, defining overarching themes that distinguish significant concepts in the analysis. Summaries are further explored to identify connections and distinctions between different cases. This allows researchers to determine whether various cases share similar features and can be regarded as instances of the same general type (Yin, 2015). The review ensures the themes accurately reflect the data and the research context.

(5) Theme Definition and Naming

During this stage, the essence of each theme is clearly defined and named. Detailed analyses are written for each theme, identifying what aspect of the data each theme captures. Themes are defined in a way that accurately reflects their core meanings, ensuring clarity and coherence in the thematic structure. This step ensures that the themes are well-defined and ready to be presented in the final report.

(6) Report Production

The final stage involves integrating the data to build theory, as theory is discovered and developed closely related to thorough data analysis (Strauss, 1987). The relationships between conceptual constructs are established, creating theoretical frameworks. The report production stage presents the thematic analysis coherently and persuasively, including vivid and compelling data extracts to illustrate the themes. The final report connects the analysis with existing literature or theoretical frameworks, providing a comprehensive understanding of the research findings.

3.7 Research Ethics

Research ethics are important to research studies, as it can ensure fairness and social and moral principles, Ethics relate to the moral of human behaviour in social research, ethics and morality. It refers to the moral deliberation, decision and responsibility of scientists throughout the study process in connection with social research.

In this study, participants were identified via case study materials (i.e. press releases in the public domain) that name the designers and managers involved

in the production of the projects. The participants were contacted via email in the first instance. The email explained the purpose of the study and why they have been approached for participation. The participants were asked if they were willing to participate in an online interview to discuss their involvement in a specific design project. Willing participants were emailed an information sheet giving further background to the study and asking for their consent to: (1) participate in an online recorded interview; (2) agree to the use of their data for academic research purposes; and (3) agree to the storage of their anonymised data in encrypted format. All participants were informed that they were able to withdraw from the study at any time, before, during or after the data had been collected. Participants were informed that they were able to communicate their withdrawal verbally during the interview or via email after the interview. Participants who were willing to proceed were asked to sign an informed consent sheet before the data capturing began.

3.8 Chapter Summary

This chapter covered the description of the research methodology in this study. Explained why the philosophy in this research and the research design are appropriate to the project at the outset. With the discussion about why the methods have been employed. Then data collection process is outlined including the ways of collecting data and the types of data collected. Finally, the data analysis process as well as the ethical issues of the research are discussed.

Chapter 4 Results of The Main Study

4.1 Introduction

The ensuing chapter unveils the findings derived from a series of five case studies, illustrating the diverse applications of interactive technology within a broad spectrum of fashion industries. These studies engendered discussions encompassing three central issues. Initially, attention was directed toward uncovering the pivotal factors within the cases that had not been encompassed by the existing conceptual framework. Subsequently, emphasis was placed on constructing a more comprehensive elucidation of the key elements influencing the physical retail environment. Finally, an exploration was undertaken to fathom the role and impact of interactive technology in shaping the physical retail landscape.

The findings have been systematically categorised into three overarching themes and their corresponding sub-themes, which are delineated in Table 6.1 below:

Table 4-1 Three Key Themes and Sub-Themes

Theme Numbers	Themes
1	**Different types of impact of interactive technologies on experiential dimensions**
1.1	Typology of interactive technologies in case 1-5
1.2	Interactive technology enhances sensory and emotional experience
1.3	Interactive technology emphasises intellectual experience
1.4	Interactive technology optimises the behavioural experience
2	**The role of interactive technology in designing and developing retail experiences**
2.1	Interactive technology personalises the retail experience
2.2	Interactive technology imitates certain environment
2.3	Interactive technology enables flexibility
2.4	Interactive technology enhances customer engagement
2.5	Interactive technology encourages experience sharing
3	**Influences of interactive technology on retail design – transforming the role of physical stores**
3.1	Elevation of the physical store as a platform for conveying brand stories
3.2	Integration of gamification within the physical store environment
3.3	Channel integration in the retail store

These overarching themes encapsulate a comprehensive array of findings, each offering distinct insights into the interplay between interactive technology and the intricacies of conceptualising and cultivating brand experiences within the fashion retail milieu. Examined individually across five distinct cases, these themes shed light on both convergent and divergent observations within these contexts. To methodically present and interlink these findings within the framework of the five cases, subsequent chapters are structured to offer a detailed exposition.

The selection of cases was deliberate, driven by their potential to provide comprehensive insights into the aforementioned theoretical inquiries that underpinned the sample. In a fashion landscape characterised by the

distinctions of luxury and fast fashion, each with unique brand representations (Mrad et al., 2020), cases were chosen to ensure broader applicability. The study examined both premium (luxury) and fast-fashion brands to explore a spectrum of possibilities. Three representative cases of premium brands were scrutinised: Canada Goose's 'The Journey' flagship store, Burberry's 'The Space' flagship store, and Ralph Lauren's flagship store. In contrast, the less prestigious brands, Lily flagship store and Uniqlo flagship store were also included.

The chapter commences with a concise introduction of each case utilising a narrative approach (Yin, 2009), offering essential background information and insights into each brand and its chosen retail establishment, thus contextualising the ensuing results. Due to the pandemic constraints, field studies were unfeasible, necessitating the collection of images and videos from websites to provide a vivid representation of the store environment. This approach effectively situates the data within its context and underscores differences from traditional retail settings.

Subsequently, the chapter delves into a discussion of the key themes distilled from the data. These findings are framed around the three theoretical points of interest: (1) the evolving retail landscape, (2) the purpose of interactive technology, and (3) the impact of interactive technology utilisation. While the key themes exhibit slight variations across cases, they are explored in conjunction with emerging theoretical explanations stemming from the data.

Two frameworks were utilised as guides to analyze the primary research data: (1) McCarthy and Wright (2004)’s the four threads of experience framework, consisting ‘sensual’, ‘emotional’, ‘compositional’ and ‘spatio-temporal’. (2) Hollebeek, L.D. and Chen (2014) and Vivek et al. (2014) frameworks to measure customer engagement, encompass 'conscious attention', 'cognitive engagement', 'affective engagement', and 'enthused participation'. This analysis lays the groundwork for formulating an explanatory framework concerning the role of interactive technology in the retail environment. This theoretical development is situated within the existing literature to ascertain the original contribution of this research. The concluding chapter provides an in-depth exposition of this innovative contribution.

4.2 Premium Brands

A premium brand is defined as a high-quality product imbued with robust brand equity, positioning it within the upper echelon of a technological segment, encompassing aspects of image and price (Rosengarten and Stürmer, 2005; Nieroda et al., 2018). These brands stand apart due to their palpable materiality, bestowing a distinct experiential dimension upon their offerings, coupled with their emblematic significance as indicators of affluence and refined preferences (Joy et al., 2014). Rosengarten and Stürmer (2005) elucidates the distinct attributes of a premium brand across three dimensions: firstly, the "Design" dimension pertains to the specific design elements that customers anticipate within a premium brand; secondly, the "Innovation" dimension underscores the necessity for the innovative facets of a brand to harmonise with the brand's core identity and legacy; and thirdly, the "Sector" dimension pertains to the notable capacity for differentiation within a particular industry.

4.2.1 Case 1: Canada Goose - ‘The Journey’ Flagship Store

4.2.1.1 Background of The Case

Canada Goose stands as a prominent figure in the realm of luxury fashion, with a history dating back nearly sixty years in Toronto. The company's inception aimed to address the exigent need for the warmest and most resilient winter coats capable of withstanding the harshest wintry conditions. 'The Journey,' an establishment inaugurated on December 5, 2019, serves as Canada Goose's flagship store in Toronto. This retail space has been ingeniously crafted to epitomise innovation and experiential consumer engagement, thereby affording patrons a profound, multisensory, brand-centric encounter. Specifically, the store meticulously recreates subzero environs and outdoor landscapes, thus facilitating the transportation of patrons to remote settings, wherein they can astutely appraise the attributes and advantages of the attire on offer. Noteworthy is the fact that diverging from conventional shopping expeditions, small cohorts of customers (comprising six individuals at a time) are expertly ushered into an immersive involvement.

In the realisation of this visionary venture, Canada Goose entered into collaborations with industry luminaries, namely IDEO for concept design, Digital

Kitchen for audio-visual design and integration, and Gensler for design management, retail design, and implementation. The synergistic efforts of these entities culminated in the creation of a fourfold itinerary, meticulously curated to bestow customers with a multisensory odyssey within the retail sphere.

The journey commences as customers traverse 'The Crevasse,' an interactive floor that adeptly simulates the auditory experience of walking upon fracturing ice, further enhancing the illusion of traversing wintry terrains. Notably, patrons are also enveloped in the redolence reminiscent of the Canadian outdoors, eliciting an olfactory engagement that perfectly complements the overall sensory expedition (refer to Figure 4.1).

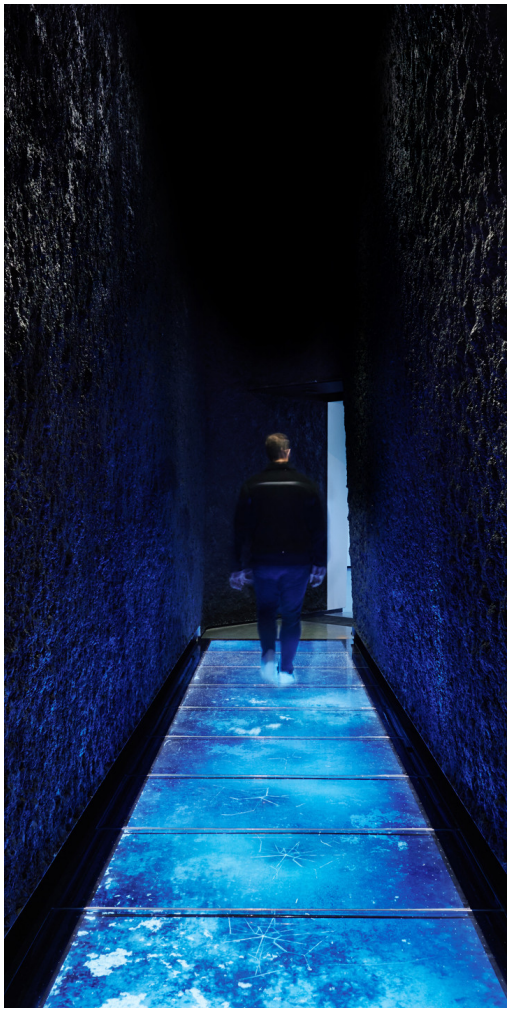

Figure 4.1 Canada Goose – The Crevasse (https://www.canadagoose.com/uk/en/sherway-gardens-toronto-store.html)

Emerging from The Crevasse, patrons transition into The Elements Room, an immersive domain characterised by enveloping digital projections and

harmonised soundscapes that transport them into the variegated seasonal landscapes of British Columbia (refer to Figure 4.2). Concurrently, within this spatial domain, a curated assortment of limited-edition Canada Goose coats is prominently displayed. These exhibits are endowed with touch-sensitive sensors that, when engaged, unfurl the narratives underpinning the showcased products. Through interactive manipulation of digital 'hotspots,' visitors can meticulously explore discrete functions and attributes inherent to the featured parkas (see Figure 4.3).

Figure 4.2 Canada Goose – The Elements Room
(https://www.canadagoose.com/uk/en/sherway-gardens-toronto-store.html)

Figure 4.3 Canada Goose – The Elements Room digital 'hotspots'
(https://www.canadagoose.com/uk/en/sherway-gardens-toronto-store.html)

The apex of the experiential voyage is encapsulated within the Cold Room—a focal point that beckons customers to scrutinise the famed warmth of the Canada Goose coats within the simulated ambience of a frigid -12°C. Authentic snow enhances the immersive authenticity, while panoramic floor-to-ceiling depictions of Arctic panoramas further amplify the ambience. This space also interlaces a narrative thread woven around two distinct short films: one spotlighting the Iditarod luminary, Lance Mackey, and the other showcasing the multifaceted artist and activist, Sarain Fox (refer to Figure 4.4).

Figure 4.4 Canada Goose – The Cold Room
(https://www.canadagoose.com/uk/en/sherway-gardens-toronto-store.html)

Upon exiting the Cold Room, visitors transition to the retail section, where brand ambassadors are present to address inquiries and assist with navigating the product inventory via digital kiosks. Upon completing their transactions, customers will depart without physical goods but will carry the expectation that their newly acquired coat or accessory will be delivered to their residence that evening, or the following day if the purchase is made after 2 p.m.

4.2.1.2 Different Types of Impact of Interactive Technology On Experiential Dimensions

Typology of interactive technology

Interactive floor: Light Detection and Ranging powered floor (LIDAR-powered floor)
Kiosks
Digital ‘hotspots’: touch-based sensors

Table 6.1 Canada Goose – The list of the types of the interactive technology

Interactive technology enhances sensory and emotional experience

The integration of interactive technology is reshaping the landscape of retail, elevating the in-store experience and store layout to unprecedented levels. Experts unanimously acknowledge that physical retail stores possess a unique

advantage in their ability to engage customers through sight, sound, smell, and touch, thus offering a multi-sensory encounter that sets them apart from their online counterparts. This unique opportunity to create immersive retail spaces is being significantly enhanced by interactive technology. Different literature argued that the presence of technology in the physical store is marginal and has weak relevance to customers (Blazquez et al., 2014; Bell et al., 2018). Experts demonstrate the importance of interactive technology that works to evoke customers' senses, especially in the fashion retail industry. As one expert articulates:

"as they said: 'see it, feel it, try it, buy it', you can physically touch the product and try it on which is very important in the fashion business ... people today crave real things, we want our customers to really feel the warmth in a Canada Goose jacket, with a similar temperature as the Arctic in the Cold Rooms. Technology helps us build such an environment and transports the viewer directly to the Arctic. Without technology, we could never achieve this" (X1)

According to the response from the expert, technology plays a crucial part in shaping the contemporary retail environment. The utilisation of visual sensory cues is pivotal in effectively engaging customers and moulding their perceptions of the sensory experience linked to a brand (Sample et al., 2020; Roggeveen et al., 2021). Respondents in the study supported this view and emphasised the significance of visual sensory cues in the shopping experience. Furthermore, they believe that interactive technology has the potential to augment these sensory cues and enhance the overall shopping experience:

"The most notable changes observable in this store differ markedly from the traditional retail setting. When entering a classic fashion store, the initial focal point typically comprises an array of garments hanging on the shelves. However, within 'The Journey,' visitors are led into an outdoor-inspired environment featuring our products. They immerse themselves in an ambience

characterised by dark blue lighting, cave-like walls, and captivating Arctic vistas. This transformation owes much to technology. Without it, the narrative would be starkly different. For instance, the incorporation of a LIDAR-powered floor adds another layer of sensory engagement. As visitors walk on the floor, they not only see the environment but also hear the subtle sounds of cracking ice, further enriching the sensory experience and rendering the entire environment more vivid and convincing." (X7)

These comments align with the literature, which emphasises that interactive technologies entertain and immerse customers, evoking a positive affective response (Fiore et al., 2005). The sense of sound is intricately linked to emotions and feelings, playing a pivotal role in ensuring that experiences are vivid and memorable. The other participant also noted:

"We have an interactive floor in the entrance aisle that simulates the sound of cracking ice underfoot when customers walk on it. We want to immerse our customers and give them the feeling of being transported directly to the Arctic" (X5).

These insights emphasise that this integration of technology goes beyond mere aesthetics. It transforms shopping from a transactional activity into an experiential journey. Customers are not just browsing products, they are partaking in an adventure. This approach is likely to leave a lasting impression on customers, making their interactions with the brand more memorable and meaningful.

Similarly, the sense of smell is related to pleasure and is closely connected to memories and emotions (Fiore et al., 2000; Sweeney and Wyber, 2002; Garlin and Owen, 2006; Goldkuhl and Styvén, 2007). Odours possess a potent evocative power, capable of inducing memories that are more emotionally charged and vivid (Gilbert, 2008; Herz, R.S., 2016). The strong connection

between the sense of smell and memory makes olfactory memories long-lasting, sharp, and specific (Herz, R., 2009). Given these unique characteristics, practitioners are motivated to utilise scents for marketing purposes, creating olfactory atmospheres that are hedonistic, nostalgic, or offer escapism (Herz, R.S., 2016). An expert informant highlighted the importance of creating a sensory experience that aligns with the brand in the store:

"Our scent strategy is employed to differentiate our brand from others, specifically by producing a sweet scent reminiscent of the Canadian outdoors. It has the power to transport customers to a different time and place, allowing them to escape the monotony of shopping. By evoking the essence of the Canadian outdoors, we reinforce our commitment to nature and authenticity. These magical moments leave a lasting impact" (X1)

This statement implies that the resonance between scent and brand creates a cohesive and holistic customer experience. A thoughtfully designed scent strategy can establish a unique brand identity and foster a strong emotional connection with customers. It engages their senses, tapping into familiarity, comfort, and sources of escapism. Consequently, customers are more inclined to associate the brand with positive experiences, developing a sense of loyalty and attachment.

Touching products can make it easier to recall the "feeling" than simply looking at them. It is thus very important for physical stores to engage consumer senses, which leads to a more emotionally driven purchase in luxury fashion retail in many cases. The sense of touch is related to information and feelings through physical and psychological interactions with the products (Citrin et al., 2003; Peck and Wiggins, 2006). Technology can further improve this "emotional" experience and build an environment that can offer the opportunity to test the function of the product. Superior performance and authenticity are strong appeals. There is no doubt that it was essential for the evoked feelings to align with a particular brand association. In the case of Canada Goose, the evoked emotions were directly linked to the functionality of the products and the

interactive technology experience enabled the features of the products to be appreciated:

“Canada Goose is a function-first brand, as the jackets are designed for people who live in the coldest places on Earth and the jacket is worth around $1000 - $2000. It is hard to convince people in a perfectly climate-controlled environment like the traditional retail stores. That is the reason why we have The Cold Room” (X4)

From this discussion, it becomes evident that brand value is significantly enhanced by allowing customers to try on clothes in an ultra-low temperature environment, reinforcing the perception of superior performance. Canada Goose leverages technology to demonstrate their confidence in the clothing's intrinsic ability to perform under extreme conditions. This underscores how interactive technology can bridge the connection between a brand and its customers, thereby increasing brand recognition, trust, and overall brand experience, ultimately fostering brand loyalty.

Interactive technology emphasises intellectual experience

The intellectual dimension encompasses the aspect of stimulating customers to think, feel, or become curious (Brakus et al., 2009). Many respondents recognised that the integration of interactive technology in 'The Journey' store has resulted in consumers having a more intellectual experience. One expert commented on the importance of making customers feel curious when they are at the entrance of the store:

"We designed this long aisle with the LIDAR-powered floor that reacts to customers' footsteps, creating the sensation of cracking ice with every step at the entrance of the store to pique the visitor's curiosity about the inside of the store, as it serves as the commencement of their adventure. This design feature establishes a unique and memorable environment, eliciting excitement and

delight as patrons interact with the floor, leading to subsequent discussions." (X2)

Another respondent also observed that the interactive floor could connote cold weather, aligning with the quality of its products, thereby fostering an intellectual understanding of the brand's values and history:

"We designed this store in alignment with the core values of the brand. For instance, the sensation of cracking ice can contribute to the narrative and emotional resonance with the brand. Buyers of Canada Goose are dedicated outdoor adventurers and cold weather workers. The interactive floor can evoke a range of emotions and feelings, such as excitement, wonder, or even nostalgia, thereby encouraging customers to delve deeper into the brand's heritage." (X3)

These findings emphasise that while the interactive floor with the cracking ice sensations primarily appeals to the senses and emotions, it can indirectly influence the intellectual experience by igniting curiosity, stimulating discussions, and enhancing overall brand engagement. It creates a distinctive and unforgettable ambience that can foster intellectual exploration and provoke meaningful conversations.

Experts have highlighted that interactive technology enhances the intellectual experience when customers engage with the digital 'hotpot' within the context of the Canada Goose coat exhibit. It provides visitors with opportunities to acquire knowledge, engage in comparisons, and make informed decisions, thereby encouraging exploration, critical thinking, and a deeper understanding of the products and brand. This, in turn, renders the visit more intellectually rewarding and memorable. As one expert articulated:

“Customers can engage with the ‘hotspots’—the touch-sensitive sensors on the coats—to access in-depth information about the showcased products. When they touch one of the ‘hotspots, 4k content pertaining to the corresponding area within the parka will be displayed on a screen adjacent to the interface. They can learn about the inspiration behind each coat's design, the manufacturing process, the materials used, and the unique features of each coat. It offers customers the opportunity to comprehend how the coats are specifically designed for extreme cold weather, the unique technologies employed, and how these features contribute to the product's performance. When individuals select their preferred coat, they are ready to try it on and test it in the extreme temperatures of the Cold Room” (X4).

This detailed knowledge enhances the intellectual aspect of the experience. Storytelling emerges as a potent tool for intellectually engaging individuals. The technology enables visitors to unravel narratives behind the showcased products. Simultaneously, the capability to manipulate digital 'hotspots' and explore discrete functions and attributes of the parkas provides an interactive learning opportunity. This hands-on exploration fosters intellectual curiosity. Furthermore, this interactive technology empowers visitors to compare different coats side by side. This comparative analysis stimulates critical thinking as visitors evaluate the merits and drawbacks of each product. Factors such as warmth, style, and functionality may be explored to make informed decisions, thereby stimulating their intellectual acumen. This approach enhances persuasion and bolsters customer confidence in their choices.

Furthermore, in the final phase of a visit to 'The Journey' store, guests can peruse the entire range of Canada Goose products with the assistance of brand ambassadors via in-store kiosks. One expert highlighted that these in-store kiosks enable customers to engage intellectually by exploring various options, comprehending distinctions between products, and making informed choices tailored to their specific requirements:

"Another notable departure from the traditional retail experience is that 'The Journey' operates as an inventory-free store. During the concluding phase of their visit, our brand ambassadors are on hand to assist guests in navigating the complete array of Canada Goose products through these kiosks. This facilitates the effortless discovery of preferred items, whether intended for various outdoor adventures or specific environmental conditions" (X5)

Interactive technology optimises the behavioural experience

The behavioural experience arises when a brand evokes various types of behaviour such as physical action. This dimension comprises bodily sensations, lifestyles, and the manner in which customers interact with brands (Jung and Soo, 2012; Bapat and Thanigan, 2016). One expert demonstrates that interactive technology equipped with touch-sensitive sensors effectively encourages visitors to actively engage with the displayed products. When visitors interact with these sensors by touching them, they trigger the unfolding of narratives and information related to the parkas. This hands-on engagement not only captures visitors' attention but also motivates them to delve into the details and stories behind each parka. Consequently, visitors are more likely to invest additional time interacting with the exhibits, thereby enhancing their overall museum experience:

“Visitors are drawn to the 'hotspots' on the parkas, each parka featuring five interactive 'hotspots.' Some visitors may engage with these hotspots sequentially, unravelling more information about each parka, while others may selectively focus on aspects that pique their interest the most. This approach provides the store *with valuable insights into the parkas that are most popular, the narratives that engage visitors the most, and the duration of time visitors allocate to each parka” (X4)*

This quotation underscores the significance of interactive technology in collecting data on visitor interactions, which can be instrumental for the brand in

comprehending visitor preferences and optimising future product displays and marketing strategies. Furthermore, it highlights the capacity of interactive technology to cater to individual preferences, enabling visitors to choose specific aspects of the parkas they wish to explore in greater depth. This level of personalisation renders the retail brand experience more relevant to each visitor, allowing them to concentrate on the facets that intrigue them the most. In essence, it empowers visitors to assume control over their experience, rendering it more immersive and enjoyable.

The other expert pointed out that interactive and immersive experiences tend to be more memorable and have the potential to leave a lasting impression on the brand and its products, which could subsequently influence future purchasing decisions or generate word-of-mouth recommendations:

"When compared to the myriad of products displayed on traditional retail store hangers, visitors are more likely to recollect their interactions with Canada Goose coats and the narratives linked to them. Consequently, visitors may exhibit a greater inclination to share their experiences or recommend the brand to others" (X5).

By encouraging customers to engage with such interactive technology, it transforms a mere product display into an immersive and memorable encounter, potentially leading to heightened interest in the brand and its products. The interactive floor also influences customer behaviour in various ways. It can immediately capture customers' attention and encourage them to engage with the space, guiding customers toward specific areas of the store and making the visit more enjoyable and memorable. Interactive technology also encourages social interaction among customers, leading to increased brand exposure and word-of-mouth marketing. These effects can be observed in the following excerpt:

"The sensation of cracking ice with every step helps to add an element of playfulness and novelty to the entrance of our store, providing more opportunities for customers to explore the store. They are attracted and are likely to interact with the floor, experimenting with different movements, gathering around the interactive area, sharing their experiences, and taking photos or videos to share on social media" (X7)

4.2.1.3 The role of interactive technology in designing and developing retail experiences

Interactive technology personalises the retail experience

One expert has demonstrated that interactive technology can customise information delivery by allowing customers to tailor their information intake to their preferences and needs, thereby making the experience more relevant and engaging:

"Rather than presenting a generic, one-size-fits-all product description, visitors can choose to delve into specific features or aspects of the coats that pique their interest the most. Customers can explore products more deeply, uncovering hidden features or details that might have otherwise gone unnoticed in a traditional retail setting" (X2).

This underscores how interactive technology empowers visitors to exercise control over the information they wish to explore. This sense of control over both information and the shopping experience can engender a feeling of empowerment among customers, granting them greater agency over their purchasing decisions. Moreover, it ensures that they receive information that aligns with their unique interests and needs. Concurrently, this interactive technology also offers significant benefits to brands, enabling them to observe customers' behaviours, such as their engagement with 'hotspots.' The data

collected by this technology can be leveraged to personalise future interactions and marketing efforts. The following excerpt highlights these concepts:

"We can amass valuable data and insights from customers when they interact with these technologies. For instance, if a substantial number of visitors invest considerable time exploring a particular style or material, it may provide the designer with insights into the next trend" (X5)

Interactive technology imitates certain environment

It has been identified that interactive technology can enhance customers' sense of connection with both products and brands. For instance, an interactive floor can serve as a distinctive and immersive marketing tool. It not only captures visitors' attention but also enables them to physically engage with the environment associated with the displayed products. This sensory experience can replicate the real-world usage of the products, allowing customers to better envision how these items would feel and perform in various scenarios. This observation is articulated by one expert, who noted:

"Canada Goose's products are engineered to endure extreme cold, making them highly sought after by outdoor enthusiasts, adventurers, and individuals residing in colder regions. Consequently, we conceived the store to immerse our customers in such an environment. The LIDAR-powered interactive floor effectively simulates the sensation of walking on cracking ice, thus establishing a memorable and immersive atmosphere that aligns with Canada Goose's brand identity, characterised by its association with cold-weather gear and winter environments" (X1).

This technology introduces a unique and engaging dimension to the presentation of products and narrative, thereby enriching the visitor's connection with the featured products and their intended utility.

Interactive technology enables flexibility

Respondents discussed the implications of interactive technology, highlighting that it empowers consumers to make informed choices based on their preferences. For instance, visitors can effortlessly compare different limited-edition Canada Goose coats by interacting with digital hotspots. This flexibility enables them to make well-informed decisions that align with their preferences, ensuring they select the most suitable coat. Customers can take their time to explore the features of the coats without feeling rushed by sales staff. They can easily access information about the coats, eliminating the need for additional online research to gather product information and narratives. This creates a more relaxed and flexible shopping environment, particularly appealing to those who prefer a self-guided experience, as noted by one expert:

"This can be particularly valuable for high-end items where customers want to be certain they are making the right choice. After interacting with the 'hotspot,' they receive comprehensive information about the parka they are interested in. This information is presented in a more engaging and relaxed manner, free from any sales pressure" (X4).

Another expert also observed that guidance from the kiosks ensures customers make informed choices, enhancing the flexibility in their decision-making process:

"Customers can receive recommendations tailored to their specific needs, whether they are shopping for extreme cold weather gear or lighter options suitable for milder climates" (X2).

Two additional experts indicated that interactive technology could enhance customer flexibility by expanding their choices, reducing frustration, and improving the efficiency and convenience of the shopping experience:

"Eliminating the need for physical inventory in the store means customers have access to the entire Canada Goose product range. They can explore various styles, sizes, and colours, allowing for greater flexibility in finding the perfect product. Customers do not need to wait for items to be retrieved from stock or be concerned about items going out of stock. This reduces wait times and minimises frustration" (X7).

Similarly, as stated in another excerpt:

"Customers do not need to carry their purchased items throughout their shopping journey*, enabling them to move more freely. This is particularly beneficial for tourists and travellers who may not have a convenient place to store bulky winter gear" (X6).*

Interactive technology enhances customer engagement

The capacity of interactive technology provides a hands-on experience, which can prove to be more engaging than perusing a brochure or listening to a salesperson. Customers can feel as though they are actively participating in discovering the product's features, potentially leading to a more profound connection with the brand. Furthermore, interactive technology has the potential to weave a compelling narrative around the products. These narratives can establish an emotional connection and foster a sense of identity with the brand, as articulated by one respondent:

"Comparatively, when contrasted with information in a brochure or conveyed by a salesperson, it can be more advantageous to entrust control to customers and allow them to explore the stories behind the products. Customers can learn about the inspiration behind the designs and the adventures of those who have worn the coats in extreme conditions. Through this engagement, a resonance can be established between customers and our brand. If something is evocative, it evokes strong feelings or memories" (X7).

Respondents have emphasised the significance of utilising interactive technology to set the store apart from its competitors. This demonstrates a commitment to innovation and providing customers with a distinctive and immersive experience. Interactive exhibits of this nature can extend the duration of customers' visits to the store. Customers are more inclined to explore and engage with the products, potentially resulting in increased brand exposure and a higher likelihood of making a purchase, as one respondent highlighted:

"Interactive exhibits create an innovative, immersive, and memorable shopping experience. Customers are more likely to recollect their visit to the store and the unique manner in which they interacted with the products, subsequently enabling them to introduce the Canada Goose brand to others. By engaging with these touch-sensitive sensors on the coats, customers can acquire a deeper comprehension of the products and the brand. This, in turn, prolongs their dwell time and enhances the learning process…The more they acquire knowledge from the brand, the higher the probability of making a purchase" (X1).

Another expert further elucidated the novelty and entertainment value that interactive technology can imbue into the customers' shopping experience. For instance, the sensation of cracking ice generated by the interactive floor is both innovative and enjoyable. It has the capacity to seize customers' attention and cultivate a sense of amusement and light-heartedness within the store,

particularly appealing to younger demographics and families. As customers engage with the floor by walking on it, they transform into active participants in the shopping experience. This form of physical interaction can prove highly captivating, as it permits customers to directly encounter the brand or product in a distinctive and memorable manner:

"When conceiving the design of the entrance to 'The Journey' store, we intended to immediately captivate visitors' attention and instil a sense of enjoyment, encouraging them to explore further within the store. The entrance serves as the prelude to the 'adventure' that awaits in this unique shopping experience. Visitors, especially younger generations and families, are more inclined to actively engage with and relish this experience" (X7).

Interactive technology encourages experience sharing

The touch-sensitive sensors, which reveal narratives about the showcased products, provide an immersive and educational experience for visitors. This rich storytelling creates a memorable and shareable experience that visitors may wish to recount to others. This newfound information is not only informative but also highly shareable. Sharing this newfound knowledge with friends or on social media platforms can position visitors as knowledgeable and informed enthusiasts, which can be a source of pride and identity sharing. This phenomenon is discernible in the provided excerpt below:

"As visitors engage with these narratives, they may discover interesting anecdotes about the design process, materials used, or the brand's history. The information they learn is more likely to spread through networks of friends via social communication" (X3).

Social media is one of the key areas that customers may want to share after engaging with interactive technology. People often share experiences that are

visually appealing, unusual, or entertaining on social media. The interactive floor creates visually captivating moments as it responds to customers' footsteps, making it highly shareable content on platforms like Instagram, TikTok, and Snapchat, further benefiting community building:

"Customers might record videos or take photos of themselves and their friends interacting with the floor, generating user-generated content that can go viral. When people have a unique experience, it becomes a talking point. Visitors are likely to discuss and share their thoughts on this unique feature, sparking conversations both within the store and on social media" (X5).

These quotes imply that interactive technology not only enhances the in-store experience but also extends its reach through customers' online sharing and recommendations. These user-generated content pieces went viral, drawing attention to the store's innovative approach. When people have unique and visually appealing experiences like these, it becomes a talking point that extends beyond the physical space. Conversations sparked within the store naturally found their way onto social media, where they continued to gain momentum.

Traditionally, retailers communicated with their customers through various touchpoints along the customer journey and different commercial channels. However, in lieu of relying solely on these traditional touchpoints, the digital revolution has ushered in the integration of new channels and environments. These include the website, e-commerce platforms, mobile applications, and social media, among others (Lemon and Verhoef, 2016; Shankar et al., 2016b; Foroudi et al., 2018; Lee, L. et al., 2018; Hoyer et al., 2020a). This shift in customer engagement practices encompasses the acceptance of using one channel as a trigger for interaction with another, often more scalable channel. For instance, prompting customers to become active social media advocates is a notable trend:

“The inclination of individuals to share their experiences, such as posting photos or short videos on social media platforms, is observed when they have memorable interactions with a brand. This phenomenon serves as a mechanism for attracting intangible customers and building connections with them. Many guests may be introduced to a brand through recommendations from friends or family or by encountering brand-related posts on social media. Some may even go to great lengths, including waiting in long queues. Some of the guests appear to regard it as a unique opportunity to experience arctic temperatures. Others seem to be more concerned with actually trying on the jackets before making a purchase, which is understandable given the high cost of Canada Goose clothing” (X2)

From the aforementioned response, it becomes evident that the redesign of the retail environment indirectly encourages customers to share their unique experiences on social media platforms. Consequently, the brand benefits from an extended reach to intangible customers. This shift in retail dynamics also implies that the communication between the brand and its customers has become more dynamic. By integrating interactive technology into the retail store and co-creating experiences with customers during their shopping journey, the brand adopts a more participatory and partnering role. Ultimately, this transformation aims to convert customers into brand advocates. Another expert shares a similar perspective:

"The transformation has blurred the boundaries between online and offline realms and has fundamentally altered the way we communicate with our customers. This shift enables us to enhance both offline word-of-mouth (WOM) and electronic word-of-mouth (e-WOM) strategies" (X5)

4.2.1.4 Influences of interactive technology on retail design – transforming the role of physical stores

Elevation of the physical store as a platform for conveying brand stories

In discussions regarding the objectives and strategies of this project, there was a suggestion that placing product sales at the forefront within a traditional brick-and-mortar store might prove ineffective in fostering deep brand engagement. This approach was viewed as less competitive compared to online retail stores. One expert elaborated on this viewpoint by asserting that physical retail establishments were in search of a novel way to redefine their function – by creating spaces that narrate the brand's stories:

"Canada Goose approached us with the idea of not building a conventional store but instead creating something unprecedented: a new retail space capable of immersing customers in the heart of the brand's narratives" (X1).

This response underscored the brand's recognition of the need to transform its retail space, differentiating it from traditional stores, with storytelling emerging as a crucial element of this transformation. Another expert expressed a similar sentiment:

"We aim to surprise customers when they enter 'The Journey' store; they will encounter a completely different layout and design. Customers will be guided through a series of spaces and experiences. This represents a significant advantage that physical stores possess over online ones" (X2).

Thus, the experts' consensus was that, under these unique circumstances, replicating functions that were already accessible through other omnichannel avenues would be wasteful. This insight had profound implications for the design of retail environments, explaining how these exemplary cases distinguished themselves not only from other channels within the brand but also from competing retail spaces. When asked about the process of designing this project, an expert responded:

“We spent several months developing the core concept of the store… allowing our customers to physically immerse themselves in the elements, with every interaction rooted in storytelling and thematic elements“ (X3)

It is evident that the design of this retail environment emphasises the creation of an 'immersive' space, intended to encourage customer interaction and engagement with the brand. The traditional primary function of retail spaces, oriented solely towards sales, has evolved in response to innovations in interactive technologies and the digital revolution, significantly shaping the retail landscape towards a brand-oriented space. This transformation permits customers to actively participate in the brand narrative, gain a deeper understanding of the brand's values and products, and cultivate emotional connections, ultimately leading to increased loyalty and advocacy. This approach turns the physical store into a dynamic platform for brand storytelling and customer engagement. A similar sentiment was expressed by another expert:

"We take pride in leading the evolution of retail to the next stage, integrating numerous technologies to create a new, vivid, and engaging retail space. It is a space for conveying brand stories, creating memories, and having fun. Essentially, it is a sensory brand experience that customers can truly feel" (X2).

This statement implies that technology enhances the memorability and meaningfulness of the customer experience. It also suggests that interactive technology can uniquely and inventively highlight products by establishing connections between people, products, and the environment. All these comments underscore the significance of technology in the retail environment, with one expert emphasising that technology serves as a means to convey the brand experience and story:

"...it is not about the specific functions or technologies used to adorn the store, but rather about the brand story that one wishes to narrate" (X5).

The recurrent use of the term "story" suggests a more "entertaining" role for consumers. Customers become actively involved in co-creating these 'stories' with the brand. Moreover, through this process, customers are able to deeply engage with the brand and create memorable experiences in the store, fostering emotional connections with the brand. This aligns with literature demonstrating that storytelling conveys brand values to customers and elicits strong emotional responses (Lundqvist et al., 2013). Additionally, this implies that the brand values the time and attention consumers invest in their brand—similar to platforms like YouTube and Facebook—potentially providing an indirect benefit through the capture of attention and the cultivation of an audience.

Channel integration in the retail store

The other significant departure from traditional retail stores is that 'The Journey' operates as an inventory-free establishment. It features two kiosks that assist customers in product searches and purchases. Once customers have identified suitable coats, these can be promptly delivered to them on the same day by a courier service. This approach emulates the online shopping scenario, yet differentiates itself from online stores by allowing customers to make purchases after a unique brand experience and physical product try-on. The interactive technology integrated into the physical store combines the advantages of both online and brick-and-mortar stores: (1) it offers convenience by enabling direct product searches and information retrieval through the kiosks, and (2) the physical store provides a space for creating memorable experiences and trying on products, enhancing customer satisfaction and reducing return rates. The digitalisation of retail platforms has profoundly influenced the role and relevance of physical retail stores over the past decade (Picot-Coupey et al., 2016; Pantano et al., 2018a). Regarding the role of interactive technology in retail stores, an expert states:

"Retail has recently recognised that the role of the physical store seamlessly aligns with the online experience. Shoppers can make online purchases and enjoy the brand experience in retail stores. Because it is not restricted by transactional limitations, it can fully embrace an exceptional consumer experience. Technology further blurs the boundaries between online and physical stores" (X1).

Consequently, the integration of interactive technology into retail stores redirects consumer focus from a product-centric to a brand-centric mindset. Investing in a brand can lead to increased engagement and ongoing transactions. Shoppers are not just buying a product from a store; they are purchasing from a trusted brand that fosters a reliable and established relationship. This finding resonates with existing academic literature and underscores the significance of physical stores within an omni-channel framework (Kent, A. et al., 2016; Hagberg et al., 2017; Pantano et al., 2018a). Employing retail design to engage customers with the brand by creating positive memories is deemed vital in orchestrating the customer journey (Blázquez, 2014; Lemon and Verhoef, 2016; Alexander and Alvarado, 2017), while interactive technology appears to have a favourable impact on the customer journey (Varadarajan et al., 2010; Blázquez, 2014). In line with other experts, respondents interviewed underscored the imperative of incorporating interactive technology into retail design to establish deep connections with the brand:

"The reason we designed our store in this manner is to forge connections with our customers, and we do not perceive online stores as threats but as opportunities. We are following a trend in retail that prioritises 'the experience' over product display" (X5).

This response further validates the theory that interactive technology contributes to channel integration, providing physical stores with renewed vitality. Moreover, it enables the transformation of the physical store from a sales-oriented space into a distinct channel dedicated to delivering an immersive and engaging brand experience that fosters high-quality customer interactions. Additionally, one expert points out that retailers are employing interactive technology as a medium to 'create experiences' and shift the retail mindset toward a more emotionally engaging brand experience:

"In the past, retailers may have treated specific experiences as mere side attractions. However, they have now become the main focus. This heralds a new approach to retail—one that designs stores around the essence of a brand itself, rather than conforming to traditional retail norms" (X3).

4.2.2 Case 2: Burberry - ‘The Space’ Flagship Store

4.2.2.1 Background of The Case

Burberry, a renowned global luxury brand with a storied history spanning over 165 years, upholds the core brand value of "Creativity Opens Space." This commitment has positioned Burberry as a pioneering leader among luxury fashion brands in the realm of technology adoption. It is worth noting, however, that Burberry's performance within the luxury sector exhibited underperformance until approximately a decade ago. A transformative shift ensued with the appointment of Angela Ahrendts as CEO, leading to a reinvigoration of the brand and a substantial upturn in its performance.

In its quest to establish a well-defined contemporary brand identity and deliver an exceptional customer experience, Burberry embarked on a comprehensive digital transformation journey. Recognising the paramount importance of appealing to millennials, Burberry astutely recognised the imperative of embracing digital channels. Through adept utilisation of social media platforms and its official website, Burberry adeptly crafted an outstanding online customer experience. Notably, Burberry emerged as one of the pioneering luxury brands

to foray into the realm of social media, effectively engaging customers in innovative ways and cultivating a robust community following, thereby augmenting brand awareness among younger demographics.

To further amalgamate digital strategies with its traditional brick-and-mortar stores and extend its technological integration within the fashion industry, Burberry forged a strategic partnership with Tencent. This collaboration culminated in the inauguration of the groundbreaking Social Retail store in Shenzhen, China, on July 31, 2020. Situated in the burgeoning tech hub of Shenzhen, this initiative was conceived to curate a more immersive and engaging shopping experience. Tencent, renowned for developing the widely-utilised social media platform WeChat in China, offers an all-encompassing ecosystem that seamlessly integrates messaging, social networking, e-commerce, and more, rendering it an integral component of daily life for many in China. While WeChat's pre-eminence primarily extends to China, its user base enjoys global reach, wielding substantial influence over social media and mobile technology trends.

Within the confines of the Social Retail store, each section is thoughtfully designed to provide a distinct and interactive encounter. The primary store encompasses an interactive storefront window, three principal sales areas (GF01, GF02, and GF03), four fitting rooms, and a Thomas's café.

Crucially, customer interaction via WeChat constitutes the cornerstone of the 'The Space' store's experience. The social retail experience revolves around a bespoke WeChat mini-program, which empowers customers to access exclusive content and personalised experiences, subsequently shareable within their social circles. This mini-program also facilitates appointment scheduling, item selection for fitting, and reservations at Thomas's café and community space. Consequently, every facet of the store is transformed into a locus of interaction and innovation.

As a unique touch, each customer is allocated an endearing character, symbolised by a charming Bambi figurine (see Figure 4.5). Customers can amass ‘social currency’ through engagement with the brand, affording them opportunities to discover new characters and attire for these personas.

Furthermore, this engagement enables customers to unlock special items on the café menu and access the digitally enhanced ‘Trench Experience’ room, allowing them to generate content for their social media profiles.

Figure 4.5 Burberry – playful animal character
(https://www.burberryplc.com/en/company/social-retail.html)

A pioneering technique implemented by Burberry centres around the effective utilisation of quick-response codes (QR codes). Customers can seamlessly scan product tag QR codes to access comprehensive product information and supplementary content, including captivating ‘product storytelling’. (see Figure 4.6).

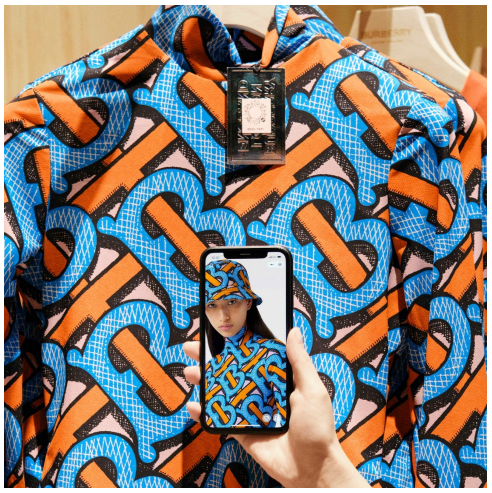

Figure 4.6 Burberry – QR code
(https://www.burberryplc.com/en/company/social-retail.html)

Notably, the store's display windows are often regarded as the initial point of contact for customers. Upon entering the store, visitors are greeted with an

interactive display that introduces them to their inaugural digital experience. This window draws inspiration from Burberry's Autumn/Winter 2020 runway show, aptly named ‘Memories’ (see Figure 4.7), and adopts a mirrored T-stage design. An array of mirrors creates an immersive space, with the mirror's image dynamically changing in response to body movements. Additionally, this window undergoes seasonal updates, seamlessly incorporating the brand's latest products and logos. This captivating window entices customers to capture unique moments, destined for sharing on their social media.

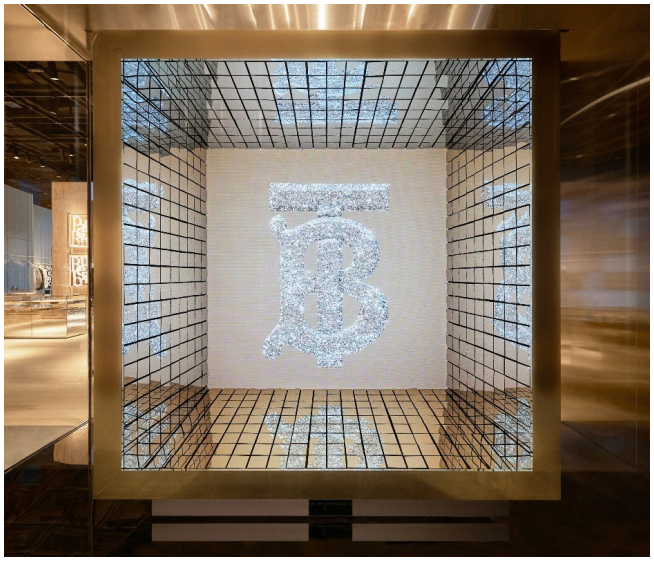

Figure 4.7 Burberry – Interactive Store Window
(https://www.burberryplc.com/en/company/social-retail.html)

For many customers, the act of taking selfies in fitting rooms has become an integral part of the shopping experience. Recognising this trend, Burberry has thoughtfully established designated selfie points within each fitting room to encourage customers to capture and share their moments with friends. Each fitting room is meticulously themed (see Figure 4.8), offering options such as the Burberry Animal Kingdom, Reflections, and the Thomas Burberry Monogram. To further enhance the customer experience, customers can utilise the WeChat mini-program to book appointments and pre-select clothing items for fitting. These chosen items are prepared in advance, streamlining the fitting process. Additionally, Burberry has curated unique music playlists for the three fitting rooms, aiming to evoke a heightened sense of immersion for customers.

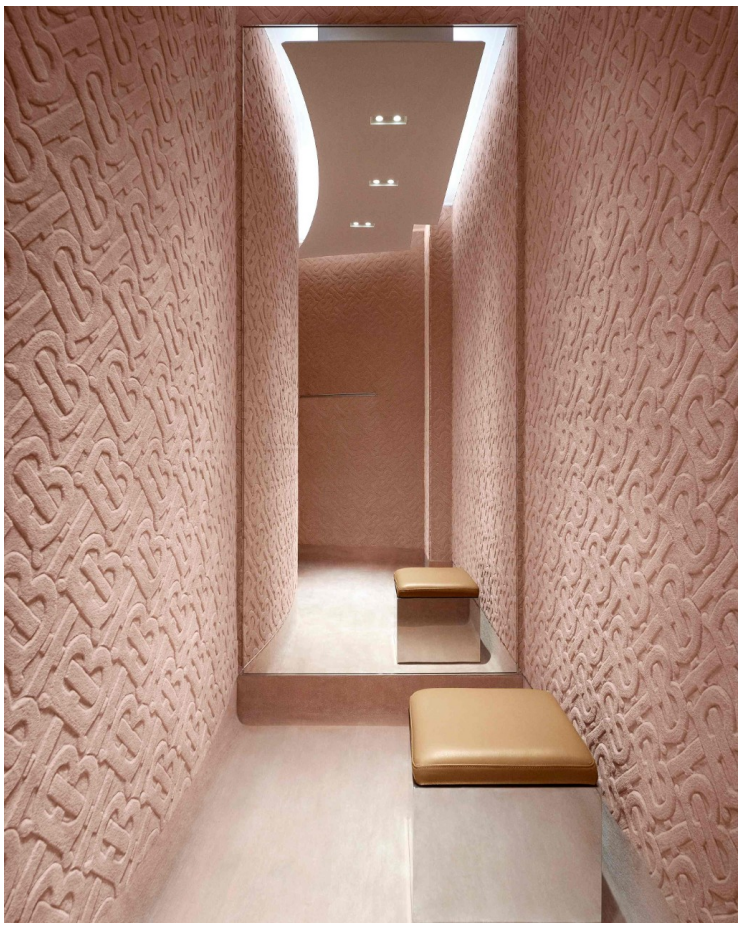

Figure 4.8 Burberry – Thomas Burberry Monogram Fitting Room (https://www.burberryplc.com/en/company/social-retail.html)

Furthermore, Burberry expanded its presence by inaugurating the second global outpost of Thomas's Café (see Figure 4.9), with the first being established in London's Regent Street flagship store. Beyond offering an array of culinary delights, Thomas's Café serves as a versatile space for various activities, workshops, live performances, and more. Customers can conveniently book or register for upcoming events through the WeChat mini-program.

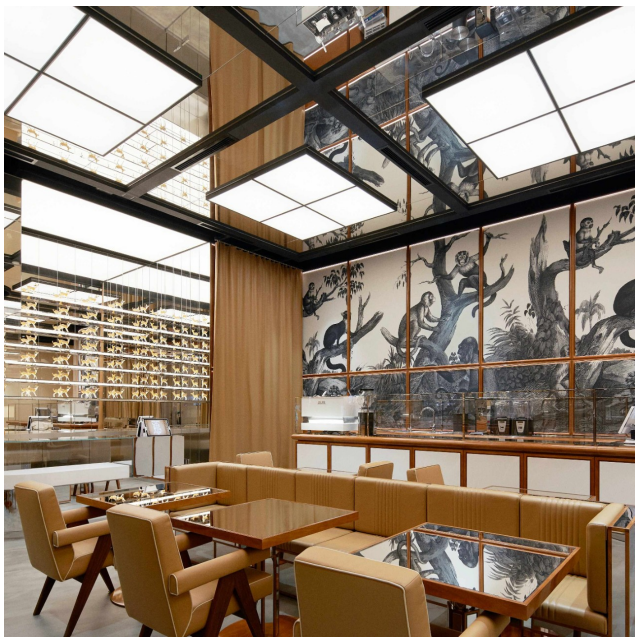

Figure 4.9 Burberry – Thomas's Café (https://www.burberryplc.com/en/company/social-retail.html)

In summary, Burberry's innovative approach to merging digital technology with traditional retail spaces has propelled it to the forefront of the luxury fashion industry. Through strategic partnerships, creative use of WeChat, and immersive in-store experiences, Burberry has successfully embraced the digital age while maintaining its legacy of luxury and sophistication.

4.2.2.2 Different types of impact of interactive technology on experiential dimensions

Typology of interactive technologies

WeChat social media mini-program: bespoke digital companion
QR codes
Interactive store window: motion-sensing technology
Customised music playlists: intelligent self-service

Interactive technology enhances sensory and emotional experience

Through the integration of a mini-program into every aspect of its store, 'The Space' strives to create a dynamic and engaging shopping environment. This strategy aims to continuously captivate customers through interactive displays, digital enhancements, and engagement opportunities. This sensory stimulation elicits a wide range of emotions, ranging from curiosity when exploring new technologies to excitement when discovering innovative features. Consequently, the store evolves into a hub of interaction and innovation, enhancing both the sensory and emotional dimensions of the shopping experience. The findings align with Lindstrom (2011) Brand Sense research, corroborates that the more favourable the relationship established between the senses, the stronger the connection between the sender and the receiver.

One distinctive element of 'The Space' store's strategy involves assigning an endearing character symbolised by a Bambi figurine to each customer. This human elements addition introduces a personal and emotional dimension to the shopping experience, as customers often develop emotional attachments to their designated characters, fostering a sense of ownership and connection. This personalisation strategy underscores the store's commitment to forging deep and emotional bonds with its clientele. This approach aids the brand in cultivating profound emotional connections with customers and fostering brand loyalty, as customers engage with and interact through this program. As one respondent aptly described it:

“it is just like an Educational Simulation Game where you adopt a digital pet that accompanies you on adventures. You can also discover and dress up new ‘pets,’ which effectively aids the brand in building emotional connections with customers. Furthermore, by enriching the digital content, the boundaries of creative interaction expand, aligning with the preferences of today’s youth and enabling customers to find the joy of exploration” (X12).

Furthermore, the mini-program introduces a gamification element through the concept of 'social currency.' Customers actively engage with the brand, accumulating rewards that unlock new characters and attire for their avatars.

This sense of progression and achievement not only engages customers on a sensory level but also triggers positive emotions linked to accomplishment and advancement. In the words of one expert:

"We encourage our customers to collect more social currency through interactions with Burberry. They will unlock additional characters and other customisable elements as they engage more with the brand. This approach continuously attracts and engages our customers, creating a virtuous circle and enhancing their overall emotional attachment to the brand" (X15).

Brand attachment and customer trust are essential elements in fostering consumer-brand relationships. Brand attachment reflects the intimacy of the relationship between customers and brands (Hwang and Lee, 2019). Through this interactive process, customers and the brand collaborate, fostering a profound sense of empathetic identification with the brand and its products. This ongoing engagement incentivizes customers to deepen their connection with the brand, enhancing customer loyalty and resulting in a more emotionally resonant shopping experience.

Moreover, respondents also discuss how the integration of interactive technology in Burberry's store display window exemplifies the potential to enhance both the sensory and emotional dimensions of the brand experience. The utilisation of interactive technology effectively captivates and immerses visitors from the moment they encounter the store's display window. As observed by one expert below:

“The store's display window holds a pivotal role as the initial point of contact for customers, shaping their first impressions and setting the tone for the entire retail experience. The mirrored T-stage design invites customers to actively participate in the brand's narrative both visually and in engaged ways. As visitors engage with the dynamic reflections that respond to their movements, a

heightened sense of engagement and curiosity ensues, creating a sensory experience infused with excitement" (X10).

The integration of mirrors and dynamic imagery in the interactive display engages multiple senses simultaneously. Beyond the visual alterations, visitors experience physical sensations of movement as they interact. This multisensory engagement induces a profound impact, evoking sensations of wonder and delight, thereby enhancing the emotional dimension of the brand experience. The other respondent complements this by noting that the interactive store window forges a connection between the physical store experience and the brand's broader creative narrative:

"A runway show serves as a brand's canvas for expressing its identity and creativity. Drawing inspiration from one of Burberry's runway shows – 'Memories,' which was a presentation of artistry, craftsmanship, and storytelling encapsulating the brand's vision and values. By infusing the store's interactive window with elements inspired by this show, Burberry contextualises the retail space within a larger narrative… the display window could change with seasonal updates, leveraging emotions, and creating a sense of continuity. This approach not only enhances the immediate experience within the store but also strengthens the long-term emotional connection between the brand and its customers" (X11).

When visitors recognise elements from the runway show, they experience a sense of continuity and belonging, enhancing the emotional dimension of their brand experience. Customers are no longer passive observers; they are invited to step into the world of 'Memories,' creating a sensory link between the runway and the store. This linkage triggers emotional responses related to fashion, artistic enjoyment, style, and luxury, thereby imbuing the brand experience with depth and sophistication. Meanwhile, the capacity to seamlessly update the content of the interactive window ensures that the experience remains fresh and

relevant. Informed customers recognise that they are engaging with the brand through seasonal updates that are relevant to daily life, which stimulates anticipation and strengthens brand loyalty over time.

Furthermore, although curated music playlists in fitting rooms may not be considered a high-tech interactive feature, curation has been identified as a potent tool for enhancing the sensory experience, particularly by engaging the customer's auditory senses (Jain and Bagdare, 2011; Spence, 2021):

"In the context of Burberry's fitting rooms, the use of carefully selected soundtracks can exert a profound influence on the customer's emotional response. When a customer hears music that resonates with them while trying on Burberry clothing, it can engender a positive emotional connection with the brand and the items they are evaluating. The choice of music is a deliberate one, designed to harmonise with the themes and aesthetics of the respective fitting rooms. For instance, soothing, classical compositions may be chosen to accompany a 'Reflections'-themed room, while more vibrant and contemporary tracks might be selected for an 'Animal Kingdom' theme. Moreover, we offer our customers the opportunity to select from a range of playlists, thereby allowing them to personalise their fitting room experience to align with their individual tastes and emotional preferences" (X16).

The strategic use of curated music playlists in fitting rooms goes beyond mere entertainment. It becomes a means for Burberry to influence customers' emotions, create memorable associations with the brand, and immerse them in a sensory journey that complements the essence of the brand and the specific collections on display. Music possesses an innate capacity to set the tone and craft a distinct ambience within the fitting room environment. By meticulously curating playlists that resonate with both the brand's image and the thematic context of the fitting rooms, Burberry can effectively immerse its customers in an experiential realm that mirrors the brand's identity and seamlessly complements the collections being showcased.

Interactive technology emphasises intellectual experience

The respondents have demonstrated that the core of 'The Space' store's brand experience is rooted in its WeChat mini-program. This mini-program facilitates appointment scheduling, thereby enhancing the intellectual aspect of the brand experience. The concept of "social currency" emerges as a pivotal element in augmenting the intellectual dimension of the brand experience.

"Customers can gain social currency when they successfully book appointments for fitting rooms and select the products they would like to try in advance through the mini-program before visiting the store. They can then use this social currency to unlock other rewards and hidden activities. This encourages customers to actively seek out hidden rewards and unique experiences" (X11).

This functionality enables customers to plan their visits, ensuring a seamless and convenient shopping experience. Moreover, the ability to select items for fitting prior to arrival empowers customers to make informed decisions. Consequently, this encourages them to engage in critical thinking about their choices, reflecting a cognitive engagement with the brand that transcends traditional shopping encounters. Simultaneously, customers accumulate social currency by engaging with the brand, which, in turn, unlocks rewards such as the discovery of new characters and attire for their personas. This gamification strategy taps into customers' innate curiosity and competitiveness, motivating them to explore various aspects of the brand. It fosters an intellectual challenge, encouraging customers to strategize and optimise their engagement to attain the most significant rewards.

Sousa (2021) contends that the type of content accessible via QR codes influences the customer experience, with informative content having a significantly greater impact on the intellectual dimension. In this study, the significance of leveraging QR codes as a strategic tool to enhance the intellectual aspect of brand experiences has been identified. Customers engage with technology, stimulating their intellectual curiosity and desire for innovation.

This, in turn, encourages them to explore the brand interactively and through technology-driven means. As one expert highlighted,

"This is the first instance of QR codes being integrated into Burberry's product swing tags. Each product is adorned with a scannable QR code, enabling customers to unlock additional content and delve into product storytelling. This content encompasses details about materials, design inspiration, care instructions, and more" (X17).

Scannable QR codes offer customers immediate access to a wealth of information regarding Burberry's products. By providing such comprehensive information, Burberry empowers customers to make informed choices, thereby elevating their intellectual engagement with the brand. Informed decision-making fosters a sense of mastery, thereby enhancing the intellectual dimension of the brand experience. Furthermore, the QR codes employed in Burberry's Shenzhen store offer exclusive content, creating a sense of privilege and exclusivity for customers. Those who access this content feel a heightened intellectual connection, as they believe they are uncovering hidden treasures not readily available to the general public. This exclusivity fosters a sense of intellectual exploration and discovery, thereby reinforcing customer loyalty and brand affinity.

Interactive technology optimises the behavioural experience

The innovative use of interactive technology was widely observed by respondents as a method for optimising the behavioural dimension of brand experience. One of the core elements in optimising the behavioural dimension was recognised and referred to as 'the facilitation of enhanced customer exploration' by X13.

"Small changes can significantly affect the overall experience; tags on products and smartphones have become commonplace in our daily lives. However, when

we integrate QR codes onto product tags and allow customers to access additional information by scanning these QR codes, they are empowered to engage in self-paced exploration during their shopping journey. Furthermore, when customers scan the QR codes, they are rewarded with social currency in the WeChat mini program, unlocking special rewards. This approach encourages customers to explore and discover more. The key point here is the facilitation of enhanced customer exploration" (X13).

Burberry's Shenzhen store exemplifies this concept by incorporating QR codes within its products, enabling customers to access supplementary content and product narratives at their discretion. This approach empowers customers to delve into the brand's story and product details, fostering curiosity and engagement. This "self-paced exploration" allows for a more customised brand experience, seamlessly aligning with modern consumer expectations. As customers earn social currency during their exploration, it creates a sense of achievement and exclusivity, further fuelling their desire to continue engaging with the brand.

4.2.2.3 The role of interactive technology in designing and developing retail design

Interactive technology personalises the retail experience

The literature has demonstrated that smart retailing technology is explicitly designed to facilitate personalisation (Roy et al., 2017; Riegger et al., 2021). Similarly, the use of interactive technology in retail design was widely observed by respondents as a method of personalising the retail experience. It was stated that the crux of personalisation lies in delivering tailored content and experiences to individual consumers:

“Burberry's approach of segmenting the store into dedicated areas, each equipped with QR codes, empowers customers to explore specific collections or seasonal products tailored to their interests. It contributes to the digital

revolution of our physical store and offers customers the freedom to choose their preferences and discover more about it" (X16).

This segmentation enhances the relevance of the in-store experience, ensuring that shoppers encounter precisely what resonates with them. QR codes introduce a digital layer of discovery to the traditional brick-and-mortar retail landscape. Customers are empowered to engage with this layer to the extent that suits their preferences. Those seeking a comprehensive understanding of a product can delve deep into the provided content, while others may opt for more superficial engagement. This flexibility enhances the inclusivity and adaptability of the shopping experience.

In addition to offering users a gaming experience, the online mini-program system plays a crucial role in collecting user preference data, with the goal of providing more refined personalised services in the future. This data-driven approach further strengthens brand loyalty, encourages repeat purchases, and builds real member assets. As one participant noted:

"The WeChat mini-program not only integrates various elements but also grants access to customer information. In some ways, it helps us anticipate our future steps" (X9).

One respondent also observed that customised music playlists in fitting rooms can greatly enhance the personalisation of the retail experience:

"We provide customers with choices by allowing them to select from a range of curated playlists. This empowers customers to choose the music that suits their mood and preferences at that particular moment. We also use customer data and feedback to curate playlists that align with the preferences of their target

audience. For example, if the majority of their customers enjoy a certain genre of music, we can include more of that genre in the playlists" (X12).

Providing options to customers increases the sense of control and personalisation. The playlists tailored from the data of customers' preferences make customers feel understood and catered to, creating a more personalised shopping environment.

Interactive technology enables flexibility

It is evident that interactive technology plays a pivotal role in alleviating friction throughout the entire shopping journey by simplifying various processes. For instance, the WeChat mini-program enables customers to effortlessly schedule appointments and select items for fitting. As articulated by an expert:

"The mini-program streamlines the appointment scheduling process, allowing customers to choose their preferred time for in-store visits. Moreover, the capability to pre-select items for fitting ensures that the merchandise aligns precisely with the shopper's preferences" (X9).

This convenience not only streamlines the customer journey but also enhances its overall enjoyment. Customers no longer find themselves grappling with the intricacies of scheduling or item selection, freeing up more of their time to fully engage with the brand's offerings. This serves as an exemplary illustration of how technology can be harnessed to elevate the mundane aspects of shopping into enjoyable interactions.

Interactive technology enhances customer engagement

A remarkable characteristic of 'The Space' store's approach is its ability to transform every facet of the store into a hub for interaction and innovation. This inclusivity ensures that customers remain engaged throughout their visit. Whether through the utilisation of WeChat mini-programs, interactive displays,

or QR codes, customers have the opportunity to accumulate social currency by engaging with these interactive technologies within the store. This approach ensures that the store consistently captivates its audience, fostering a sense of discovery and excitement. As one respondent aptly stated:

"QR codes serve as gateways to immersive customer experiences. Customers can scan these codes to access a wealth of additional content, ranging from product narratives and videos to customer reviews and social media integrations" (X9).

This level of engagement surpasses the traditional methods of signage or product displays, creating a deeper connection between customers and the brand. The introduction of an interactive layer through QR codes effectively converts shopping from a mere transactional experience into an exploratory journey. Furthermore, experts have highlighted the efficacy of the WeChat mini-program in encouraging customers to engage with the brand throughout their entire shopping journey, encompassing pre-purchase, purchase, and post-purchase stages. This comprehensive engagement facilitated by the mini-program is intrinsically linked to customer decisions and behaviour across these stages (Howard and Sheth, 1969; Neslin et al., 2006; Puccinelli et al., 2009), as cited:

"The mini-program also facilitates item selection for fitting, enabling customers to browse products in advance and create wish lists. This pre-selection process heightens the anticipation of physically interacting with the products in-store. When customers try on the selected items and make a purchase, they can earn additional social currency. Following a purchase, customers may continue to engage with the brand or product, utilising their social currency to discover more hidden special offers, thereby potentially increasing the likelihood of repeat purchases or referrals" (X15).

This underscores the power of WeChat mini-programs as a versatile tool for brands seeking to create a comprehensive and engaging shopping experience. They enable brands to connect with customers at every stage of their journey, from the initial discovery of products to post-purchase interactions. Through the strategic use of features such as wish lists, incentives, and social currency, brands can not only encourage initial purchases but also cultivate enduring relationships with customers, fostering loyalty, repeat business, and word-of-mouth referrals. WeChat mini-programs thus emerge as a holistic solution for brands aiming to augment customer engagement and maximise the value of their interactions with their audience.

Respondents also observe that the interactive window engenders transformative and dynamic interactivity, offering an immersive experience that transcends the confines of traditional window shopping. These findings expand the literature on static window displays (Sen et al., 2002; Cornelius et al., 2010), as cited:

"Upon entering the store, visitors are greeted with an interactive display that goes beyond the conventional window shopping experience. These displays are not static showcases but rather interactive canvases that beckon customers with an intriguing visual narrative" (X11).

The store's display windows serve as the initial point of contact for customers. Instead of merely observing products passively, customers become active participants in the brand's story and product offerings. This heightened engagement fosters a profound sense of involvement and connection, setting the stage for a memorable and immersive shopping journey.

Interactive technology encourages experience sharing

Respondents argue that social sharing within the WeChat ecosystem is a potent tool for brand amplification. 'The Space' store capitalises on this by enabling

customers to share their experiences and purchases with their social circles seamlessly. This immersive experience stimulates participants to serve as brand advocates through the sharing of their experiences via social media:

"Customers' expectations are constantly evolving, and the bar for personalised experiences is rising higher and higher. Customers can fully immerse themselves in a unique environment, much like they are preparing for a fashion magazine photoshoot. Many of the pictures taken were of high quality, and customers were willing to share them on social media. This increased the brand's reach and awareness, exerting more influence than traditional advertising" (X10).

This form of word-of-mouth marketing not only enhances brand visibility but also instils trust among potential customers. Positive social endorsements from friends and family often wield “more influence than traditional advertising”. 'The Space' store empowers customers to generate content for their social media profiles. This interactive element transforms customers into brand ambassadors, as they willingly create and share content related to their in-store experiences. User-generated content resulted in a higher purchase intention compared to disclosed advertisements and brand posts (Mayrhofer et al., 2020). User-generated content carries authenticity and trust, bolstering the store's image and appeal among a broader audience. The storefront has proven to be a valuable communication and sharing tool for those who have visited 'The Space' store:

"People thoroughly enjoy taking pictures or even shooting short videos here and then sharing them on social media. On the surface, it serves as an engaging activity that connects people with a positive atmosphere. It also provides an excellent opportunity for customers to interact with the brand, encouraging them to spend more time in the store, capturing images, and helping us build a sense of community" (X14).

4.2.2.4 Influences of interactive technology on retail design – transforming the role of physical stores

Elevation of the physical store as a platform for conveying brand stories

In the discussion, one interviewee referred to the importance of transforming the physical store into a place for conveying brand stories, involving interactive technology:

“The modern retail landscape is witnessing a paradigm shift, Beyond mere product information, QR codes unlock captivating product storytelling. Customers gain insights into the history, craftsmanship, and creative processes behind each item” (X12).

This narrative-driven approach transforms products from mere commodities into artefacts with rich stories, fundamentally altering the function of the physical store. Customers are no longer passive consumers but active participants in the brand's heritage and artistic journey.

Integration of gamification within the physical store environment

Experts have unveiled the transformative potential of interactive technology in reshaping the role of physical stores in the digital era. Gamification is a multifaceted strategy that employs game-like elements, such as rewards, challenges, and competition, to engage and motivate participants (Insley and Nunan, 2014; Eisingerich et al., 2019; Bauer et al., 2020). As discussed by one respondent:

“The convergence of digital and physical retail environments is reshaping consumer expectations and necessitating innovative approaches to in-store experiences. WeChat Mini Programs, as a versatile platform, provide an ideal

medium for integrating gamification elements to enhance customer engagement within physical stores" (X14).

The other expert also demonstrates that gamified elements created by interactive technology can build on sustained customer engagement:

"Gamification is introduced through the allocation of unique characters and figurines to customers. The concept of 'social currency' is introduced, where customers accumulate rewards through various interactions, whether online or in-store. For example, they could gain 'social currency' by making purchases, sharing their experiences, or leaving comments while browsing the store. These rewards unlock new characters, attire, and exclusive items on the café menu, providing exclusive experiences and privileges to customers who attain specific milestones. The pursuit of these rewards cultivates a sense of achievement and encourages sustained engagement" (X17).

These quotes illustrate how gamified elements can reposition physical stores as hubs of engagement, interaction, and innovation. In the age of digital transformation, the integration of gamification through WeChat Mini Programs represents a paradigm shift in physical retail. The concept of 'social currency' is pivotal in modern marketing strategies. By allowing customers to accumulate rewards through various interactions, retailers can create a sense of community and competition among customers. This system is not limited to transactional interactions but extends to social behaviours such as sharing experiences and providing feedback.

Channel integration in the retail store

The excerpts suggest that the interviewees are placing significant emphasis on the integration of interactive technologies to bridge the gap between physical and online retail channels. One expert explains that the brand is strategically shifting its focus to enhance the customer experience by seamlessly integrating

physical and online channels, with a particular emphasis on the lucrative Chinese luxury market. This market is characterised by affluent and tech-savvy consumers who are heavily influenced by social media. The expert states:

"We aim to revolutionise the customer experience by prioritising the integration of our physical and online channels. This shift represents a substantial change in our technological approach. China is an ideal location for this endeavour, as highlighted in our annual report, which forecasts that China will become the world's largest luxury market by 2025. Chinese consumers are not only affluent but also technologically adept, with over 80% of online shopping occurring via mobile devices. Additionally, they are strongly influenced by social media." (X7)

Other experts also indicate that the brand is proactively modernising its marketing and customer engagement strategies, with a specific focus on digital and social media channels. They further elaborate on their choice of WeChat and the strategic location of their store:

"The brand is actively pursuing more sophisticated social media campaigns and is prioritising the development of digital-first platform alliances. Furthermore, we are exploring avenues for personalised communication to enhance our customer engagement. 'The Space' store is strategically positioned in close proximity to Tencent's headquarters in Shenzhen, a city renowned as China's tech hub. Given the widespread use of WeChat, which is owned by Tencent, we have the potential to incorporate social retail elements such as social currency and enriched brand experiences." (X9)

"The retail sector must remain acutely aware of the growing significance of social media in the luxury consumer journey, particularly during the inspirational stage. Building upon our history of innovation, we are eager to explore the intersections between these touchpoints by seamlessly merging social media

with the in-store experience to reflect the dynamic interaction between customers and brands. Recognising China as a global leader in innovation and technology adoption, and with Chinese customers being among the most active users of social media, we have chosen China as our initial testing ground for this transformative philosophy. We are thrilled to have established an exclusive partnership with Tencent to jointly pioneer this project, which marks a significant milestone in our journey toward the next phase of our transformation goals." (X11)

Social media can significantly impact brand awareness and brand image (Godey et al., 2016). These quotes indicate the luxury retail industry's acknowledgement of the growing importance of social media at every phase of the consumer journey. It demonstrates a commitment to innovation and the exploration of how social media can be seamlessly integrated into the in-store experience to facilitate dynamic customer-brand interactions. For instance, WeChat mini-programs, which are lightweight applications within the WeChat platform offering various functionalities, including interactive gaming features, serve as a seamless bridge between the online and offline realms. This enables retailers to create immersive experiences that resonate with modern consumers. Moreover, the integration of QR codes into product swing tags facilitates a harmonious transition between the physical and digital realms, enhancing the behavioural dimension of the brand experience. This integration empowers customers to sustain their engagement with the brand even after leaving the physical store, blurring the boundaries between in-store and online experiences and fostering a continuous and immersive brand relationship.

These quotes also underscore the reason why they chose China as the initial testing ground was due to China's leadership in technology adoption and its active social media user base. It represents a significant milestone in the retailer's broader transformation goals, likely encompassing adaptation to evolving consumer preferences and digital trends.

Meanwhile, due to the unique location and widespread use of WeChat in this context, experts express differing opinions regarding the potential success of replicating this model in other countries:

"The entire concept was constructed around WeChat mini-programs. Personally, I am uncertain about the seamless feasibility of implementing this model in other countries. This is because, currently, there is no ecosystem outside of China where WeChat enjoys such widespread adoption, with virtually every Chinese individual using the app." (X8)

On the other hand, another expert holds a more optimistic outlook:

"The industry is undergoing significant transformations. In many respects, we are experiencing a period of rapid consumer technology innovation. The COVID-19 pandemic has accelerated and deepened transformation and reform. The concept of social retail is intriguing, and we are contemplating its expansion to other regions in China and potentially even to other countries. We will continue to delve deeper into this case to explore possibilities for the next stage." (X12)

The respondents also observed that customers are increasingly inclined to interact directly with the brand and obtain information or product knowledge through alternative channels, rather than solely relying on in-store staff. This trend, notably prominent during the pandemic when social distancing measures were in place, has proven effective:

"We have noticed that many customers feel uncomfortable when approached by in-store staff, particularly when staff attempt to introduce products, as this

approach may be perceived as overly pushy, potentially leading to negative emotions. By scanning QR codes, customers gain access to a broader and deeper understanding of the product narratives." (X15)

"People now place more trust in information they have actively sought out compared to information that has been presented to them. This approach has proven highly effective, particularly in light of the pandemic and social distancing guidelines." (X13).

4.2.3 Case 3: Ralph Lauren Flagship Store

4.2.3.1 Background of the case

Ralph Lauren is an iconic American fashion brand founded in 1976. The brand's mission is "to inspire the dream of a better life through authenticity and timeless style," and it has become one of the most renowned consumer brands globally. Ralph Lauren offers a diverse range of product lines, including Ralph Lauren Collection, Ralph Lauren Purple Label, Polo Ralph Lauren, Double RL, Lauren Ralph Lauren, Polo Ralph Lauren Children, and Chaps.

In pursuit of innovation and enhancing the customer experience, Ralph Lauren collaborated with Oak Labs (acquired by ZIVELO in 2018), an SF-based retail technology company that aims to bridge the gap between retail and technology. They introduced an interactive fitting room concept at the Polo Ralph Lauren flagship store on Fifth Avenue in New York.

Upon selecting items for fitting, customers enter an interactive fitting room. The fitting room mirrors, developed by Oak Labs, utilise RFID technology to identify the products brought in by customers and display them on a screen. The mirrors also present alternative sizes and colours for each item, enabling customers to easily interact with the mirror by touch. This interaction allows them to select different sizes or colours and even receive style recommendations based on the items they've chosen (see Figure 4.10). Furthermore, the mirror offers a convenient feature that enables customers to request assistance from a sales associate without leaving the fitting room (see Figure 4.11). The associate receives precise information about the requested

item, including its style, size, colour, and location within the store (see Figure 4.12).

Figure 4.10 Ralph Lauren – RFID Product Recognition
Screenshot from (https://www.facebook.com/oaklabsinc/videos/introducing-the-oak-fitting-room/170415373309351/)

Figure 4.11 Ralph Lauren – Request Sizes/Colours
Screenshot from (https://www.facebook.com/oaklabsinc/videos/introducing-the-oak-fitting-room/170415373309351/)

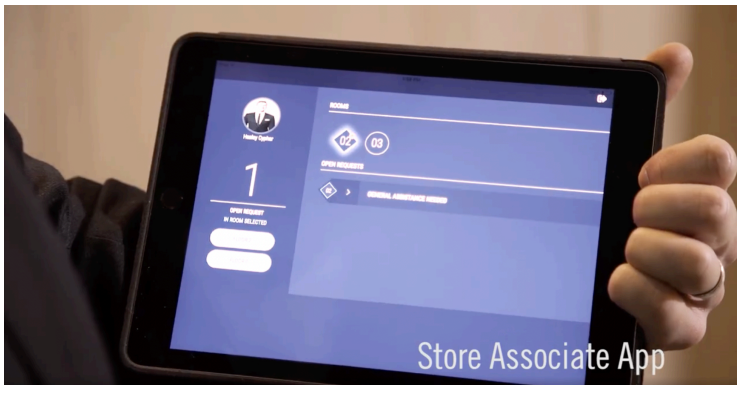

Figure 4.12 Ralph Lauren – Store Associate App
Screenshot from (https://www.facebook.com/oaklabsinc/videos/introducing-the-oak-fitting-room/170415373309351/)

To enhance the fitting room experience, customers have control over the lighting settings, with options such as "Fifth Avenue daytime," "East Hampton sunset," and "evening at the Polo Bar," which vary in brightness (see Figure 4.13). The fitting room also supports multiple languages, including Chinese, Japanese, Italian, Spanish, and Portuguese, effectively eliminating language barriers. Additionally, customers can complete their purchase directly through the mirror. If they decide not to make a purchase on the spot, the mirror can send information about their selected items to them after they provide their phone number.

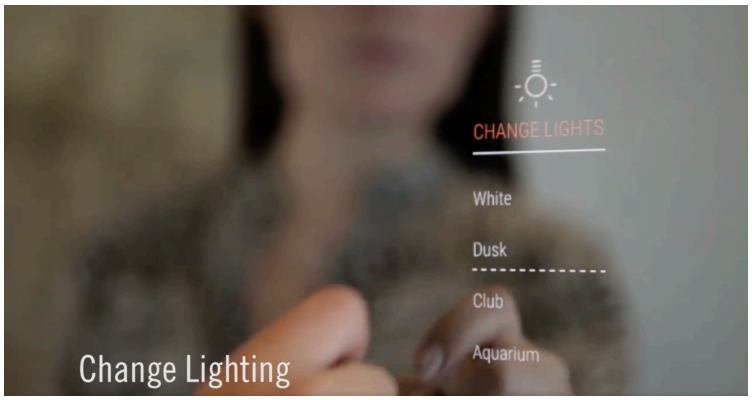

Figure 4.13 Ralph Lauren – Change Lighting
Screenshot from (https://www.facebook.com/oaklabsinc/videos/introducing-the-oak-fitting-room/170415373309351/)

4.2.3.2 Different types of impact of interactive technologies on experiential dimensions

Typology of interactive technologies

Smart mirror fashion technology (SMFT): Radio Frequency Identification (RFID) technology, interactive touchscreen, lighting control system, language support, communication technology, data transmission, integration with inventory systems, recommendation algorithms, mobile integration

Interactive technology enhances sensory and emotional experience

It has been identified that SMFT is a promising tool for enhancing both the sensory and emotional dimensions of the customer brand experience (Wang et al., 2023c). One expert specifically indicated that a key sensory enhancement offered by this technology is the ability for customers to control the lighting settings within the fitting room:

"Some people are not fans of fluorescent lights, or they want to find a dress suitable for an evening wedding. They would possibly want to know how the clothes would look in such an environment. The lighting control system allows customers to select from various lighting presents, each with its unique ambience and therefore an effect on customers' mood. For example, "Fifth Avenue daytime" lighting may simulate bright, natural daylight, which enhances the sensory perception of colour, texture, and fit. Customers may have different feelings about the clothes when they are under warmer, softer lighting like 'Evening at the Polo Bar'" (X18).

Lighting has a profound impact on emotions (Park and Farr, 2007; Quartier et al., 2014). By offering customers the ability to choose their preferred lighting settings, the technology allows them to set the mood that best aligns with their

emotions and intentions. The choice of lighting can significantly influence how customers perceive themselves in the clothing and the overall ambience. This mimics the experience of wearing the clothing outdoors under ideal conditions, providing customers with a more accurate representation of how the garment will look and feel in different lighting environments. For instance, 'Evening at the Polo Bar' can create a cozy and inviting atmosphere. When customers touch and feel the fabric under these conditions, they might perceive it as more luxurious and comfortable. The tactile sensory experience is thus heightened by aligning the lighting with the desired emotional response.

The touch-enabled mirror adds a tactile dimension to the shopping experience. Customers can physically interact with the mirror, creating a sensory connection with the products:

"Swiping through options, selecting different sizes and colours, and receiving style recommendations through touch engage the customer on a physical level. Customers would feel surprise and delight when they receive personalised style recommendations based on the selected items they add" (X19).

The touch-enabled mirror offers customers the unique benefit of receiving style recommendations based on their selected items. This personalisation aspect caters not only to individual preferences but also creates an emotional connection by showing that the retailer understands and caters to the customer's taste. The surprise and delight experienced when the mirror suggests complementary styles can evoke positive emotions, reinforcing customer satisfaction. SMFT encourages customers to explore and experiment with different product options they may not have considered otherwise. As they swipe through choices and visualise themselves wearing various styles, customers may stumble upon new items that pique their interest. This element of discovery not only enriches the shopping experience but also fosters a sense of adventure and excitement, enhancing emotional engagement. Ultimately, SMFT's ability to offer a personalised, sensory-rich shopping journey contributes to heightened customer satisfaction. Customers leave the store with

a sense of fulfilment, having had an experience that transcends traditional shopping and resonates on a more emotional level. This elevated satisfaction can lead to increased customer loyalty and word-of-mouth recommendations, benefiting the retailer in the long run.

Interactive technology emphasises intellectual experience

SMFT utilises RFID technology to identify products brought into fitting rooms by customers. Subsequently, it displays these items on a mirrored screen, opening up a realm of possibilities for intellectual engagement. As one expert astutely observed:

"The smart mirror's capacity to recognise items and suggest alternative sizes and colours empowers customers to interact with the mirror through touch, enabling them to explore various options and gain a profound understanding of the brand's product offerings. Style recommendations represent a pivotal feature of the smart mirror, harnessing data on selected items to provide tailored fashion advice… SMFT offers the language of the most commonly spoken, as we are a global brand and have customers from all over the world. It will improve the brand experience by communicating with our customers flawlessly" (X19)

This engagement with SMFT stimulates intellectual curiosity and encourages customers to experiment with different combinations. Simultaneously, style recommendations serve to enhance customers' comprehension of the brand's aesthetics, assisting them in making more informed choices and cultivating a deeper intellectual connection with the brand. Furthermore, the support for multiple languages constitutes a fundamental aspect of inclusivity, fostering a sense of belonging and underscoring the brand's commitment to serving a global and diverse clientele, thereby enriching the intellectual brand experience.

Interactive technology optimises the behavioural experience

Interviewees reported multifaceted dimensions related to customer behaviour and the optimisation of the customer experience through this innovative technology. The feature offered by SMFT, which enables customers to request assistance from a sales associate without leaving the fitting room, addresses a critical pain point in traditional retail. This feature aims to enhance customer satisfaction by amalgamating the advantages of online shopping, such as convenience and ease, with those of offline shopping, primarily the in-person experience of trying on items:

"This implies that when you are in the fitting room, you have access to the entire store without the need to exit. It's about aligning customers' expectations, which have been shaped by the convenience of online shopping, with the practicality and tangibility of the physical world" (X19).

This seamless support mechanism not only reduces friction in the shopping process but also ensures that customers promptly receive assistance, thereby elevating their satisfaction levels and fostering brand loyalty. In addition, one expert noted that SMFT provides customers with a sense of initiative and choice:

"The touch-enabled interface empowers customers to actively engage with the products displayed on the mirror. In this case, customers can easily switch and compare different sizes and colours…Smart mirrors offer a unique feature—customisable lighting settings. Customers can choose from a range of lighting options, each creating a distinctive ambience" (X19).

The ability to switch between sizes and colours encourages exploration, fostering a sense of involvement and empowerment. This heightened interactivity cultivates a deeper connection between the customer and the brand, thereby enhancing the overall brand experience. Furthermore, the choice

of lighting options implies that SMFT provides customers with greater control and more options to curate their ideal shopping environment, which influences their perception of clothing and contributes to a memorable brand experience.

4.2.3.3 The role of interactive technology in designing and developing retail experiences

Interactive technology personalises the retail experience

It has been observed that SMFT are beginning to revolutionise the fitting room experience. These mirrors incorporate various features and capabilities designed to personalise the retail journey in unprecedented ways. Experts have demonstrated that despite the growing dominance of online shopping, purchasing clothing online remains a somewhat challenging experience. This is primarily due to the uncertainty of how well a particular size will fit and the texture of the clothes. In this context, trying on clothes in a physical store remains a crucial aspect of the shopping experience, with the fitting room playing a major role in customer satisfaction. Unlike the existing literature (Kim, M. and Cheeyong, 2015; Ogunjimi et al., 2021; Wang et al., 2023c), the interactive fitting room, instead of solely focusing on virtual try-ons, aims to enhance the entire shopping process. The cornerstone of personalisation in smart mirror technology lies in its RFID-based product recognition system:

"According to our research, individuals who utilise fitting rooms tend to spend 80% more than those who do not, making fitting rooms the highest conversion point. However, they also tend to receive the highest level of dissatisfaction based on customer feedback in retail stores. Furthermore, if customers cannot find the item they desire in the appropriate size and colour, their likelihood of leaving the store empty-handed increases by 65%. RFID technology allows the mirror to identify the products customers bring into the fitting room. Consequently, the mirror can display detailed information about each item, including available sizes and colours. This facilitates informed decision-making and fosters a highly personalised shopping experience." (X19)

In addition, central to the personalisation aspect is the interactive touchscreen interface, as well as the lighting control system embedded in these mirrors. As one expert has noted:

"Customers can directly engage with the mirror, enabling them to adjust sizes and colours, explore various style options, and receive intelligent recommendations based on their selected items. During the try-on process, smart mirrors offer customers control over the lighting settings within the fitting room. The different lighting options represent different times of the day, including daytime, sunset, and evening, allowing customers to assess how clothing appears under various lighting conditions…By allowing them to choose the information they interact with, we noticed a marked improvement in engagement levels" (X19)

This quote sheds light on the interactive capabilities of SMFTs, specifically their touchscreen interface and lighting control system. It emphasises how SMFTs transform the fitting room into a personalised style consultation session, aligning perfectly with the broader theme of enhancing the retail experience through personalisation. It also implies that the entire experience becomes more interactive and dynamic when customers can navigate information according to their preferences. The ability for customers to adjust sizes and colours, explore style options, and receive intelligent recommendations reflects a shift from traditional fitting room experiences towards a more tech-savvy and individualized approach. These features cater to the desire for customisation and convenience in the shopping process, factors that are increasingly valued by modern consumers. The mention of adjustable lighting settings is particularly noteworthy. It not only demonstrates the attention to detail in creating a comfortable and realistic environment for customers but also underscores the importance of visualising how the clothing will look under different lighting conditions—a factor often overlooked in traditional fitting rooms. This quote also reinforces the idea that SMFTs allow customers to have greater control and agency in their shopping experience, making it more engaging and enjoyable.

These interactive elements align with the core theme of personalisation, making the retail journey more tailored to individual preferences and needs.

Interactive technology enables flexibility

One expert underscores the significance of SMFT as an innovative solution aimed at addressing longstanding challenges within brick-and-mortar stores, particularly those associated with fitting rooms and payment areas:

“Fitting rooms are a real problem; you must have had similar experiences: when you queue for what feels like ages, you are finally in a fitting room with several clothes to try on. But somehow the sizes are not right, and you need to either take off the clothes and leave to find the right size or find sales associates, which can be challenging, especially during busy times. The same issue arises in the payment area, where customers often complain about the waiting times. These problems frequently occur in brick-and-mortar stores, which is why we launched this interactive fitting room mirror to help improve the physical store experience. Customers can now request assistance from a sales associate without leaving the fitting room. These requests are precise, as the mirror transmits information about the requested item, including its style, size, colour, and location within the store. In the meantime, customers can complete their purchases immediately if they choose to do so. Alternatively, for those who decide not to make a purchase on the spot, the mirror can send information about their selected items to their mobile phones.” (X18)

This quote accentuates several notable implications and advantages associated with SMFT. It substantially improves the overall shopping experience by streamlining the fitting process and reducing the necessity for customers to exit the fitting room, thereby saving both time and mitigating potential frustrations related to poorly fitting garments. Furthermore, the mirror's capability to convey detailed information to sales associates ensures that customer requests are highly precise, subsequently enhancing the efficiency of the provided assistance. Consequently, this can lead to heightened levels of customer

satisfaction and potentially increased sales, transcending mere self-service. This particular feature guarantees that customers receive tailored assistance when needed, fostering a harmonious integration of technology and human interaction. Moreover, the option for immediate purchase aligns with the burgeoning trend of frictionless retail experiences, catering to the preferences of contemporary consumers who seek convenience and efficiency.

Interactive technology enhances customer engagement

The findings highlight the pronounced enhancements offered by smart mirrors in comparison to conventional retail environments, shedding light on the profound shift in customer engagement they bring about. Experts have demonstrated that these significant improvements are most prominent during both the purchase phase and the post-purchase stage:

“Traditional fitting rooms often require customers to manually bring multiple items inside. Customers must rely on a series of clothing changes to assess their choices, often resulting in longer fitting room sessions. This can lead to frustration and diminished engagement if they do not find the right size or colours. In contrast, the ability to visually display selected items on the mirror's screen represents a profound shift from traditional fitting rooms. Customers can easily access different colours or sizes without leaving the fitting room. This immediacy enhances customer engagement as they can efficiently explore various clothing options. The ability to discover new styles or combinations encourages customers to engage more deeply with the mirror.” (X19)

The quote underscores a significant shift in the retail industry, specifically within the context of fitting rooms. Customers can directly interact with SMFT, which not only saves time but also allows for a more comprehensive exploration of available choices. In traditional fitting rooms, customers might be discouraged from trying different sizes or colours due to the hassle involved. The ability to compare and experiment with various styles or combinations directly within the fitting room encourages deeper customer interaction with the mirror. This aligns

with the broader goal of retailers to foster customer engagement and brand loyalty. It also acknowledges the increasing role of technology in influencing consumer behaviour and choices.

4.2.3.4 Influences of interactive technology on retail design – transforming the role of physical stores

Channel integration in the retail store

The experts emphasise that SMFT have the potential to revolutionise the role of physical retail stores. One of the most salient features of SMFT is their capacity to seamlessly integrate online and offline shopping channels:

"Customers can complete purchases directly through the mirror, blurring the lines between physical and digital retail spaces. Furthermore, the technology facilitates post-visit engagement by sending digital receipts and item information to customers, promoting follow-up online purchases" (X18).

This implies that SMFT bridges the gap between the physical and digital realms, offering customers the convenience of trying on clothes in-store and making purchases seamlessly. This has significant implications for customer satisfaction and loyalty, as it eliminates the need for customers to visit multiple channels to complete a purchase (Cotarelo et al., 2021; Lazaris et al., 2021). The ability to send digital receipts and item information after a store visit fosters post-visit engagement. This keeps customers engaged with the brand even after they leave the physical store, potentially leading to additional online purchases. This linkage between offline and online engagement extends the customer journey and strengthens brand-customer relationships.

SMFT also offers a unique opportunity for retailers to gather information about what their customers like or dislike, including details about fitting room sessions (volume, duration, and conversion). Gathering data allows retailers to make observations and identify the reasons why products are not selling well. This is also an invisible way to work on improving customer experience:

"90% of customers engaged with this mirror. By seeing what people take into the fitting room and what they buy, we can alter marketing to echo popular preferences. Customers might not see what has changed, but when they walk into the store, they will find what they want easily" (X19).

According to experts, the engagement data from SMFT allows for data-driven marketing strategies. Retailers can tailor their marketing efforts based on real-time insights into what customers are trying on and ultimately purchasing. This leads to more effective marketing campaigns that resonate with customer preferences. By understanding which items are popular through the mirror's data, retailers can optimise inventory. They can stock more of the items that align with customer preferences and reduce inventory waste on less popular items. This has implications for cost savings and inventory management efficiency. Moreover, the ability to adjust marketing strategies based on mirror data streamlines the in-store experience for customers. When customers find what they want easily, it enhances their satisfaction and makes the physical store more efficient. This aligns with the modern expectation for seamless and efficient in-store experiences.

One expert highlights the importance of adopting technology with a clear purpose that should reinforce the brand's identity and values:

"We're not attempting to invent new cases. We're looking for existing ones and improving them; technology can help to do lots of things. However, our guiding belief is that you should never undertake technology for the sake of technology, but rather do it for people and the brand" (X18).

According to this quote, SMFT should not be implemented merely for its novelty, but rather with a focus on how it enhances the customer experience and aligns with the brand's identity. This ensures that technology adoption is

purposeful and meaningful. The emphasis on doing technology "for people" underscores the importance of a customer-centric approach. Smart mirrors should serve the needs and preferences of customers, enhancing their shopping experience. This approach ensures that technology adds value to the customer journey and fosters brand loyalty.

4.3 Less Prestigious Brands

In contrast to premium brands, the following two cases represent less prestigious brands, particularly exemplifying the fast-fashion category within the fashion industry. Fast fashion is defined as a brand category that attracts customers through low pricing, trendiness, and frequent inventory turnover (Joy et al., 2012). Enhanced design (highly stylish product design) and quick response (short manufacturing and distribution lead times that enable tight matching of supply with variable demand) are two key characteristics of fast fashion (Cachon and Swinney, 2011).

The two following cases conform to the theories of fast-fashion brands. To facilitate a cross-case comparison with the premium brand and to provide deeper and broader explanations, the exploration of key themes remains consistent with that of premium brands.

4.3.1 Case 4: Lily Flagship Store

4.3.1.1 Background of The Case

Lily is a renowned young fashion brand hailing from China, founded in 2000. It has emerged as a leading force in contemporary business fashion for young professionals in China. Embracing a fresh, vibrant, modern, and minimalist design ethos, Lily specialises in crafting business attire tailored for urban workspaces. Lily Business Fashion has established a robust presence, with over 700 brand stores across China, spanning 270 cities, including prominent metropolises such as Shanghai, Beijing, Guangzhou, Shenzhen, and Wuhan. Furthermore, Lily has expanded its global footprint, boasting more than 70 retail outlets in 10 foreign countries, including Russia, Saudi Arabia, Thailand, Singapore, and Kuwait.

Lily recently inaugurated one of its largest flagship stores at No. 819 Nanjing West Road in Shanghai in 2018. This move aims to exploit a smart retail environment and transform the physical store into a more immersive, engaging, and experiential space. The flagship store spans two floors and incorporates multiple interactive technologies, offering customers an unparalleled shopping experience. Drawing inspiration from Monument Valley, the store integrates visual disorientation and spatial interaction effects into its overall design. Monument Valley-inspired architectural elements are prominently featured on the first floor and the staircase area. With marble steps, narrow arches, and the juxtaposition of different materials and angles, it creates a sensation akin to entering a pixelated world from a video game. The staircase itself is a complex network of both functional and artistic steps, reminiscent of an art gallery, making every corner perfect for capturing photographs (see Figure 4.14). Beyond its eye-catching interior design, the entire store is equipped with multiple interactive technologies, providing over 1000 square meters of space for immersive sensory experiences, making it a cutting-edge offline smart store.

Figure 4.14 Lily – Internal Environment (https://www.sohu.com/a/233487704_391503)

The first floor houses two interactive art installations and three interactive experience areas. The "Black Mirror Future Space" envelops visitors in black

mirrors and intersecting light strips, creating a surreal futuristic atmosphere that enhances the fantasy in photographs (see Figure 4.15).

Figure 4.15 Lily – Black Mirror Future Space (https://www.sohu.com/a/233487704_391503)

A specially crafted art installation known as the "Delayed Photography Art Installation" can be found behind a door. By merely swaying in front of the camera, it can "copy and paste" numerous images of the individual onto the electronic screen. Multiple versions continue to appear until the person gradually moves away, creating a captivating effect (see Figure 4.16).

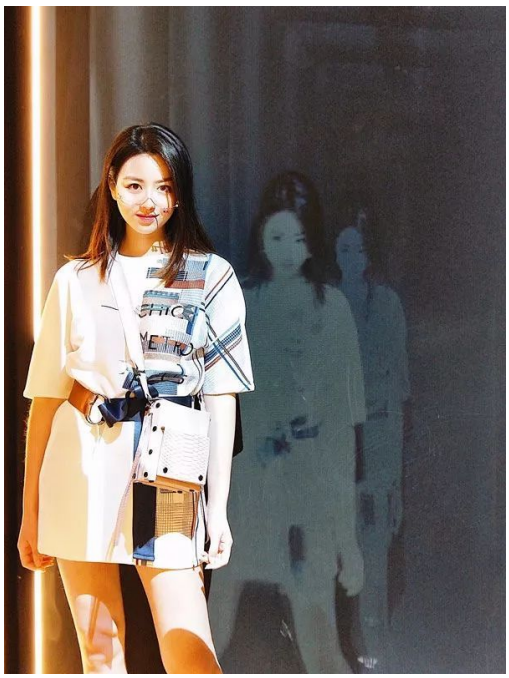

Figure 4.16 Lily – Delayed Photography Art Installation (https://www.sohu.com/a/233487704_391503)

The store also introduces three new smart mirror devices, bridging the gap between online and offline shopping and enhancing shopping efficiency. The "Thousand Faces Big Screen" serves as the first "magic mirror" located at the entrance. It identifies the most suitable clothing style for visitors when they stand in front of a large screen. Lily's business fashion is categorised into three styles: The MODERN Series, ideal for everyday wear for office workers with sleek and tasteful designer styles; The SMART Series, suitable for young professional women exuding a cool and stylish vibe; and The ART Series, which offers both quality and comfort with an elegant and refined aesthetic. The mirror recommends clothing based on these series and utilises a navigation map system to guide customers to a specific area by scanning the QR code through smartphones (see Figure 4.17).

Figure 4.17 Lily – Thousand Faces Big Screen (https://www.sohu.com/a/233487704_391503)

The "Versatile Magic Mirror" serves as Lily's encyclopaedia, when customers bring the clothing in front of the screen, it displays all the information about the clothing to customers within ten seconds. This information includes price, material, styling options, and purchase links (see Figure 4.18).

Figure 4.18 Lily – Versatile Magic Mirror (https://www.sohu.com/a/233487704_391503)

The "Lightning Dressing" mirror is particularly intriguing; when individuals stand in front of it, they can "extract" their image and quickly try on different outfits, making it incredibly convenient for those who do not wish to try on every clothing item. Customers could also take pictures and directly share them on their social media (see Figure 4.19).

Figure 4.19 Lily – Lightning Dressing
(https://www.sohu.com/a/233487704_391503)

The second floor features two unique aesthetic experience spaces: Lily Lab and Lily Supply. Lily Lab represents Lily's first custom space, including an open production area where customers can create their own clothing, such as printing T-shirts or shirts. Customers can select their preferred clothing style, colour, and design from a catalogue or tablet. Professional makers take precise measurements based on their selections and proceed with the printing process, which typically takes about 30 minutes. Customers can even observe the machine embroidery process (see Figure 4.20).

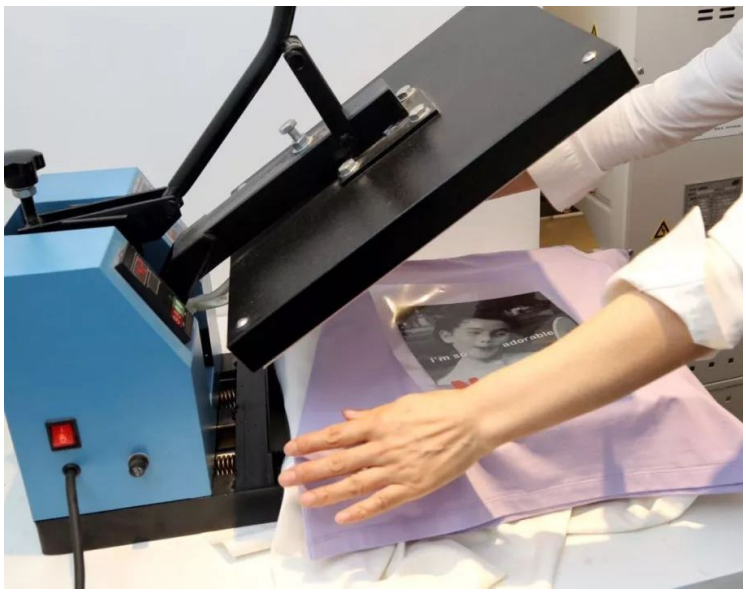

Figure 4.20 Lily – Lily Lab
(https://www.sohu.com/a/233487704_391503)

Additionally, the flagship store includes Lily Supply, a section offering a curated selection of lifestyle products from various brands. These artistic and high-quality lifestyle products can be used to decorate homes as well as workspaces (see Figure 4.21)

Figure 4.21 Lily – Lily Supply
(https://www.sohu.com/a/233487704_391503)

4.3.1.2 Different types of impact of interactive technologies on experiential dimensions

Typology of interactive technologies

Interactive art installations for taking photograph/video
Three different kinds of SMFT: RFID technology, interactive touchscreen, QR code, AR technology
Tablet: interactive touchscreen

Interactive technology enhances sensory and emotional experience

It became evident from the responses that integrating interactive technology into the brand space is one approach to enhancing the sensory and emotional experience. For instance, one expert highlighted the use of interactive art installations as an exemplar of the potential for interactive technology to elevate sensory engagement within a brand environment:

"The 'Black Mirror Future Space' transports visitors to a futuristic realm, fostering a sense of wonder and curiosity. Its use of black mirrors and intersecting light strips creates a visually stimulating and surreal atmosphere. Furthermore, the 'Delayed Photography Art Installation' employs a novel and artistic approach, allowing visitors to see themselves in a captivating manner. As multiple versions of the individual appear on the electronic screen, surprise and delight are elicited, creating an emotional bond with the brand…Customers who used our smart mirrors spent 30% more time in the store and interacted with more products compared to those who didn't use the technology. " (X24)

By integrating artistic and interactive elements, retailers can transform traditional shopping environments into immersive and emotionally engaging spaces. This approach aligns with Vukadin et al. (2019), who argue that artistic stimuli enhance the perceived value of store offerings and boost retail performance. Visitors are immersed in a world of reflections where they become

an integral part of the art itself. The interplay of light, space, and self-reflection engages the visual and tactile senses, thereby establishing a profound connection between the brand and the visitor. The environment serves as a canvas upon which the brand's distinctive visual identity is vividly portrayed, with customers' reflections leading to a sense of empathetic identification. The presence of interactive art installations within the confines of the fashion store underscores the significance of visual engagement and emotional resonance in the act of consumption. This paradigm shift positions the consumer not as a passive recipient of pre-defined sales messages but as an engaged and interpretive participant in the retail experience. Moreover, fashion apparel brands, in particular, function as mediums for personal expression and the projection of self-identity (Abrar et al., 2020). Consequently, they can evoke a heightened level of commitment from consumers, reflected in the significant time and effort invested during the brand engagement process.

Experts have also emphasised that SMFT profoundly impact customers on emotional and sensory levels, primarily through visual and tactile appeal:

“We are specifically setting up an interactive experience area for customers to explore our 'new retail store' and engage more effectively in order to attract our customers back to the store. Customers are pleasantly surprised by the significant changes we've made, including the integration of various smart mirrors that allow our customers to immerse themselves in the digital world. The 'Thousand Faces Big Screen' is a large, interactive mirror that immediately captures visitors' attention upon entering the store. Its ability to identify suitable clothing styles for customers creates a visually stimulating environment. The size of the mirror and the real-time recommendations it provides immerse customers in a novel visually appealing experience. Customers will find the location of the recommended clothing when they touch the screen and scan the QR code” (X20)

One respondent added:

"The 'Versatile Magic Mirror' enables customers to physically interact with clothing by placing it in front of the mirror, feeling the materials and fabrics of the clothes they bring, and touching the screen to access all the information about products" (X21).

These mirrors not only command immediate attention but also serve as a conduit to a visually immersive digital realm. The discernment of suitable clothing styles through these mirrors bestows a heightened sense of visual gratification, as customers encounter themselves in stylistic recommendations. The reference to the 'Thousand Faces Big Screen' underscores the substantial dimensions and real-time capabilities of this technology, thereby cultivating a visually stimulating ambience, potentially instigating curiosity and delight. Furthermore, the mention of customers "touching the screen" introduces a tactile dimension to the experience, enriching the sensory encounter by enabling them to feel the texture and quality of fabrics as well as the digital screen. In summary, the integration of smart mirrors into the retail landscape orchestrates a harmonious visual, emotional, and tactile engagement, beckoning customers with innovative and immersive allure.

Interactive technology emphasises intellectual experience

It was identified that SMFT offers personalised recommendations, provides comprehensive information, enables efficient decision-making, and encourages creative exploration, ultimately elevating the intellectual engagement of customers in the retail space. As one respondent notes:

“The 'Versatile Magic Mirror' is a pivotal element in providing customers with a comprehensive understanding of the clothing they are interested in. When customers place clothing items in front of the mirror, it swiftly provides detailed information, including price, material, styling options, and purchase links. By offering rapid access to comprehensive information, the mirror streamlines the decision-making process. Customers can compare different items without the

need for assistance, and they can assess and select products based on their preferences and needs" (X20)

By swiftly providing comprehensive information, the smart mirror augments information accessibility. This expanded access empowers customers, enabling them to make more informed decisions while simultaneously saving time and effort. Moreover, the mirror facilitates autonomous decision-making, encouraging critical thinking and in-depth analysis as customers compare various items without requiring external assistance. Such features not only streamline the decision-making process but also enhance the overall intellectual satisfaction of the shopping experience.

Interactive technology optimises the behavioural experience

Respondents demonstrated that interactive technology is emerging as a valuable tool, offering opportunities to optimise dimensions of the behavioural experience. This sheds light on its potential to extend visitor staying time, increase the likelihood of purchases, and enhance the frequency of interaction:

"Visitors may not anticipate seeing themselves replicated on the screens, which elicits delight and intrigue. Visitors are more likely to spend more time here, walking around to see multiple versions of themselves on the screen of 'Delayed Photography Art Installation'." (X23)

Interactive installations can prolong visitor engagement with the brand. The longer visitors interact with these installations, the deeper their immersion in the brand experience. Prolonged engagement not only enhances brand recall but also strengthens the visitor's affinity with the brand, thereby increasing the likelihood of them becoming loyal customers. Another expert demonstrated how various types of SMFT can efficiently impact customers' engagement frequency, consequently influencing their purchase behaviour:

"The 'Thousand Faces Big Screen' serves to identify visitors' clothing preferences and recommend suitable styles. The 'Lightning Dressing' mirror enables customers to virtually try on different outfits without the need for physical clothing changes. Lastly, the 'Versatile Magic Mirror' enriches the shopping experience by providing instant access to comprehensive information about clothing items. Customers are keen on experiencing these different kinds of smart mirrors, making shopping an enjoyable and immersive activity. This also ensures that customers are well-informed and confident in their purchase decisions. Therefore, they are highly likely to make a purchase after these engaging experiences." (X20)

This quote suggests that the presence of smart mirrors creates a positive and immersive shopping experience. Visitors express their interest in using these mirrors, indicating a significant impact on behaviour by attracting and engaging customers. Furthermore, it underscores the behavioural influence of smart mirrors on customer confidence and purchase decisions. By furnishing information and an engaging experience, smart mirrors are expected to positively affect visitor behaviour, increasing the likelihood of making a purchase.

4.3.1.3 The role of interactive technology in designing and developing retail experiences

Interactive technology personalises the retail experience

Respondents engaged in discussions regarding the transformative potential of SMFT in personalising the retail experience. One of the most prominent advantages of SMFT lies in its capacity to provide tailored recommendations to individual customers, potentially enhancing customer satisfaction levels and fostering stronger brand loyalty (Wang et al., 2023c). Consequently, this technology is considered mutually advantageous and pivotal in cultivating a customer-centric approach, as highlighted by a participant:

"The concept of personalisation is pivotal in contemporary retail. Every customer has different requirements, and they want to feel special. We aim to optimise their in-store shopping journey by offering intuitive and personalised recommendations. For example, the 'Thousand Faces Big Screen' accomplishes this by categorising fashion styles into three distinct series, catering to different customer preferences. By presenting tailored recommendations, the mirror helps create a more meaningful and engaging shopping journey" (X20).

Through the discernment of customer preferences and the provision of clothing recommendations, coupled with the alignment of suitable accessories to individual styles, this system enhances shopping efficiency and concurrently increases the average order value, as expressed by this respondent:

"People find it convenient to locate products they like through the mirror technologies, which streamlines the product selection process. The mirrors can also help collect data that allow us to gather customer insights" (X20).

Another respondent echoed this sentiment:

"Customers are more likely to make additional purchases when they see other matching clothes or accessories" (X24).

The ability of SMFT to categorise diverse product styles to target specific customer segments enhances the overall service quality of the brand and contributes to the development of more robust customer relationships. Moreover, these smart mirrors serve as data collection hubs, offering retailers valuable insights into customer preferences and behaviours. The analysis of this data informs strategic decisions related to product assortments, marketing strategies, and store layouts. By understanding customers better, retailers can refine their recommendations and offerings to resonate more deeply with their

target audience. One respondent also highlighted that Lily Lab allows customers to create customised clothing using a tablet, thus enhancing the retail personalisation paradigm:

"The lab is designed for customers to co-create clothing with us. Our staff use the tablet and guides customers in choosing the colour, pattern, and style of the clothes and demonstrates the process of making these clothes. Customers can then use the machine under the guidance of our staff, resulting in unique clothes designed by themselves" (X22).

Lily Lab's tablet interface enables customers to tailor their clothing choices to their exact preferences. The catalogue of clothing styles, colours, and designs empowers customers to curate a unique product, promoting a sense of individuality and ownership. This fusion of interactivity and personalisation signifies a transformative step in retail, where technology not only enhances the consumer journey but also elevates the brand-customer relationship.

Interactive technology enables flexibility

Respondents have indicated that SMFT provides benefits in terms of flexibility during customer store exploration, the decision-making process, and the purchasing process. As underscored by an expert:

"Some individuals can easily become disoriented when visiting a large flagship store. While some enjoy thoroughly exploring every corner of the store, others prefer to quickly identify their preferences. In such cases, mirrors can identify visitors' clothing preferences and recommend suitable styles. Additionally, the mirror incorporates a navigation map system that guides customers to specific store sections through smartphone scanning, thereby reducing the time and effort needed to locate desired items…We observed a significant increase in customer satisfaction when they could navigate through product details at their

own pace. They appreciated being able to access reviews, stock availability, and personalised recommendations quickly" (X23)

This quotation pertains to utilitarian and hedonic value: utilitarian value pertains to the efficient acquisition of products, whereas hedonic value relates to emotional experiences such as excitement and enjoyment (Babin et al., 1994). SMFT can balance both utilitarian and hedonic aspects of shopping (Wang et al., 2023c). The capacity to suggest clothing based on individual style preferences significantly enhances the personalisation of the shopping experience. By crafting a bespoke shopping journey, customers are more likely to engage actively and make well-informed purchasing decisions. Beyond clothing recommendations, the integration of a navigation map system in SMFT reduces the frustration associated with getting lost in a large store. Customers can effortlessly locate recommended clothing items by scanning QR codes through their smartphones. It implies that interactive technology allows customers to be more active and selective. This feature not only streamlines the shopping process but also offers flexibility and dynamic flow in how customers explore the store. Another expert also noted that SMFT streamlines customers' decision-making and purchase process:

"When a customer presents a clothing item in front of the screen, it instantaneously provides a wealth of information, ranging from price and material composition to styling options and purchase links" (X23).

The ability to access detailed product information fosters an informed decision-making process. Customers can weigh factors such as budget, materials, and styling options, promoting flexibility in their shopping choices. With a plethora of data at their fingertips, customers can tailor their shopping experience according to their preferences, whether they opt for affordability, eco-friendliness, or a particular style. The purchasing link offered by SMFT grants

customers the flexibility to choose their preferred shopping channel. This expert also added:

"The 'Lightning Dressing' mirror introduces a novel dimension to the retail experience by enabling customers to virtually try on clothing without the physical act of changing. The mirror offers an expedited and hassle-free way to experiment with various outfits. This innovation is particularly appealing to those who seek convenience and efficiency" (X24).

This also implies that customers can engage in risk-free experimentation with different styles and combinations. Such an approach encourages creative exploration, allowing individuals to push their fashion boundaries without the commitment associated with traditional try-ons.

Interactive technology enhances customer engagement

Customer engagement plays a pivotal role in shaping the future of the retail industry, with a particular emphasis on flagship stores (Palmatier et al., 2017). These iconic retail spaces serve as the vanguard of brand identity, innovation, and customer interaction. Therefore, the level of customer engagement within flagship stores is regarded as a critical determinant of their success and long-term viability. As noted by an expert:

"In the contemporary retail landscape, where online shopping has become increasingly prevalent, flagship stores represent a unique opportunity for brands to create immersive and memorable experiences for their customers. Beyond merely facilitating transactions, physical storefronts enable the forging of deeper connections with consumers, providing them not only with products but also an environment that invites customers to deeply understand the brand's value" (X20).

This expert further discusses how interactive technology has emerged as a powerful enabler of enhanced customer engagement in flagship stores, catering to the modernist aesthetic and demand:

"The Millennial generation grew up in a digital development environment, and they are accustomed to using technology in their daily lives. This is why we have incorporated various forms of technology to engage our clients to explore our store in a more dynamic way. For example, we have implemented two interactive art installations to arouse curiosity within the store, along with three different types of smart mirrors: the 'Thousand Faces Big Screen' immerses customers in personalised recommendations and efficient navigation. The 'Versatile Magic Mirror' empowers customers with information and transparency, while the 'Lightning Dressing Mirror' combines efficiency with playfulness. Additionally, we offer a laboratory that allows customers to co-create clothes with the brand. The more they engage with our brand, the greater the likelihood they will revisit our store, ultimately becoming our loyal advocates" (X20).

This quote implies that interactive technology can make customers shopping journeys more engaging and dynamic. Effective customer engagement strategies in flagship stores encompass a range of elements, from personalised shopping experiences and interactive displays to in-store events and co-creations. Brands understand that engaged customers are more likely to become loyal advocates, driving not only immediate sales but also word-of-mouth marketing that extends their reach. Collectively, interactive technologies foster a profound connection between customers and retailers, revolutionising the retail experience in an era characterised by evolving consumer expectations and technological innovation. As the retail industry continues to adapt and transform, smart mirror fashion technologies stand as a testament to the potential of innovative solutions to enrich customer engagement and redefine the future of shopping.

Interactive technology encourages experience sharing

In the discussions conducted by the respondents, they explored how interactive technology encourages the sharing of experiences among customers, thus fostering a sense of community and interactivity within retail spaces:

"The 'Black Mirror Future Space' and the 'Delayed Photography Art Installation' immerse visitors in a surreal and futuristic atmosphere, inviting them to capture their experiences through photos and videos to share on social media" (X21).

Both the immersive environment and the interactive art installation offer abundant opportunities for visitors to create shareable content for social media platforms. Enthusiastic visitors, eager to showcase their unique experiences and artistic creations, become advocates for the brand. User-generated content, in turn, functions as a marketing tool, reaching a broader audience and enhancing visitor engagement. X23 concurred and emphasised the positive effects of Smart Mirrors on promoting experience sharing:

"The Smart Mirrors enable individuals to effortlessly discover their ideal style. Customers are inclined to share their excitement about finding the perfect outfit on social media, complete with photos displaying their recommended ensembles. Furthermore, customers can virtually try on various outfits and share their pictures and experiences on social media. This feature not only entertains but also encourages friends and family to participate, fostering social interaction and creating shared memories" (X23).

This underscores how these innovative mirrors act as catalysts for individuals in their quest to effortlessly find their perfect style. By enabling customers to virtually try on different outfits and facilitating the sharing of these experiences on social media, Smart Mirrors not only provide entertainment but also serve as potent tools for enhancing social engagement. The mention of customers enthusiastically sharing their excitement and recommended outfits on social

platforms implies that these mirrors have the potential to cultivate a sense of community and shared experiences among users. This not only enhances the retail experience but also suggests broader implications for the social dynamics of fashion consumption in the digital age. Here, the convergence of technology and fashion can significantly impact how individuals interact with each other and create enduring memories related to their fashion choices.

4.3.1.4 Influences of interactive technology on retail design – transforming the role of physical stores

Elevation of the physical store as a platform for conveying brand stories

The interviewees mentioned that interactive technology provides a dynamic platform for storytelling. Brands can utilise these technologies to communicate their history, values, and the narrative behind their products or services. X21 specifically discussed SMFT, which provides a unique opportunity for brand storytelling:

“While recommending clothing styles, the smart mirror also introduces the narratives about the brand’s ethos, design inspiration, and commitment to quality. It also includes the reviews of other customers and internet influencers’ comments” (X21).

This storytelling imbues the shopping experience with depth and meaning, fostering an emotional connection between customers and the brand. Meanwhile, SMFT can seamlessly integrate with social media platforms, enabling customers to share their outfit choices and shopping experiences online. It also provides an opportunity for customers to review comments from other customers through the smart mirrors. This resulting user-generated content becomes a powerful vehicle for amplifying the brand's reach and visibility. These authentic endorsements extend the brand story to a broader audience, further reinforcing the brand's identity. Another expert was consistent with these comments and added that interactive installations stand as a prime

example of how interactive technology can immerse visitors in a brand's values and stories:

"The target customers of the Lily brand are the modern female, whom we call 'Lily girls.' They are a group of people who are in the ascending stage of career development. They are fashionable, ever-changing, optimistic, cheerful, full of positive energy, independent, and care about self-expression and artistry. We want visitors to realise our brand value by themselves… That is one of the reasons why we set up two art installations in our store. For example, the 'Delayed Photography Art Installation' enables individuals to become integral to the art, "copying and pasting" numbers of images of themselves onto the screen. That is also a form of self-expression and delivers the message that Lily girls are creative, have their own style, and are ever-changing" (X20).

This quote highlights the strategic approach of the Lily brand in using physical retail stores as a platform for conveying brand stories to their target customers. By setting up two art installations within their stores, Lily aims to elevate the physical store beyond a mere transactional space into an experiential one. This installation invites visitors to actively participate in the brand narrative by integrating themselves into the artwork, essentially allowing them to become a part of the brand's story. These installations heighten the sensory experience, capturing attention and fostering a sense of emotional connection with the brand's identity. The immersive nature of these installations allows customers to experience the brand's values and vision, making it a pivotal tool for conveying brand stories. In doing so, the brand leverages the physical store not only as a point of sale but also as a canvas for immersive storytelling, fostering a deeper connection with its target audience and creating a memorable and high-impact retail experience that transcends traditional shopping.

Channel integration in the retail store

The respondents have illuminated the transformative potential of interactive technology in facilitating a seamless integration of online and offline shopping experiences. These technologies serve as conduits for establishing a symbiotic

relationship between the digital and physical realms of shopping. Their capability to personalise recommendations, furnish comprehensive product information, and facilitate smooth transitions between channels enriches the retail landscape and redefines consumer engagement. As articulated by one of the respondents:

"The 'Thousand Faces Big Screen' redefines the art of recommendation within physical stores. In the traditional paradigm, brand-trained staff recommend clothing to customers. Now, with the integration of smart mirrors, it identifies customer preferences and suggests clothing styles aligned with three distinct categories of the brand: The MODERN Series, The SMART Series, and The ART Series. These recommendations bear a striking resemblance to those provided by e-commerce platforms, offering a deeply personalised in-store experience" (X22).

Another expert also weighed in on how SMFT bridges the gap between online and offline shopping experiences by offering a depth of information as e-commerce:

"This smart mirror serves as an information hub, endowing customers with a wealth of product details, including price, material, styling options, and purchase links. Customers can effortlessly transition between offline and online shopping methods. For instance, should a customer decide to explore more options or make a purchase online, they can easily do so through the provided purchase links and information" (X20).

The integration of smart mirrors into physical stores signifies a pivotal evolution in the retail landscape. Firstly, these smart mirrors harness the power of data and artificial intelligence to identify and cater to customer preferences, a feature commonly associated with online platforms (Amoako et al., 2021). By

categorising clothing styles into distinct series, akin to the categorisation on e-commerce platforms, they provide highly personalised recommendations. This implies a shift towards data-driven decision-making within physical stores, mirroring the online realm where the analysis of customer behaviour plays a central role in shaping the shopping experience. Secondly, these mirrors offer a wealth of product information, such as pricing, materials, styling options, and purchase links. This depth of information closely aligns with the extensive product details typically found on e-commerce websites. Customers, while physically present in the store, can access and leverage this information as they would online. The inclusion of purchase links further blurs the lines between offline and online shopping. Customers can seamlessly transition from exploring options in-store to making purchases online if they so choose, illustrating a fusion of the two shopping channels.

In essence, the integration of smart mirrors into physical stores exemplifies the innovative amalgamation of the strengths of both online and offline retail platforms. It empowers customers with personalised recommendations and comprehensive product information, thereby enhancing the overall shopping experience. This integration not only benefits customers but also suggests a fundamental shift in retail strategy towards a more customer-centric and data-informed approach, positioning physical stores to remain competitive in the evolving retail landscape.

4.3.2 Case 5: Uniqlo Flagship Store

4.3.2.1 Background of The Case

Uniqlo is a well-known Japanese casual apparel brand that has gained global recognition for its high-quality, affordable clothing and minimalist design philosophy. Founded in 1984, Uniqlo is a subsidiary of Fast Retailing Co., Ltd., and it has become a favourite destination for fashion-conscious consumers seeking comfortable and versatile clothing options. Uniqlo's mission revolves around providing "LifeWear," which are everyday essentials designed to make people's lives better and more comfortable.

Uniqlo is known for its commitment to innovation in fabric technology and design. They offer a wide range of clothing items, including T-shirts, jeans,

outerwear, innerwear, and accessories, all known for their functional and timeless design. The brand often collaborates with famous designers and artists to create limited-edition collections, further enhancing its appeal to a diverse customer base.

On March 30, 2018, Uniqlo inaugurated its largest store in Shenzhen, located within the prestigious MixC World shopping centre. Spanning three levels and encompassing a total floor area of 2,600 square meters, this store also marked the introduction of Uniqlo's "Digital Experience Hall" concept in mainland China.

The opening of Uniqlo's flagship store in MixC World, Shenzhen, was underpinned by the brand's strategic commitment to the "Digital Consumer Retail Company" concept, a paradigm that had been put forth the preceding year. This concept was meticulously tailored to align with Shenzhen's unique characteristics as a fast-paced metropolis known for its ceaseless activity, with a city that truly never sleeps. Simultaneously, it was finely attuned to the prevailing trend of consumer upgrading within China's first-tier cities, characterised by a proclivity for quality, a pursuit of a wholesome and health-conscious lifestyle, an appreciation for cultural and creative endeavours, and a ready embrace of cutting-edge technological advancements.

The flagship store in MixC World introduced four distinct themed clothing experience zones, each catering to a specific aspect of urban life. Classic Quality Wardrobe: Designed for urban professionals, this section curates essential daily wardrobe items that represent the future of fashion. It includes premium linen collections, Polo series, men's and women's shirt collections, and Uniqlo U series, among others. Healthy Lifestyle Refuelling Station: This zone offers activewear that blends premium fabrics, functionality, and aesthetics, transforming everyday life into a healthy and active journey. It includes the high-stretch Dry-EX series, SPRZ NY series, and loungewear collections. Creative UT Museum: Showcasing Uniqlo's UT series, this section features designs inspired by a diverse range of global pop culture, art, music, comics, design, and personalities. It presents a cultural extravaganza celebrating global diversity. 24-Hour Living Space: This area presents a comfortable and dynamic 24-hour experience with Uniqlo's denim collection, offering various styles to meet different lifestyle scenarios.

The "Uniqlo Digital Experience Hall" is designed to provide an intelligent shopping experience that seamlessly integrates online and offline channels. Upon entering the store, consumers can use a mobile social media application called QQ to scan posters. This action initiates augmented reality (AR) experiences, transforming two-dimensional (2D) posters into vivid, active, moving three-dimensional (3D) scenes. Additionally, customers can access a wealth of information, including details on product themes, flagship product announcements, fashion styling suggestions, and exclusive member benefits (see Figure 4.22).

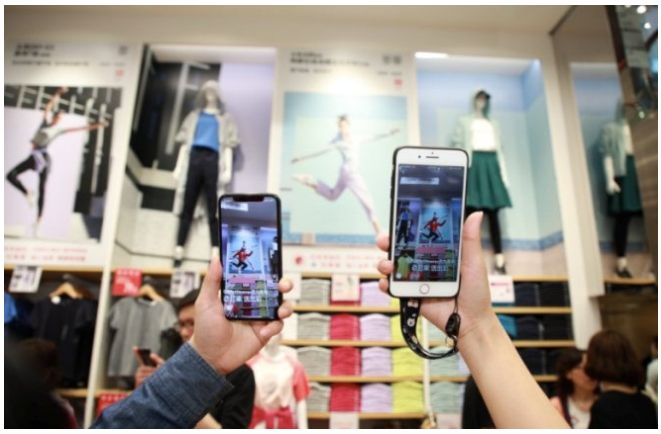

Figure 4.22 Uniqlo – Scanning Poster
(https://www.sohu.com/a/227223174_663226)

Customers have the option to browse the "Uniqlo Digital Experience Hall" even when they are not physically present in the store, allowing them to access the same information. The digital interface displays a representation of the physical store's floor layout. By clicking on specific sections or blocks, users can access information related to the corresponding product series (see Figure 4.23). This feature ensures 24-hour accessibility, enabling individuals to engage with the store's comprehensive content and spatial aesthetics, regardless of temporal and spatial constraints.

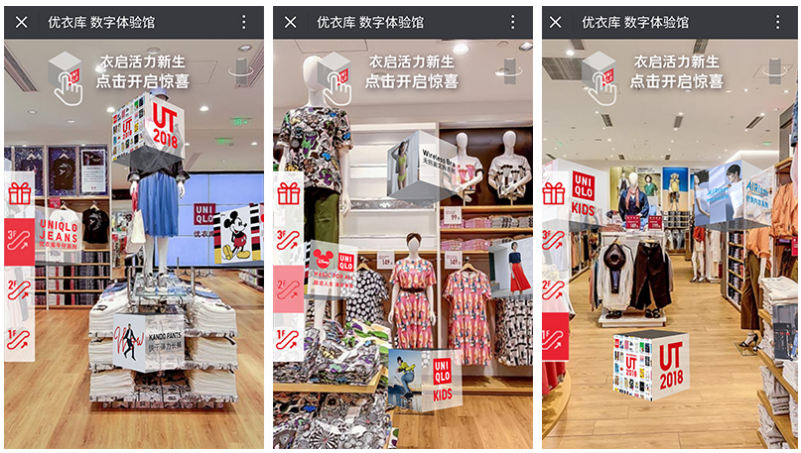

Figure 4.23 Uniqlo – Browse "Uniqlo Digital Experience Hall" Online
(https://www.toodaylab.com/75394)

Additionally, the store has integrated two notably practical devices. The first is an intelligent robot named "Little U." This establishment is the only store nationwide currently utilising "Little U," whose distinctive capability lies in voice interaction. For instance, if one wishes to select a shirt, they can initiate a voice command to "Little U" stating "shirt," prompting the robot to filter and present all shirts from the current season. Additionally, keywords can be appended or reduced for refined searches. Moreover, in the event the desired style is unavailable or out of stock in the store, customers can seamlessly transition online, accessing the Tmall flagship store via "Little U," epitomising the integration of online and offline shopping experiences. It is anticipated that "Little U" will roll out further functionalities in the future (Figure 4.24).

Figure 4.24 Uniqlo – "Little U"
(http://www.linkshop.com/news/2019419868.shtml)

The second device is contextual shelves that offer specific information about products relevant to its immediate location. For example, the shelf situated in the women's clothing section on the first floor predominantly showcases the season's latest women's fashion, encompassing aspects like posters, products, fabrics, and styling suggestions (see Figure 4.25).

Figure 4.25 Uniqlo – Contextual Shelf
(https://www.toodaylab.com/75394**)**

With respect to the newly introduced "U Space" interactive area on the third floor, the primary emphasis is Uniqlo's incorporation of the community concept (see Figure 4.26). Given Uniqlo's extensive age range among its target audience, this space is designed to cater to the diverse communities within its demographic. In "U Space," Uniqlo envisions creating a 24-hour lifestyle hub.

This zone is not merely limited to activities like yoga or other exercises but extends its focus to how specific clothing choices can enhance and promote a more active lifestyle. In the future, this area is expected to undergo periodic redesigns and will host a variety of interactive events, such as parent-child activities during the Children's Day celebrations, among others.

Figure 4.26 Uniqlo – 'U Space'
(http://www.linkshop.com/news/2019419868.shtml)

4.3.2.2 Different types of impact of interactive technologies on experiential dimensions

Typology of interactive technologies

AR
Intelligent robot "Little U"
Contextual shelves

Interactive technology enhances sensory and emotional experience

It was identified that the "Uniqlo Digital Experience Hall" innovatively integrates interactive technology with digital accessibility to enhance both sensory and emotional experiences for consumers. One expert highlighted the significance of AR technology within this framework:

"When customers scan posters using the QQ mobile app, they witness a sensory transformation. They are presented with 3D visuals of models wearing the same series of clothes, enabling them to gauge how the apparel fits and

appears in varied contexts. This facilitates a more immersive and realistic connection with the merchandise.” (X26)

Such an approach elevates the sensory experience, allowing consumers to interact with products dynamically and vividly. Moreover, this layer of interaction bridges the gap between mere visualisation and tangible application. This suggests that the integration of interactive technology in marketing strategies can significantly influence consumer engagement and product perception. It demonstrates the necessity of delivering visually compelling content to meet modern consumer expectations in an ever-evolving digital and interactive milieu. Moreover, adding human figures offered customers a sense of connection and familiarity. Another expert elaborated on the digital representation of the physical store's layout:

“The digital interface provides a virtual map of the store's floor plan, enabling users to explore various sections remotely. This augments the sensory experience by instilling a sense of spatial immersion. Customers, despite not being physically present, can navigate the store, evoking a genuine 'feeling of being there' and appreciating the store's design nuances.” (X25)

By facilitating virtual navigation of the store, this technology transcends the boundaries of the digital and physical worlds, deepening sensory engagement. This experience is paramount in replicating the tangible sensation of browsing a store, capturing its essence in ways traditional online shopping platforms couldn't. The expert also touched upon the incorporation of interactive technology like “Little U”:

“Introducing robots like 'Little U' in retail settings taps into the human affinity for novelty. For many, this marks their inaugural engagement with advanced

robotics in a shopping context, kindling curiosity and making the experience indelible." (X25)

As underscored by the commentary, integrating such robotics in retail spaces appeals to human attraction towards novelty. Engaging with "Little U" provides a multisensory feast: auditory pleasure from instant feedback and visual delight from watching the robot execute commands. This multifaceted interaction not only accentuates the shopping experience's memorability but can also bolster brand allegiance, promoting continued patronage.

Interactive technology emphasises intellectual experience

Respondents stated that as brands venture further into intertwining digital innovations with traditional retail practices, the emphasis on intellectual engagement will undoubtedly escalate:

"Traditional retailing was rooted in tangible interactions – tactile experiences with products, face-to-face conversations, and spatial navigation of physical stores. With the Digital Experience Hall, we artfully merge the tactile with the virtual, thereby stimulating intellectual curiosity. Consumers are encouraged to traverse both realms, leading them to form a holistic understanding of the brand. This dual-world fusion challenges the conventional and encourages consumers to reconceptualise what shopping means in the 21st century" (X27).

This expert further elucidated the key features that accentuate the intellectual component of the shopping experience in accordance with modern retail in the 21st century: granting autonomy in accessing information promotes self-directed exploration and is consistent with knowledge-driven consumerism (de Vere, 2014). As cited:

“By granting autonomy in accessing information irrespective of physical presence, Uniqlo promotes self-directed exploration. This autonomy places the consumer in an active role, transforming them from mere buyers to informed brand ambassadors. The Digital Experience Hall is a reservoir of detailed insights. By offering comprehensive data on product themes, styling suggestions, and more, Uniqlo positions itself as a knowledge provider. Such in-depth information enables consumers to make informed decisions, aligning with the modern trend of conscious, informed consumerism. The digital interface provides customers with a wealth of information about product themes, flagship product announcements, fashion styling suggestions, and exclusive member benefits. It can create a sense of empowerment, making customers feel like they have a deeper understanding of the brand and its offerings” (X27).

From these excerpts, there is a clear suggestion of a paradigm shift in how consumers interact with and perceive brands. Traditional retailing, characterised by tangible interactions, face-to-face conversations, and the physical navigation of stores, appears to be undergoing a transformation with the advent of platforms like the Digital Experience Hall. This interactive technology does not merely supplement the retail experience; it fundamentally reshapes it, foregrounding intellectual engagement. The mention of "stimulating intellectual curiosity" accentuates this emphasis on cognition over mere consumption. The digital platform positions consumers not as passive buyers but as "informed brand ambassadors," indicating a more empowered and active role in the brand's ecosystem. This shift is in alignment with the broader trend of knowledge-driven consumerism, where consumers are more informed and value-rich content. By granting consumers the autonomy to access comprehensive data, the retail journey is transformed from a mere transaction to a more involved exploration. This underscores the idea that the modern consumer seeks not only a product but an enriched understanding of the brand, its ethos, and its values. The implications of this are profound: brands that invest in such interactive technologies and cater to the intellectual inclinations of their customers might foster deeper loyalty and appreciation, positioning themselves not merely as vendors but as knowledge providers in a competitive 21st-century market. Other respondents highlighted interactive technology, such

as AR, as an intellectual stimulant capable of revolutionising experiences in retail stores:

“Through AR technology, the transformation of 2D posters into dynamic, 3D scenes in the Digital Experience Hall challenges the consumer’s perception of reality. Such interactivity invites consumers to actively engage, analyse, and reimagine products in different contexts, transcending the passive consumption of visuals” (X25).

Further echoing this sentiment, another respondent added:

“Navigating the virtual store layout offers a mapping experience. By empowering users to mentally chart the store and delve deeply into product series, our brand curates a structured, museum-like exploration. The experience *transcends mere shopping; it evolves into an educational tour, acquainting users with the brand's ethos, history, and offerings” (X26).*

It becomes evident that interactive technologies such as AR are not just vehicles for visual spectacle but are potent catalysts that amplify the intellectual dimension of brand experiences. The AR functionality in the Digital Experience Hall is not merely about visual captivation; it disrupts consumers' established perceptions of reality. Such technological affordance deviates from mere passive observation, compelling consumers to engage, dissect, and conceptualise products in diverse contexts. This heightened engagement propels them towards a more cerebral interaction with the brand. The analogy of navigating a virtual store layout further underscores this sentiment. The narrative suggests that this is not just about spatial orientation but a profound "mapping experience." The act of mentally navigating the store evolves shopping from a routine activity into a cerebral exploration, reminiscent of wandering through a museum. This transformation, wherein shopping metamorphoses into an "educational tour," delineates the power of interactive

technologies in fostering a deeper appreciation and comprehension of a brand's ethos, heritage, and product portfolio.

Interactive technology optimises the behavioural experience

The interviewees discussed how brands can leverage interactive technology to optimise the behavioural experience, as stated:

“Our store embraces the "Digital Consumer Retail Company" concept introduced by Uniqlo the previous year. Reflecting the vibrant, non-stop pace of Shenzhen, known as the "city that never sleeps," our store provides customers with round-the-clock digital services. This perpetual accessibility allows customers to engage on their terms, removing temporal and spatial barriers” (X26).

The omnipresent nature of the digital world means that brands have the potential to engage with consumers incessantly. The 24-hour accessibility of the Digital Experience Hall shows Uniqlo's understanding of modern-day consumer behaviour. This always-on approach allows for continuous engagement, accommodating diverse lifestyles and schedules. The expert also indicated that interactive technology can affect both dwell time and customers’ purchase behaviour:

“Brands thrive on innovation. People are more likely to interact with novel things and are willing to spend a longer time in the store. By showcasing complementary products or premium versions in the context of what the shopper is currently viewing on the digital screen, there is an opportunity for cross-selling and up-selling” (X26).

These excerpts foreground the evolving dynamic between interactive technology and consumer behavioural experience in the contemporary retail

landscape. The "Digital Consumer Retail Company" concept championed by Uniqlo epitomises the transformative nature of digitisation in brick-and-mortar spaces, particularly in bustling urban centres like Shenzhen. This strategy is not merely a reflection of a city's pace, but a calculated response to the ubiquitous nature of the digital realm. The perpetual accessibility it offers, void of temporal and spatial confines, underscores a pivotal shift in brand-consumer engagement strategies: a move from reactive engagement to proactive immersion. The "always-on" approach harmonises with the 24/7 digital habits of contemporary consumers, ensuring uninterrupted brand engagement. Furthermore, the salient point on interactive technology's influence on dwell time and purchasing behaviour elucidates a symbiotic relationship: while consumers are drawn to innovation and novelty, brands can strategically leverage this attraction for potential cross-selling and up-selling, enriching the commercial aspect of the interaction. Thus, the intricate melding of interactive technology with retail experience is not only reshaping consumer behaviour but also redefining the paradigms of brand value creation, with implications for both store design and sales strategies in an increasingly digital age.

4.3.2.3 The role of interactive technology in designing and developing retail experiences

Interactive technology personalises the retail experiences

In the digital era, personalisation is not merely a preference but an expectation (Cavdar Aksoy et al., 2021). This highlights the need for brands to harness technologies not just to maintain relevance but to reshape the parameters of consumer-brand interactions. One respondent noted:

“Uniqlo enhances individual customer narratives by tailoring product details, offering fashion advice, and providing exclusive benefits. This fosters a brand intimacy where customers feel acknowledged, appreciated, and catered to, enhancing their overall experience. Additionally, by acknowledging and accommodating the diverse schedules and lifestyles of contemporary consumers, the brand further strengthens this intimacy and elevates the overall customer experience.” (X26)

Uniqlo's approach, characterised by personalised product details and fashion advice, exemplifies the current trend in which interactive technology transitions from being a mere supplementary feature to a fundamental aspect of modern retail strategies. Such personalisation surpasses basic product suggestions and delves deep into the essence of brand-consumer relationships. Another expert agreed, stating:

“In the current climate of information abundance, consumers place increasing importance on personalisation. 'Little U', equipped with voice interaction, offers customers a unique, tailored journey. Customers no longer just browse through products; they take charge of their shopping experiences. This active participation deepens the bond between the consumer and the brand, leading to a more personalised retail environment.” (X27)

The observation from X26 offers an insightful analysis of the profound influence of interactive technology on the retail domain. "Little U" represents the changing desires of the modern-day consumer by harnessing voice interaction to revolutionise the way people shop. Traditional shopping models depicted consumers as passive recipients within a fixed retail structure. However, interactive technology empowers them, allowing them to actively shape their shopping experience. This leads to a significant transformation: consumer-brand interactions shift from being merely transactional to becoming collaborative engagements. Brands now play a role beyond being mere product providers; they become architects of customised experiences. This transformation, driven by interactive technology, not only paves the way for a more engaging retail scenario but also demands brands to innovate persistently, ensuring they meet the sophisticated and empowered consumer's demands.

Interactive technology enables flexibility

It has been observed that the Uniqlo store emphasises both the operability and sustainability of technology. An expert offered a comprehensive perspective on the brand's approach to digital innovation within the retail sector:

“Smart solutions are designed to enhance convenience and efficiency in day-to-day life. While Uniqlo China has been a pioneer in digital advancements, it firmly believes that digitisation must serve a tangible purpose rather than existing solely for spectacle. Although digital tools play a crucial role, maintaining fidelity to core brand values remains paramount for Uniqlo. Our ongoing objective is to integrate cutting-edge technologies and platforms in a manner that fortifies our connection with our products, brick-and-mortar outlets, and, above all, our clientele. Our approach may not always be ostentatious, but it is always meticulously tailored to cater to the tangible needs of our customers” (X27).

The statement underscores Uniqlo's commitment to the pragmatic integration of smart solutions, prioritising genuine everyday convenience and efficiency. This intentionality highlights the brand's discernment against mere digital displays devoid of substantive enhancements to the user experience. Fundamentally, Uniqlo envisions technology as a facilitator rather than mere ornamentation. Through the seamless melding of technology with its product range and physical stores, the brand aspires to deepen its relationship with its customer base, reflecting a profound grasp of contemporary retail dynamics. This resonates with a pivotal notion in modern retail research: retail should transform from a product-centric to a customer-centric approach (Gupta and Ramachandran, 2021; Naim, 2022). Hence, Uniqlo's strategic direction is adeptly tuned to the intricate requirements of today's consumers, underlining the indispensability of customer-centric and purposeful digitisation in the current retail milieu. Another respondent emphasised that the "Uniqlo Digital Experience Hall" represents a paradigmatic shift in retail, employing interactive technology to bridge the spatial chasm between consumers and the brand:

“Within the "Uniqlo Digital Experience Hall", customers have the opportunity to explore even if they are geographically distant from the physical store. This functionality not only delivers convenience and flexibility but also deepens the emotional connection by allowing consumers to interact with the brand and its offerings at their discretion. It fosters a sense of continuity, integrating the brand into their shopping habits and everyday milieu” (X25).

This commentary accentuates the pivotal role of technology in revolutionising retail. By facilitating remote immersion into its core values, Uniqlo breaks free from the traditional boundaries of brick-and-mortar retail, nurturing a more pervasive and sustained brand-consumer engagement. This capacity for virtual engagement, in addition to offering pragmatic advantages, implies that the retail sector's evolution will be heavily influenced by how brands harness technology to weave themselves into consumers' daily narratives. Another respondent brought attention to the advancements in search and filter capabilities offered by interactive technologies, exemplifying the adaptive nature of contemporary retail experiences:

“Navigating to desired products within a vast selection has traditionally been one of the substantial impediments to an optimal shopping experience. The "Little U" platform addresses this challenge head-on by implementing an intuitive voice-based search functionality. The dynamic capability to modify search queries by adding or removing keywords ensures a seamless browsing journey, diminishing hurdles and enhancing overall satisfaction” (X26).

The mention of "Little U", as explicated in the statement, underscores the strategic utilisation of interactive technologies to streamline and amplify the user journey. The perennial challenge in retail—the traversal through an extensive array of products to locate specific items—finds an innovative solution through voice-activated search interfaces. Such voice interactions are representative of the broader trend toward human-computer dialogues that parallel human-

human exchanges, democratising and simplifying technological engagements. Moreover, "Little U's" proficiency in evolving based on real-time keyword modifications epitomises the move towards tailored and dynamic search experiences. This adaptiveness not only reduces cognitive strain but also augments the gratification inherent in the shopping activity. The integration of the online store exemplifies an effective omnichannel strategy.

Interactive technology enhances customer engagement

the potent synergy between interactive technology and traditional brick-and-mortar environments in augmenting customer engagement. As mentioned by X25, interactive technology holds immense promise for deepening consumer insights:

“Digital technology's interactions provide a goldmine of data. For example, ‘Little U’ patterns in voice commands, frequency of certain requests, and product preferences can be analysed to gain invaluable insights. This feedback loop can inform inventory decisions, marketing strategies, and even future iterations of the robot itself” (X25)

Interactive technology has substantially revolutionised customer engagement by leveraging the abundant data it generates. The mentioned "Little U" patterns in voice commands exemplify the nuances that digital technology can capture, illuminating the subtle ways customers interact with and utilise these tools. Such interactions, coupled with metrics like request frequencies and product inclinations, offer a treasure trove of analytical opportunities. Furthermore, in the continuously evolving retail landscape, the deployment of pioneering technologies such as "Little U" epitomises a deliberate strategy to exploit novelty to amplify customer engagement:

"Being the only store to deploy "Little U" offers a distinct competitive advantage. Its novelty serves as a magnet, attracting both tech enthusiasts and everyday

shoppers alike. The robot serves not only as a functional tool but also as a unique selling proposition, engaging our customers in diverse ways. This dynamic appeal ensures that customers continuously encounter fresh experiences, encouraging repeat visits and fostering sustained engagement." (X25)

As highlighted in the excerpt, exclusive adoption of such avant-garde innovations can bestow a marked competitive edge. This accentuates the confluence of technology with experiential marketing: the attraction lies not just in the robot's operational prowess, but also in its potential to stand out as a unique selling point. The ramifications are dual-pronged: firstly, modern-day retailers must relentlessly innovate to sustain customer intrigue, and secondly, the assimilation of interactive technology represents not merely a passing trend but a crucial tactic in fortifying long-standing customer relations.

Another respondent highlighted that AR doesn't merely refine the boundaries of consumer engagement by making it increasingly interactive and immersive, but also serves as a pivotal intermediary linking the tangible and digital facets of shopping, thus rendering the experience more comprehensive and impactful:

“Conventional retail environments have predominantly depended on static displays to captivate consumers. With the introduction of AR, this paradigm is elevated to a more dynamic dimension. By transforming 2D posters into engrossing 3D scenarios, Uniqlo doesn't solely command the consumers’ attention, but further evokes emotional reactions, cultivating deeper brand associations. Simultaneously, AR functions as an interstice between palpable products and digital data, affording consumers an integrated perspective of products. Such integration guarantees that consumers aren't tethered exclusively to either the physical realm or the digital, rendering shopping a seamless endeavour. This uninterrupted accessibility ensures that a global demographic can interact as per their convenience, optimising both reach and engagement.” (X27)

The statement encapsulates the revolutionary prowess of interactive technology in reconfiguring consumer engagement paradigms. Historically, retail environments have been grounded in static modes of engagement—a framework that, albeit efficient, possesses inherent constraints in the magnitude of rapport it can cultivate with consumers. Uniqlo's strategic adoption of AR to transmute 2D visuals into immersive 3D landscapes signifies a marked deviation from convention. This approach extends beyond mere aesthetic allure, delving into emotional dimensions, thus engendering more profound and lasting brand connections. Furthermore, the consumer's shopping trajectory is no longer compartmentalised into isolated physical or digital sectors but exists as a harmonised continuum. This suggests that as brands exploit AR to proffer consistent accessibility, unhindered by time or location, they inadvertently foster a more inclusive and dynamic engagement paradigm, inviting audiences to partake in interactive experiences at their discretion. Such initiatives not only amplify outreach but also deepen the intimacy of brand-consumer dialogues in the contemporary digital milieu.

Interactive technology encourages experience sharing

The respondent suggested that interactive technology does not merely serve as a medium for consumption but as a catalyst for the active dissemination of experiences:

“In today's world, where everyone is inseparable from their smartphones, content shared within our social networks has a deeper impact than simple ad placements. Integrating these retail experiences with popular communication channels, like QQ, not only enhances convenience but also resonates deeply with the digitally-native generation, aligning brand experiences with everyday digital interactions. Given the interactive nature of the experiences available, consumers are likely to share their encounters on social platforms. Such organic sharing amplifies brand reach and serves as a powerful endorsement, driving both interest and trust.” (X27)

This quote underscores the profound shift in the dynamics of brand-consumer interactions in an age dominated by smartphones and digital platforms. The narrative strongly emphasises the augmented importance of content shared within social networks, suggesting that it surpasses the efficacy of traditional advertising models like ad placements. This shift can be attributed to the pervasive integration of interactive technologies into retail experiences. Platforms such as QQ, emblematic of popular communication channels, are not just facilitators but are agents that deepen the resonance of brand experiences for the digitally-native generation. Such platforms intuitively weave brand narratives into the daily digital fabric of the consumer's life, fostering a more intimate and authentic connection. Furthermore, the inherent interactivity of these digital experiences fosters sharing—this spontaneity in sharing can be seen as a genuine endorsement, a modern-day word-of-mouth. For brands, this translates to amplified reach and credibility, offering a dual advantage: not only does it capture interest but it also establishes trust.

4.3.2.4 Influences of interactive technology on retail design – transforming the role of physical stores

Channel integration in the retail store

The findings in this theme emphasise the confluence of online and offline retail experiences, shedding light on the evolving consumer behaviour and the transformative role of technology:

"In the latest developments, the incorporation of an offline store feature grants consumers dual access points: online and offline. This allows them to overcome both temporal and spatial limitations. This integration, termed a 'seamless amalgamation', merges the tangible attributes of offline shopping with the intangible benefits of online commerce. It resonates with the current consumer landscape where mobility, in both its digital and physical manifestations, is deeply integrated into daily life. As a result, this innovation augments the offline self-service shopping experience, making it both immersive and multi-faceted." (X27)

This "seamless amalgamation" accentuates the pivotal role of interactive technology in melding virtual and physical retail avenues. The aforementioned offline store feature doesn't merely dissolve the constraints of time and location. It also reflects the zeitgeist of today's consumer environment, where mobility is a staple in daily activities. Adopting such a comprehensive approach to retail aligns with the escalating consumer demand for seamless and adaptable shopping experiences. In supporting this view, another respondent noted:

“The dichotomy between online and offline shopping has historically been a significant discussion point in retail strategy. 'Little U' serves as a testament to the successful merging of these two spheres. By enabling a seamless interchange between in-store and online shopping experiences, it liberates customers from the tangible constraints of physical storefronts, thereby enhancing accessibility and convenience.” (X26)

This commentary highlights the value of a hybrid retail methodology in current strategic thinking. "Little U", in its role as a technological instrument, exemplifies this fusion, facilitating an uninterrupted continuum between physical and digital shopping interfaces. Such integration, empowered by advanced interactive technology, reinforces the idea that the contemporary retail environment should transcend traditional brick-and-mortar limitations. By bridging both realms, there's a notable enhancement in accessibility, as well as a significant boost in convenience for consumers. This suggests that retailers employing these comprehensive platforms are better positioned to serve an expansive and discerning clientele, ensuring their preferences are accommodated regardless of their chosen shopping channel.

4.4 Chapter Summary

In this chapter, a qualitative research design is employed to thoroughly explore the integration of interactive technologies within the physical stores of five major retail brands: Canada Goose, Burberry, Ralph Lauren, Lily, and Uniqlo. The investigation focuses on three primary themes and their respective sub-themes:

the impact of different interactive technologies on experiential dimensions of brand experience, the role of interactive technology in shaping retail experiences, and the influence of interactive technology on retail design which, in turn, transforms the role of the physical store. These case studies provide diverse perspectives, offering a comprehensive view of the evolving retail environment in the face of changing consumer expectations and technological advancements.

These core themes were analysed guided by two frameworks – the four threads of experience (McCarthy and Wright, 2004) and customer engagement measurement (Hollebeek, L.D. and Chen, 2014; Vivek et al., 2014), and also aligned with them. Throughout engagements with interactive technology, the function and design of the technology captivate customers' attention (conscious attention). The human sensory system perceives elements from both the digital and physical worlds (sensual), subsequently processed through thinking (compositional) (cognitive engagement) and feeling (emotional) (affective engagement). During these processes, there is a manifestation of customers' eagerness and focus in engagement activities (enthusiastic participation). All of these aspects are invariably influenced by the specific situation and condition (spatio-temporal) prevailing at the time of interaction.

The first case is Canada Goose, emphasising the transformative impact of integrating interactive technology into retail spaces, shifting them from transactional points to immersive brand experiences. Through initiatives like LIDAR-driven floors, brands create multi-sensory engagements, forging emotional connections with consumers. This fusion of digital and physical realms mirrors online convenience while enhancing in-store experiences. Interactive technology facilitates personalised shopping and provides retailers with valuable behavioural data for strategic evolution. Social media platforms amplify these effects, reinforcing brand loyalty. The finding of this case highlights the evolving convergence of online and offline touchpoints, necessitating a participatory approach to brand communication.

The findings of Burberry case offers a comprehensive exploration of the evolving retail dynamics, spotlighting the transformative interplay of physical spaces, digital tools, and nuanced customer engagement strategies. The

synthesis of these elements hints at a future where technology, personalisation, and continuous engagement redefine the retail landscape. QR codes and WeChat mini-programs enable nuanced experiences, fostering brand loyalty through tailored interactions. 'The Space' store exemplifies this evolution, transforming static displays into interactive narratives and empowering customers as brand advocates. Gamification strategies, like WeChat Mini Programs, sustain engagement, while challenges in replicating this model outside China are recognised. A shift towards customer autonomy, accelerated by the pandemic, underscores the importance of direct brand interactions and autonomous information seeking.

The Ralph Lauren case study explores Smart Mirror Fashion Technology (SMFT) in modern retail, emphasising its potential to enhance customer-brand interactions and reshape the retail experience. SMFT offers customisable features like lighting and touch-enabled interfaces, fostering emotional connections and providing real-time product recommendations. Its integration of online and offline elements promises seamless shopping experiences, while personalisation and data-driven insights improve marketing strategies and inventory management. The findings of this case indicated the importance of purposeful technology adoption, positioning SMFT as a tool to elevate the human experience in retail and redefine the shopping journey.

Lily as the fourth case also indicated that how interactive technologies are transforming the retail landscape, reshaping customer-brand interactions across sensory, emotional, intellectual, and behavioural dimensions. Technologies like SMFT engage customers actively, providing personalised information and enhancing satisfaction. This immersion increases the likelihood of sales conversions and deepens brand loyalty. Additionally, physical stores evolve into dynamic storytelling mediums, leveraging platforms like SMFT to communicate brand values and foster emotional connections. Integration of digital and physical channels offers seamless shopping experiences, characterised by data-driven personalisation and fluid transitions. Overall, the study highlights the significant impact of interactive technologies on retail, setting new standards for engagement and multichannel interactions.

The final case is Uniqlo, the findings illustrate a significant shift in the retail sector, driven by the integration of interactive technology and evolving consumer expectations. Initiatives like the "Uniqlo Digital Experience Hall" utilise augmented reality (AR) to enrich consumer experiences, while voice interaction technology, such as "Little U," empowers consumers to actively engage in their shopping journeys. Consumers are increasingly seeking detailed insights and intellectual engagement, prompting brands to strategically leverage digital services for enhanced consumer experiences and influencing purchasing behaviours. The concept of a "seamless amalgamation" of online and offline retail emphasises the importance of innovative platforms and technologies in bridging traditional retail boundaries, underscoring the necessity for brands to adapt and remain relevant in an increasingly digitalised landscape.

Overall, through in-depth case studies, the findings illustrate a transformative shift from traditional transactional models towards immersive, experiential brand encounters facilitated by interactive technologies. The interplay between physical spaces, digital tools, and customer engagement strategies elucidates a future where seamless amalgamation of online and offline retail becomes imperative for brands to remain competitive and relevant. In the next discussion chapter, the thesis' primary contributions are presented, weaving together central concepts derived from the integration of all themes and subthemes, alongside the literature and theoretical underpinnings delineated in chapter two.

Chapter 5 Discussion

5.1 Introduction

Despite the burgeoning interest in interactive technology within fashion retail environments, a significant gap remains in understanding its comprehensive impact on customer interactions, customer brand engagement, and retail design (McCarthy and Wright, 2004; Hansen and Mossberg, 2013; Siregar and Kent, 2019; Wang et al., 2023c). This gap highlights the necessity for in-depth exploration and analysis, of the following research questions: (RQ1) how do customers interact with interactive technology in fashion stores; (RQ2) how might interactive technology change the way customers engage with the brand; and (RQ3) what is the role of the interactive technology in retail design.

Traditionally, physical retail environments have relied on atmospheric features such as music, visuals, and lighting to enhance the shopping experience. Moreover, these environments have provided opportunities for customers to interact with merchandise through tactile exploration and to develop relationships with staff through personal selling and advising. However, this research contributes to the field by explaining how the introduction of interactive technology has significantly augmented these traditional roles (see Table 5.1). Interactive technology stimulates dynamic and multi-dimensional experiences, thereby enhancing and harmonising in-store atmospherics. This technology introduces innovative methods for customer interaction, leading to aesthetic enjoyment and increasing the degrees of realism and relevance within the shopping environment. Additionally, it supports channel integration and gamification, facilitating seamless omnichannel interaction, which is critical in today's retail landscape. This integration encourages social media engagement and extends the promotional footprint of retailers. Moreover, interactive technology strengthens in-store engagement and fortifies the relationship between brands and customers, providing a more enriched and immersive shopping experience.

The subsequent sections delineate the correspondence between the thesis' core contributions and the literature. Offering a comprehensive understanding of the theoretical underpinnings and practical applications of interactive technology

in fashion retail. The following sections also demonstrated the implications and recommendations of this research.

Table 5-1 Key Contributions

Existing physical retail role	Atmospheric features: music, visuals, lighting
	Merchandise interaction: trying, tactile exploration
	Staff interaction: relationship connections, personal selling/advising
Enhanced role of retail through interactive technology	Stimulates dynamic and multi-dimensional experiences: improves and harmonises in-store atmospherics, introduces new methods for interactions, leads aesthetic enjoyment, increases degrees of realism and relevance.
	Supports channel integration and gamification: facilitates seamless omnichannel interaction.
	Encourages social media engagement and promotional footprints.
	Extends in-store engagement and strengthens the relationship between brands and customers.

5.2 Stimulates dynamic and multi-dimensional experiences:

Interactive technology in fashion retail stores plays a multifaceted role that profoundly shapes the overall shopping experience. Brakus et al. (2009) identify four types of brand experiences, which are sensory, affective intellectual, and behavioural. Hoyer et al. (2020b) build on this theory and examine the experiential dimensions impacted by artificial intelligence (AI) technology as cognitive, sensory/emotional, and social. Moreover, Baek et al. (2020) investigated a virtual tour through the different dimensions of brand experience and argued that retail brands could gain distinct advantages by employing virtual tours to showcase physical stores online. This study contributes to previous research by revealing that interactive technology settings in physical stores, as brand-related stimuli, can enrich sensory, emotional, intellectual, and behavioural dimensions of experiences. Interactive technology transforms the traditional retail encounter into a dynamic experience. As several experts indicate “With the introduction of AR, this paradigm is elevated to a more dynamic dimension” (p. 168), interactive technology evokes “dynamic appeal…fostering sustained engagement” (p.168), and resulting in “engage our clients to explore our store in a more dynamic way” (p147). The essence of this

dynamic experience and engagement is facilitated by interactive technology, allowing customers to engage dynamically with two atmospheric domains—digital and physical—within the context of fashion retail environments. Through interactive technology settings in fashion stores, augmented reality (AR) applications on smartphones, and the products and/or physical elements of surroundings, customers can seamlessly and dynamically experience these three different but linked realms. This dynamic experience and engagement stimulate their senses, evoke emotions, and foster intellectual curiosity, resulting in a more profound and memorable retail encounter.

Atmospherics assumes a pivotal role as experiential elements, constructing frameworks for both digital and physical worlds. All stimuli perceived by customers, contributing to their dynamic experiences and engagement, originate from cues within atmospherics, encompassing factors such as colours, lighting, merchandise, and images. These cues manifest in both digital and physical forms. Therefore, both digital and physical atmospheric elements are crucial in shaping interaction experiences, serving as stimuli perceived by customers. This concept aligns with findings from seminal studies on atmospherics. Early investigations into physical atmospherics by Baker et al. (1992) revealed that store environments significantly impact customer perceptions and behaviours. Turley and Milliman (2000) further refined this understanding, showing that specific atmospheric variables can enhance customer satisfaction and spending. Ballantine et al. (2015) demonstrated atmospheric cues are able to affect successive stages of the retail experience. there is a consistent indication that well-designed atmospherics can enhance engagement during store visits. Similarly, studies on digital atmospherics, or e-atmospherics, have concluded that they can elicit positive affect or emotions, thereby fostering engagement (Dennis et al., 2012; Poncin and Mimoun, 2014).

The four threads of experience framework (McCarthy and Wright, 2004) and customer engagement measurement (Hollebeek, L.D. and Chen, 2014; Vivek et al., 2014) further elucidate the significance of designable object elements in shaping experiences and engagement through human senses, known as the sensual thread and affective engagement. These frameworks highlight the importance of sensory and emotional stimuli in creating engaging experiences. This thesis extends these existing threads and indicates that by transforming

static atmospheric elements into interactive and immersive stimuli, retailers can create more engaging and emotionally resonant environments that foster deeper customer connections. These findings emerge from smart mirrors from Ralph Lauren and Lily (see section 4.2.3 and section 4.3.1) and touch-based sensors from Canada Goose (see section 4.2.1) not only provide visual and tactile stimuli but also facilitate interactive and immersive experiences that deepen emotional connections with the brand. This integration blurs the boundaries between digital and physical atmospherics, creating a cohesive and engaging customer journey.

In that case, how to set the interactive technology and make it harmonise between the digital and physical atmosphere is important. The situating of interactive technology within a fashion store leads customers to naturally observe and interact with all aspects that fall within their field of vision, encompassing elements such as store layout, flooring, and lighting. Whilst studies have recognised the potential of interactive technologies in retail spaces to positively affect users, they frequently overlook the influence of the environmental factors surrounding customer interaction. For instance, Dennis et al. (2014) explored the effect of digital screens on the evoked experience, noting their ability to elicit positive affect, including feelings of happiness, satisfaction, and stimulation (Dennis et al., 2010). Similarly, research suggests that smart mirror fashion technology (SMFT) can positively influence perceptions of store atmospherics and enhance customer engagement (Wang et al., 2023c). These studies highlight how interactive technology can influence customers, yet they predominantly focus on the technology itself, neglecting the importance of surrounding elements. These surrounding elements encompass the physical atmospherics present in the store where the interactive technology is situated. Siregar and Kent (2019) argue that while users may be absorbed in the content of the screen of interactive technology, they also associate the nearby physical atmospherics with the presented content. Thus, the presentation of elements surrounding interactive technology holds paramount importance. This research extends previous findings by highlighting how interactive technology can seamlessly integrate into the physical retail environment and even merge with the products themselves. There are multiple cases as evidenced that exemplify this integration: an interactive floor that

simulates the sound of cracking ice as people walk on it (see section 4.2.1), touch-based sensors (see section 4.2.1) and QR code (see section 4.2.2) on products, and interactive window displays (see section 4.2.2). By incorporating interactive technology into decorative elements and other environmental factors, retailers can enhance the quality of the content and effectively convey crucial messages. Moreover, this research not only corroborates the positive effects of interactive technologies identified by earlier studies but also shifts the focus to include the holistic retail environment. It offers a nuanced understanding of how these technologies should be harmonised with physical atmospherics. By blending digital and physical elements, retailers can create environments that are both engaging and emotionally resonant, ultimately fostering deeper connections between customers and the brand.

In this context, the meticulous consideration of the integration and positioning of interactive technology in fashion store design is crucial. The strategic placement of interactive displays throughout the store can forge immersive environments that augment the overall retail ambience. By synchronising interactive technology with ambient elements like store layout and decoration, retailers can efficaciously enrich content quality and underscore brand messaging (see p.78). Areas within fashion stores dedicated to interactive technology act as dynamic focal points, merging digital with physical attributes. These zones are not simply showcases for technological innovations but are integral to the brand narrative (see p. 92). From virtual fitting rooms and touchscreen displays detailing products, to interactive mirrors offering tailored styling tips, these technologies should complement the store's design ethos while providing enriching customer experiences.

The academic discourse on atmospheric conditions, particularly visual merchandising, consistently emphasises the pivotal role of visual design within retail spaces. Cuong (2019) indicated the significant impact of visual merchandising elements—such as window displays, fixtures, colour schemes, and illumination—on shaping a store's image and influencing consumer purchasing behaviour. Baker et al. (2002) deduced that a store's physical design exerts a more pronounced impact on perceived merchandise quality and customers' intentions to frequent the store compared to auditory elements or sales staff influence. The findings of this thesis highlight the predominance of

visual stimuli in engaging with interactive technology. The analysis of multiple cases showed that while recognising the engagement of additional sensory modalities, including auditory, tactile, and olfactory, visual stimuli remain central (see p.74, p.103, p.138, p.157-p.158). Thus, it is reasonable to contend that visual-related components should be prioritised in retail design, preceding other sensory factors.

5.2.1 Introduces new methods for interactions

Siregar and Kent (2019) observed that customers engaging with interactive technology focus not solely on the technology's screen but also tend to notice the surrounding physical elements. The authors emphasised the crucial role of visual merchandising elements situated near interactive technologies in contributing to an immersive experience. Building on this concept, they argued that customers using interactive technology perceive a dynamic interplay between digital (the interactive technology's screen) and physical (elements within the retail environment) visual elements. However, this research extends this notion by arguing that this dynamic interchange involves customers' smartphones, enriching the interactive experience during store visits. This finding emerges from the cases of Uniqlo, Lily and Burberry: customers might use their smartphones to scan a poster on the wall (see section 4.3.2) or a QR code on a digital screen (see section 4.3.1)/ products (see section 4.2.2), integrating their devices into the visual matrix of the store. Thus this thesis shows that enhanced engagement and interaction intensify the in-store experience, further building on the perception of quality of the total brand experience. For example, a fashion retailer might use AR to enable customers to see how a garment fits in various sizes and colours, combined with interactive store displays that provide real-time inventory information and personalised styling advice. Customers can use their smartphones to access additional content, such as promotional offers or product reviews, by scanning QR codes. By blending these digital and physical elements, the retailer creates a dynamic and engaging environment that not only enriches the shopping experience but also builds a cohesive brand narrative across multiple touchpoints.

In the meantime, The dynamic interplay between digital and physical domains offers customers engaging with interactive technology novel and epistemic sensations. These individuals come to appreciate innovative methods for interacting with objects in a shared environment. Such methods encompass: (1) utilising interactive technology in a retail space, (2) employing a smartphone within such an area, and (3) leveraging a smartphone to engage with interactive technology in these spaces. By doing so, customers encounter novel and stimulating sensory inputs that enrich their cognitive and emotional engagement. As one expert cited interactive technology provides “unique manner in which they interacted with the products” (p.87) and the other expert also demonstrated that interactive technology can “arouse curiosity within the store” (p.147). This multifaceted experience is marked by an elevated sense of arousal, inherently linked to conditions of alertness and awareness. Consequently, the processing of perception and experience is amplified, thereby augmenting the user’s capacity for deep engagement with the immediate environment (Jantzen, 2013).

Previous studies have identified that feelings of insecurity and discomfort can act as barriers, impeding the acceptance of new technology (Parasuraman, 2000; Roy et al., 2018), For instance, if customers are unfamiliar with or lack an understanding of new interactive technologies, they may be dissuaded from utilising them. This thesis has demonstrated an effective method to address such issues: by facilitating the integration of customers' daily use of devices—specifically smartphones—with interactive technology, which could help to alleviate their distrust and skepticism towards new technology. This integration leverages the familiarity and comfort that users have with their smartphones to introduce them to new interactive technologies in a non-intimidating manner. For example, a customer using a smartphone to scan a QR code on a digital screen in a retail store can access personalised information or promotional content, creating a seamless and engaging experience that merges their digital habits with the physical shopping environment (see p. 165-p.166), “driving both interest and trust” (p.169). According to Barhemmati and Ahmad (2015), certain consumers prioritise either the price or the quality of goods and services provided. However, according to the experts described, some customers exhibit a pronounced affinity towards technological advancements. They demonstrate a

strong attachment to digital platforms and place considerable importance on how a company engages with and provides support to its clientele, whether through virtual or physical means.

5.2.2 Leads aesthetic enjoyment and increases degrees of realism and relevance

One aspect of Mathwick et al. (2001) model highlights that visual appeal and entertainment contribute to a positive aesthetic experiential value. Similarly, aesthetic experiences can be derived from factors such as background imagery, colour schemes, and style coordination (Cheung and Vazquez, 2015). This research extends their work by demonstrating that when customers use interactive technology, they experience aesthetic sensations. For instance, data from Burberry indicate that interactive windows can provide customers with artistic enjoyment (p.102), and the case of Lily “employs a novel and artistic approach” (p.138). These findings show that interactive technology not only offers functional benefits aiding the decision-making process but also evokes artistic enjoyment. This enjoyment does not necessarily translate into purchase intention but contributes to personal satisfaction and fulfils customers' intrinsic values. These aesthetic sensations can evoke positive emotions, inspire individuals, and enrich their knowledge with new ideas. For example, customers might receive style or outfit recommendations from interactive technology and apply these ideas to their personal fashion choices (see section 4.3.1). In this way, interactive technology can inspire individuals to craft their personal styles, thereby shaping their self-identity and self-presentation (Wang et al., 2023a). These sensations can swiftly elevate aesthetic satisfaction. Moreover, This research contributes to the literature by providing a deeper understanding of how interactive technologies can evoke aesthetic sensations and enrich customer experiences beyond mere functional benefits. While previous studies have primarily focused on the utilitarian aspects of interactive technology (Hernández et al., 2019; Adikari et al., 2020), this study underscores the importance of artistic enjoyment and personal satisfaction. By integrating interactive technology within retail environments, retailers can create spaces that not only assist in the decision-making process but also offer enriching and inspiring experiences that align with customers' intrinsic values.

Moreover, align with the studies of the computer interaction interface design (Zhang and Von Dran, 2000; Stone et al., 2005; Hausman and Siekpe, 2009; Pitale and Bhumgara, 2019), the integration of human elements emerges in interactive technology as a pivotal consideration, resonating profoundly with the overarching goal of enhancing customer engagement and satisfaction. Within this domain, graphical, visual, and textual components dictate the overall tone and atmosphere experienced by customers. However, there exists risk in these elements' excessively technological disposition, thereby potentially alienating users and impeding the attainment of optimal interaction. To mitigate such an outcome and foster a more immersive and welcoming user experience, the incorporation of human elements into content emerges as an important strategy.

Central to the rationale underlying the incorporation of human elements is the concept of relatability. By introducing human figures into interactive interfaces, developers afford users the opportunity to establish a sense of connection and familiarity, thereby engendering a more profound and enduring engagement. Indeed, the presence of relatable human personas or humanoids serves to bridge the perceived gap between the technological interface and the human user, thereby facilitating a smoother and more intuitive interaction. This alignment with the principle of relatability serves to imbue the interactive experience with a sense of authenticity and resonance, fostering a deeper connection between customers and the brand. Customers would even see themselves as part of the brand. For example, Burberry uses the Bambi figurine to “align with the preferences of today’s youth” (p. 101), as well as “continuously attracts and engages our customers” (p. 102). Furthermore, the incorporation of human elements extends beyond mere visual representation, encompassing the integration of familiar actions and poses derived from everyday life. By infusing interactive content with actions such as walking or engaging in activities as commonplace as taking selfies, it infuses the interactive technology with a palpable sense of dynamism and vitality. For instance, the interactive window is able to change in response to body movements (see section 4.2.2). 2D posters depicting models wearing the products on the wall can be translated into active and moving 3D scenes by scanning them (see section 4.3.2). Such actions not only serve to humanise the interactive technology but also imbue it with a

degree of realism and relevance that resonates deeply with customers. This alignment with the rhythms and routines of everyday life serves to render the interactive experience more relatable and accessible, thereby augmenting user engagement and satisfaction.

5.3 Supports channel integration and gamification

Customer engagement with brands occurs across both online and offline channels and encompasses a diverse array of experiences, interactions, and connections between customers and brands, websites, activities, and fellow customers (Mollen and Wilson, 2010). Previous studies emphasise that the integration of physical and digital elements can enhance customers' overall experience (Poncin and Mimoun, 2014; Kent, A. et al., 2016; Riaz et al., 2021). Interactive technology transforms physical stores into dynamic brand destinations by seamlessly integrating multimedia content, gamification elements, and omnichannel capabilities. Previous research has primarily investigated gamification in the online retail environment, revealing its effectiveness in enhancing customer engagement and driving sales (Werbach et al., 2012; Lopes et al., 2023; Sheetal et al., 2023; Wang et al., 2023c). However, there exists a discernible gap in the literature concerning its implementation within physical retail outlets. This thesis fills that gap by revealing that interactive technology settings in physical retail stores serve as a potent medium for gamification, effectively integrating physical and online platforms to create engaging and immersive experiences. For instance, in the case study of Burberry's 'The Space' flagship store, the integration of WeChat mini-programs allowed customers to engage in gamification elements such as earning rewards to unlock special services and products (see section 4.2.2). By doing so, gamification can be effectively utilised in brick-and-mortar settings to transition customers from passive spectators to active contributors throughout their retail shopping endeavours. As it “encourages customers to actively seek out hidden rewards and unique experiences” (p.105). The integration of gamification within physical stores facilitates a more interactive and engaging shopping experience, as customers are motivated to participate in activities that offer tangible rewards and exclusive content. Through the amalgamation of technical, social, immersive, and interactive components, brands curate memorable and captivating encounters that strike a chord with customers. The

results suggest that these engagements not only leave a lasting impression but also cultivate a sentiment of co-creation and proprietorship, thereby intensifying the emotional bond between customers and the brand, rather than simply enhancing user engagement and motivation by integrating game design elements into non-game contexts (Deterding et al., 2011). Moreover, the findings imply that brands allocating resources towards interactive and immersive encounters acquire a competitive advantage in attracting customer attention and fostering loyalty. For instance, in the case of Canada Goose, experts observed that the store attracted a diverse range of customers (p. 88-89) and provided a venue to highlight the value of the product, thereby ultimately fostering brand loyalty (p. 77). The proposition posits that the integration of such elements could augment the customer's journey towards purchase, consequently elevating levels of satisfaction, enjoyment, affection for the brand, and brand loyalty (Torres et al., 2022).

The compelling and motivational attributes inherent in gamification elements have the capacity to allure users and prolong their engagement (Hamari et al., 2014). This thesis further demonstrates that such gamified experiences, when judiciously integrated within brick-and-mortar retail settings, engender immersive and captivating atmospheres that not only attract but also retain patrons, thus fostering prolonged engagement and even increasing the potential for purchase. Data from Canada Goose shows that interactive technology “prolongs their dwell time…higher the probability of making a purchase” (p.87). Similarly, SMFT, for instance, offers patrons the opportunity to virtually try on garments, experiment with different styles, and solicit feedback from peers, thereby blurring the boundaries between the digital and physical realms (see section 4.3.1). Similarly, art installations provide aesthetic stimuli that evoke emotional responses, thereby enriching the overall sensory experience of patrons (p. 137-p.138).

Moreover, the interactive technology facilitates channel integration by increasing the convenience of ordering, checking-out processes (Wang et al., 2023c). The results further explain that customers can interact with digital content, access product information, and make purchases across various touchpoints, creating a cohesive and immersive brand experience. By offering a seamless and integrated experience, retailers can enhance engagement and

foster brand consistency, regardless of the channel or platform customers choose to engage with.

5.4 Encourages social media engagement and promotional footprints

Moreover, this thesis expands on Mangold and Faulds (2009)'s observation that customer engagement with products and brands intensifies when customers are given the opportunity to offer feedback. In response, numerous companies have launched initiatives to enhance this level of engagement. This study finds that interactive technologies in fashion retail outlets can provide customers with the opportunity to give timely feedback during their shopping experience, thereby fostering deeper engagement. This timely feedback is related to social media, as interactive technology in fashion stores links with social media and enables customers to share their comments and experiences in real time. These findings from the data analysis of Burberry and Lily, in which experts cite that customers could "leave comments while browsing the store" (p.114), and "share their pictures and experiences on social media" (p. 148). Similar to previous research, for example, Nasir et al. (2012) posited consumer feedback and product reviews significantly contribute to brand image cultivation and awareness.

Bilal et al. (2014) also demonstrated the importance for organisations prioritising customer knowledge management to leverage technological resources, such as social media and other digital platforms, to optimise their understanding of their clientele, thereby facilitating informed decision-making in customer support endeavours. Concerning customer assistance, the online shopping experience can be extended to thousands of consumers within familiar and accessible environments (Büttner and Göritz, 2008). This research indicates that interactive technologies in fashion stores are capable of seamlessly integrating the online shopping experience within the physical store environment, offering several key functions: real-time feedback collection, personalised recommendations, virtual try-on facilities, and integration with social media platforms for immediate sharing and engagement. These technologies collectively enhance the customer shopping experience by merging the convenience of online shopping with the tactile benefits of in-store purchasing.

Moreover, By providing an enhanced, tech-driven shopping experience, these innovations could “immediately capture visitors' attention upon entering the store” (p.139), and therefore counteract the trend of declining foot traffic in physical stores. The integration of social media further strengthens customer relationships, as consumers are encouraged to share their in-store experiences with their online networks, thereby fostering a community around the brand.

Interactive technology simplifies customer engagement, complemented by digital marketing strategies, thereby reducing costs for companies and providing enhanced support when required. As Ki et al. (2020) various technological platforms enable brands to engage with consumers and extend their reach without excessive expenditure on advertisements, leveraging cost-effective social media platforms like Facebook and Twitter to connect with millions of followers. The results of this research indicate that interactive technology makes in-store experiences more “playful” and “novel,” increasing the likelihood that customers will “share on social media,” thereby leading to increased brand exposure (see p. 82-83). Moreover, the newfound knowledge that customers gain during this process makes them more likely to “spread it through networks of friends via social communication” (see p. 88). In addition, user-generated content on social media can “increase the brand's reach and awareness, exerting more influence than traditional advertising” (see p. 112).

The finding is also in keeping with Barhemmati and Ahmad (2015)’s inquiry, which revealed a positive correlation between customer engagement on social networking platforms and their purchasing behaviour. Their study demonstrates the role of technological platforms, including social media channels, in facilitating improved communication between brands and consumers. This enhanced communication positively influences consumer purchases and provides valuable insights into shopping trends for companies. However, this research suggests that technology enables effective multi-channel integration, thereby enhancing real-time engagement with customers and resulting in cost and time savings. Communication is improved as technology empowers customers as co-creators, ensuring their voices are heard in the decision-making process.

5.5 Extends in-store engagement and strengthens the relationship between brands and customers

Additionally, interactive technology enhances customer engagement by facilitating dynamic interaction and active participation. Prior studies indicate that interactive technology fosters innovative avenues of engagement between brands and their target customers (Armstrong and Rutter, 2017; Wang et al., 2023c). AR technology, for instance, provides patrons with a streamlined method to experiment with garments without the necessity of waiting in queues for fitting rooms or the assistance of sales personnel (Lee, H. and Xu, 2020; Ogunjimi et al., 2021). The focus of such inquiries often centres on the specific utilisation of technology, neglecting to fully encompass the broader impact that such technology could bestow upon brands and retail environments. This research addresses this gap and indicates that interactive technology possesses the capacity to transform brick-and-mortar retail establishments into profoundly pleasurable experiences, enhancing customer engagement and further fostering the relationship between brands and customers. By capturing attention, stimulating cognitive processes, and evoking emotions, interactive technology ignites dynamic engagement, establishing profound connections between customers and brands. Through captivating visual displays, unique interactive approaches, and immersive experiences, such technology commands the attention of individuals within retail environments, drawing them into the brand's narrative. Moreover, by presenting information in innovative and interactive formats, interactive technology stimulates cognitive processes, encouraging active participation and deeper engagement with the brand's offerings. Additionally, interactive features designed to evoke emotions through sensory stimuli, storytelling, or personalised experiences elicit powerful emotional responses from customers, fostering a sense of connection and resonance with the brand. Consequently, this multifaceted engagement facilitated by interactive technology transcends mere transactional interactions, fostering enduring relationships based on shared experiences, values, and emotions.

Furthermore, a key highlight of these dynamic experiences is that interactive technology encourages customers to be more active and selective. Through just

a few taps, customers can easily find and access the information they truly need. While customers may not have the ability to alter the content of the information within interactive technology, they still retain the autonomy to select which parts to engage with. Thus, the entire experience becomes interactive and dynamic. The data shows that it is advantageous to “entrust control to customers and allow them to explore the stories behind the products” (p. 87). Another expert emphasised the importance of user autonomy in enhancing the shopping experience by "noticed a marked improvement in engagement levels" (p. 126). The ability to switch products’ sizes, colours, and lighting fosters a sense of involvement and empowerment, making the whole shopping experience more engaging and enjoyable (see p. 123-p.126). This gives customers a more empowered and active role during this process (see p.158-p.159).

By affording users control over the information they wish to access, interactive technology facilitates a more immersive and personalised experience. This capability arguably enhances the intensity of engagement with the interactive technology. As an expert explained customers spent 30% more time in the store (p. 146). Through this function of interactive technology, fashion brands facilitate and authenticate their relationship with customers in real-time (Ahmad et al., 2015), making it easier for brands to know which products are more popular among customers than others. Brands can collect data from the interactive technology in-store (see p.80-p.81, p.128-p.129, p.142), and therefore reduce inventory waste on less popular items. Consequently, customers are more likely to become customers with strong brand affection, thereby forging deeper connections with the brand (Halaszovich and Nel, 2017). Simultaneously, customers can navigate efficiently to acquire the necessary information, effectively avoiding the phenomenon of information overload. This is crucial, as customers may feel overwhelmed and adversely affected when they perceive they are inundated with excessive information and choices (Iyengar and Lepper, 2000; Vohs et al., 2018).

The interplay between interactive technology and environmental elements extends beyond visual appeal; it profoundly shapes customer perception and engagement. This is intrinsically linked to concepts of 'conscious attention' and 'cognitive engagement' as discussed by Hollebeek, L.D. and Chen (2014) and

Vivek et al. (2014). For example, integrating interactive displays within themed store sections can craft coherent brand storytelling, immersing customers in the brand ethos and principles. Additionally, the tactical deployment of interactive technology can channel foot traffic to particular store regions, enhancing dwell time and, consequently, sales prospects. Furthermore, the design of areas containing interactive technology should be coherent with the store's overarching concept and the customer journey. By deciphering shopper behaviours and preferences, retailers can customise interactive experiences to align with evolving consumer expectations. For instance, the incorporation of augmented reality (AR) within fitting areas permits customers to envisage the fit and appearance of garments without the necessity of physical trial, thus streamlining convenience and diminishing decision-making obstacles. This research extends the work of McCarthy and Wright (2004) by demonstrating that the integration of interactive technology within retail environments not only augments visual and sensory appeal but also enhances cognitive engagement and customer interaction.

5.6 Market Segments

In the context of interactive technology integration in fashion retail, it is essential to consider how different market segments, specifically in terms of age, geographical location, and experience, respond to these innovations. Fashion retail is intrinsically dynamic, catering to a wide variety of customer demographics that have diverse preferences and behaviours. Understanding these distinctions can further illuminate how interactive technology influences shopping experiences and customer engagement.

5.6.1 Age Segments

The impact of interactive technologies in retail environments varies significantly across different age groups. Younger consumers, particularly Generation Z and Millennials, are typically more receptive to technological innovations in retail spaces. This cohort, having grown up in a digital era, tends to have a higher level of digital literacy and is more comfortable navigating both physical and virtual realms (Priporas et al., 2017). Interactive technology, such as SMFT (see 4.3.1) or interactive display window (see 4.2.2), resonates well with this group, enhancing the overall shopping experience by incorporating elements of gamification, personalisation, and convenience. For these younger segments, technology not only serves as a tool for making informed decisions but also

contributes to an immersive and enjoyable shopping journey (Wang et al., 2023c).

The case studies in Chapter 4 illustrate this observation, with findings emerging from the data. For instance, in the Lily flagship store, SMFT and interactive art installations were extensively used to create an engaging environment that appealed to younger consumers. These features allowed customers to interact with the brand in a way that blended the physical and digital shopping experiences seamlessly. Similarly, in the Ralph Lauren flagship store, the use of RFID product recognition and lighting control was particularly popular among younger visitors, who appreciated the convenience and novelty of these technologies (see 4.3.1 and 4.2.3).

Conversely, older consumers, particularly Baby Boomers, may have a more cautious approach towards adopting new retail technologies. While this segment values the tactile and social elements of in-store shopping, the integration of digital interfaces can present usability challenges (Pantano et al., 2022). Retailers targeting older demographics may need to focus on simplifying technological interactions to foster engagement, ensuring that interfaces are intuitive and accessible. In Chapter 4, the case of the Uniqlo flagship store illustrated how the inclusion of more user-friendly technologies, such as voice instructions in Uniqlo's digital displays was designed to cater to less tech-savvy customers, enhancing accessibility and reducing resistance to technology adoption (see 4.3.2).

5.6.2 Geographical Segments

Geographical location also plays a crucial role in determining consumer responses to interactive technologies in fashion retail. Burberry flagship store in Shenzhen utilised WeChat as a platform to engage with consumers, which was particularly effective in that geographical context due to the app's widespread use and popularity. However, this strategy may not be as effective in other regions, where different social media platforms are more commonly used. For example, in Western markets, the reliance on WeChat might not yield the same level of engagement, indicating the need for retailers to adapt their technological strategies to fit local preferences and digital ecosystems (see 4.2.2).

The cases in Chapter 4 are all flagship stores which are typically situated in major, modern cities with a developed technological infrastructure and affluent customer bases. Restricting interactive offerings to flagship stores not only enhances the customer experience but also encourages word-of-mouth and generates publicity through both traditional and social media channels. The

flagship store format is a strategic choice for implementing interactive technologies, as it enables retailers to present their most advanced innovations in prominent, high-traffic locations, creating a distinctive and memorable brand experience for customers accustomed to digital interactions. This strategic positioning allows retailers to trial and refine interactive technologies in markets that are open to digital innovation, with the potential to extend these offerings to other locations in the future. Ultimately, retailers aiming to expand their interactive offerings must consider tailoring their approach to align with the technological landscape and cultural nuances of each geographical market.

5.7 Research Implications

5.7.1 Theoretical implications

Previous researches has demonstrated the importance of technology in retail design (Christiaans, Henri, 2016; Madsen and Petermans, 2020; Quartier et al., 2020). This research broadened the understanding of the role of interactive technology in retail design and its impact on shaping the fashion retail landscape. The findings illuminate how interactive technology transcends mere functionality to enrich consumer experiences on multiple levels – from sensory and emotional to intellectual and behavioural dimensions. By emphasising the dynamic and multifaceted nature of customer experiences facilitated by interactive technology, this research extends existing theories on the shopping experience within retail environments.

Moreover, This study influences the theoretical discourse on customer engagement by elucidating the pivotal role of interactive technology in facilitating dynamic engagement and fostering relationships between customers and brands. Prior research has extensively explored customer engagement across both offline and online environments (Pine and Gilmore, 2013; Maslowska et al., 2016; Hyken, 2018; Smith and Zook, 2024), as well as indicated the significance of social media platforms in online customer engagement (So et al., 2016). However, it appears that previous studies have overlooked the potential of interactive technology within physical stores, which can be integrated with social media to enhance both online and offline customer engagement.

In addition, through the investigation, this research has been able to provide several implications of retail omnichannel. Interactive technology reshapes the role of physical stores amidst an omnichannel retail landscape, acting as a conduit for dynamic experiences and interactions between digital domains (personal devices and interactive technology) and the physical domain (elements within fashion stores). These insights represent a distinctive contribution to the existing body of knowledge.

5.7.2 Practicable Implication

This research demonstrated that fashion retail stores can benefit more broadly by moving from a transactional retail mindset to a more emotionally engaging type of experience. Such a shift reconceptualises retail spaces not solely as conduits for transactions, but as bespoke platforms dedicated to delivering immersive brand encounters that traverse physical and digital domains, thereby fostering enduring forms of brand engagement (e.g. social media impressions).

Granting customers enhanced access to the brand and offering them more interactive experiences and engagement opportunities will not only aid firms in augmenting their long-term sales and profits but also enable them to consistently discern customer requirements and preferences. Engaging consumers can further assist firms in innovating products and services by soliciting fresh ideas from customers. Brand-consumer engagement facilitates the design of more market-appropriate products, ultimately fostering a positive brand image and establishing a stronger foothold in local markets. Consistently providing customers with products tailored to their needs also cultivates customer loyalty.

Based on the findings, businesses within the fashion sector should prioritise enhancing customer experience and engagement through various channels and offering omnichannel experiences. Interactive technology in retail stores plays a pivotal role in this endeavour, facilitating broader customer reach and enabling dynamic experiences and engagement bridging the digital and physical realms. Hence, managers in the fashion industry should concentrate on delivering superior interactive technological solutions to their customers, thereby enhancing customer experience and engagement with the brand. In addition to

advancing existing knowledge, these findings also offer practical guidance to managers, suggesting that integrating interactive technology appropriately can lead to increased sales and profitability.

Yet, the adoption of interactive technology warrants contemplation of associated costs. As the retail landscape witnesses escalating operational expenditures, the integration of such technology might pose financial burdens. Consequently, a critical consideration arises regarding the translation of technological investments into tangible sales augmentation, amidst the backdrop of burgeoning retail costs. The transient allure of technological novelty compounds these concerns, prompting reflection upon the enduring appeal and sustainability of such engagements with evolving customer predilections. Furthermore, while interactive technology holds promise in assuaging communication lacunae between brands and customers, its efficacy hinges on judicious implementation. Ineffectual deployment risks financial inefficiency and potential dilution of brand equity, thereby underscoring the imperative for prudent technological integration strategies.

In summary, the findings proffer profound implications for fashion retail management, underscoring the imperative of judiciously harnessing interactive technology to foster enduring brand-customer engagements amidst escalating retail costs and shifting customer preferences. Interactive technology affords real-time engagement opportunities for customers, and when effectively utilised, these technologies can significantly mitigate communication gaps or miscommunication between firms and consumers. Firms can promptly receive feedback through modern technologies and make immediate adjustments to business operations, thereby averting further harm to the brand image. Given the growing trend of online retailing in the fashion industry, fashion brands should promote the adoption of interactive technology to engage with consumers more effectively and gain competitive advantages. This contribution is expected to be applicable across the global fashion industry.

5.8 Recommendations

The findings have yielded insights into designing retail spaces that effectively incorporate interactive technology within fashion stores. Numerous

recommendations can be adopted by fashion brands to enhance their practicability. To facilitate implementation, these insights are categorised according to the customer shopping journey. A diagram showing the positioning of the aspects can be seen in the Figure 5.1. What follows the diagram is the elaboration of the recommendations.

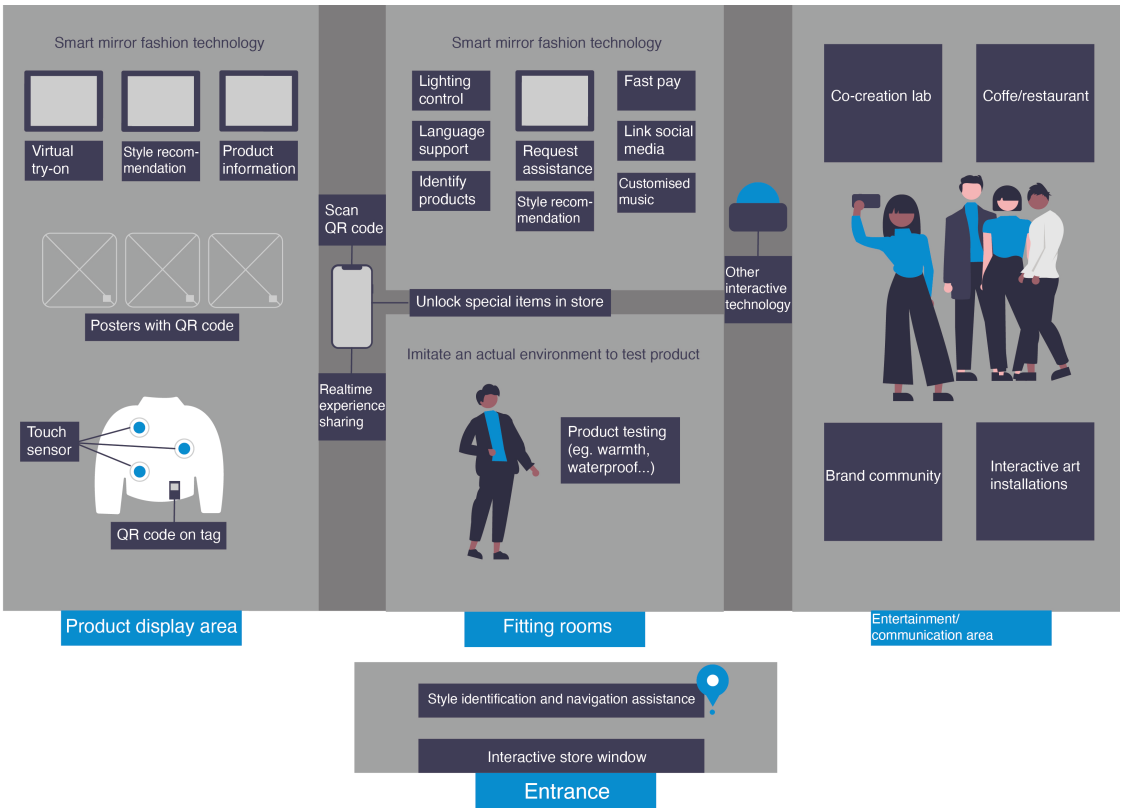

Figure 5.1 Interactive Technology In Fashion Store

5.8.1 Entrance of the store

Implementing an interactive store window at the entrance of a fashion retail establishment yields lots of advantages. Firstly, such an innovation tends to enhance foot traffic, drawing attention and interest to the store. This heightened influx is facilitated by the interactive nature of the display, which captivates individuals and encourages them to engage with the storefront even prior to entering the premises. Moreover, the introduction of an interactive window elevates customer engagement to a new level. By allowing patrons to actively participate in the shopping experience from the outset, the store establishes a connection with its customers that is both immersive and memorable. This

heightened level of engagement not only fosters a positive impression of the brand but also cultivates a sense of involvement and investment in the shopping process.

Furthermore, the interactive display serves as a dynamic platform for showcasing products and promotions. By strategically highlighting featured items, new arrivals, or exclusive offers, the storefront effectively communicates the brand's key messages and attracts customers to explore further. This visual engagement not only drives immediate sales but also contributes to the overall narrative of the brand, reinforcing its identity and values. In addition to its promotional utility, the interactive storefront offers educational opportunities for customers. Through interactive elements, customers can glean insights into the brand's story, history, ethos, and product offerings. This informational dimension enhances the shopping experience by empowering customers with knowledge and fostering a deeper appreciation for the brand's craftsmanship and heritage.

Furthermore, the interactive storefront catalyses social media engagement and word-of-mouth marketing. Unique and visually captivating displays are inherently shareable, prompting customers to document their experiences and share them across social platforms. This organic dissemination of content not only amplifies brand visibility but also fosters a sense of community and belonging among customers.

The integration of interactive technology within a fashion retail store, encompassing both style identification capabilities and navigation assistance, offers a multitude of advantages that significantly elevate the shopping experience and operational efficiency. Firstly, the implementation of technology that identifies the most suitable clothing style for visitors, facilitated through interaction with a large screen, epitomises a personalised and engaging approach to customer service. By analysing individual attributes such as body shape, complexion, and personal preferences, the system can recommend clothing styles that align with the customer's unique tastes and requirements. This tailored guidance not only enhances customer satisfaction but also increases the likelihood of purchase conversion by presenting curated selections that resonate with the visitor's aesthetic sensibilities.

Furthermore, the utilisation of a navigation map system, complemented by QR code scanning functionality accessible via smartphones at the store entrance, represents a strategic solution to address the challenges associated with navigating large retail spaces. Upon scanning the QR code, customers are provided with a comprehensive digital map that offers clear and intuitive guidance to locate specific product areas within the store. This streamlined navigation process not only reduces the time and effort required for customers to find desired items but also minimises frustration and enhances overall satisfaction. Moreover, by leveraging smartphone technology, the store can seamlessly integrate offline and online shopping experiences, enabling customers to access additional product information, reviews, and promotions while in-store.

From an operational perspective, the integration of interactive technology and navigation systems yields significant efficiency gains and cost savings for the fashion retail store. By automating the process of recommending clothing styles and guiding customers to specific product areas, the store can optimise staffing levels and allocate resources more effectively. Moreover, the data generated through customer interactions with the technology provide valuable insights into consumer preferences, trends, and behaviours, which can inform inventory management decisions, marketing strategies, and product merchandising efforts. This data-driven approach empowers the store to enhance its offerings and tailor its operations to better meet the evolving needs and expectations of its customers.

Furthermore, the adoption of such innovative technologies serves as a powerful differentiator within the competitive landscape of fashion retailing. By offering a seamless blend of personalised recommendations, streamlined navigation, and digital integration, the store distinguishes itself as a destination of choice for discerning shoppers seeking a superior retail experience. This enhanced brand perception not only fosters customer loyalty and repeat business but also attracts new customers drawn to the allure of cutting-edge technology and exceptional service.

5.8.2 Product display area

In the product display area, through the integration of touch-sensitive sensors and QR code scanning functionalities, customers are afforded the opportunity to engage intimately with showcased products. This interactive experience transcends the conventional boundaries of static displays by unfurling narratives underpinning each item, thus enabling meticulous exploration of discrete functions and attributes inherent to the featured products. This facet of engagement not only enriches the consumer's understanding but also fosters a deeper connection with the brand and its offerings.

Moreover, the incorporation of augmented reality (AR) experiences, facilitated through smartphone scanning of posters, represents a dynamic intersection of technology and retail. This innovative approach not only captivates customers but also serves as a conduit for conveying additional layers of information, ranging from product themes and flagship announcements to fashion styling suggestions and exclusive member benefits. By leveraging AR, the retail store transcends the confines of physical space, creating immersive environments that augment the shopping journey, and imbuing it with a sense of novelty and excitement.

Furthermore, the integration of smart mirror fashion technology (SMFT) epitomises the convergence of digital innovation and traditional retail practices. Through virtual try-on capabilities, customers are empowered to explore product offerings in a virtual realm, thereby transcending the limitations imposed by physical inventory constraints. This seamless integration of technology serves to streamline the shopping experience, offering customers access to a wealth of information within moments, including pricing details, material composition, styling options, and personalised recommendations. This amalgamation of technology and retail not only enhances convenience but also underscores the importance of adaptation and innovation within the contemporary retail landscape.

5.8.3 Fitting room

In the contemporary landscape of fashion retail, the integration of interactive technologies within fitting rooms represents a pivotal advancement aimed at enhancing customer experience and satisfaction. The two proposed types of

fitting rooms encapsulate distinct yet complementary approaches towards achieving this goal, each offering unique benefits and opportunities for both retailers and customers.

Firstly, the incorporation of SMFT heralds a transformative shift in the traditional fitting room paradigm. This innovative technology imbues the fitting room environment with a plethora of interactive features designed to streamline and enrich the customer's shopping journey. By offering language support, the smart mirror ensures inclusivity and accessibility, catering to a diverse clientele. Moreover, granting customers control over lighting empowers them to optimise the ambience according to their preferences, thereby fostering a personalised and immersive experience. Furthermore, the ability to identify clothes and select different sizes or colours through the mirror not only facilitates convenience but also expedites the decision-making process, enhancing operational efficiency. Importantly, the provision of style recommendations based on the items selected augments the customer's fashion exploration, empowering them to experiment with diverse styles and aesthetics. The integration of a fast pay system represents a seamless fusion of technology and commerce, enabling frictionless transactions and reducing checkout times. Additionally, the integration of social media connectivity enables customers to seamlessly share their fitting room experiences in real time, thereby amplifying brand visibility and fostering social engagement. This symbiotic relationship between technology and social interaction cultivates a dynamic and immersive retail environment, wherein customers become active participants in the brand narrative. Moreover, the option to customise background music within the fitting room elevates the sensory dimension of the shopping experience, creating a harmonious and aesthetically pleasing ambience that resonates with the brand's ethos.

Conversely, the alternative paradigm proposes the creation of fitting rooms that simulate real-world environments, offering consumers immersive opportunities to test product functionality. For example, by subjecting these spaces to extreme temperatures, retailers enable customers to assess the thermal properties of garments, thereby instilling confidence in their suitability for diverse climatic conditions. Similarly, the integration of a raining room facilitates the evaluation of waterproof apparel, allowing patrons to gauge performance under inclement weather scenarios. This innovative fitting room design imbues

the shopping experience with a tangible dimension of experiential authenticity. Moreover, it fosters a sense of confidence and trust in the product offerings, as customers can make informed purchasing decisions based on firsthand experiential feedback.

In conclusion, the integration of interactive technologies within fitting rooms represents a strategic imperative for fashion retailers seeking to differentiate themselves in a competitive marketplace. Whether through the sophistication of SMFT or the experiential immersion of simulated environments, these innovations converge to redefine the retail landscape, elevating the customer experience to unprecedented heights of engagement and satisfaction.

5.8.4 Entertainment/ communication area

Designing entertainment and communication areas within a fashion retail store can offer multifaceted benefits that extend beyond mere transactional experiences. These strategic elements serve to enhance customer engagement, foster brand loyalty, and cultivate a vibrant community around the brand.

The co-creation labs represent a paradigm shift in the traditional retail landscape. These laboratories provide customers with a platform to actively participate in the design process, thereby fostering a sense of co-ownership and individuality. Drawing upon principles of consumer empowerment, this approach transcends mere transactional interactions, affording customers the agency to tailor products to their exact preferences. The transparency of the manufacturing process, with customers observing intricate procedures such as machine embroidery, not only enhances trust but also underscores the brand's commitment to authenticity and sustainability.

Simultaneously, the inclusion of coffee or restaurant areas within fashion retail spaces offers a multifaceted approach to customer engagement. Rooted in principles of environmental psychology (Robert and John, 1982), these hospitality zones transform the store into a social destination, encouraging prolonged visits and fostering deeper connections between customers and the brand. This convergence of fashion and food epitomises the concept of lifestyle

branding, wherein the brand becomes synonymous with the aspirational lifestyles of its consumers, thereby reinforcing brand identity and positioning.

Complementing these experiential spaces is the provision of dedicated brand community areas, which serve as hubs for social interaction and knowledge exchange. Through curated activities such as workshops, seminars, and exclusive previews, these spaces facilitate the formation of social capital, nurturing a sense of belonging and camaraderie among like-minded individuals. By fostering an inclusive environment where customers can actively participate in brand-related activities, these areas engender a profound sense of loyalty and affinity towards the brand.

Moreover, the integration of interactive art installations within the retail environment underscores the brand's commitment to immersive experiences and creative expression. Drawing upon theories of experiential marketing (Schmitt, 1999), these installations transform the store into a canvas for self-expression, encouraging customers to capture and share their experiences on social media platforms. Beyond serving as aesthetically pleasing backdrops, these installations contribute to the store's ambience, enriching the sensory journey and leaving a lasting impression on customers.

In summation, the strategic design of entertainment and communication areas within fashion retail stores epitomises a holistic approach to customer engagement and brand cultivation. By embracing principles of co-creation, hospitality, community-building, and experiential marketing, these spaces transcend conventional retail paradigms, creating immersive environments that resonate deeply with contemporary consumers' desires and aspirations.

5.8.5 Others factors

In addition to the aforementioned areas, customers' personal devices wield significant influence within the realm of fashion retail stores. By leveraging their smartphones, patrons can effortlessly scan QR codes affixed to product tags and posters adorning the walls. This technological integration not only enhances convenience but also fosters a more dynamic experience and engagement between customers and the store environment. Furthermore,

smartphones serve as gateways to unlock exclusive offerings within the store, thereby enriching the overall shopping experience.

In crafting a truly immersive and cohesive retail environment, attention must also be paid to the physical aspects of the space. Elements such as lighting, flooring, and colour schemes are instrumental in shaping the atmosphere and influencing customer perceptions. When seamlessly integrated with interactive technologies, these physical embellishments serve to enhance the immersive experience. The significance of harmonising interactive technology with physical decoration cannot be overstated. It is incumbent upon retail designers to create an atmosphere wherein these elements coalesce synergistically, reflecting the brand ethos while resonating authentically with customers. By ensuring that interactive experiences remain germane to the brand identity and seamlessly incorporate products and services, retailers can cultivate a more profound connection with their clientele, engendering loyalty and driving sustained engagement.

5.9 Chapter Summary

This chapter discussed the central ideas of findings which were presented in chapter four of this thesis, highlighted the core contributions and discussed with literature from chapter two.

The key contributions emphasise the interplay between digital and physical domains, the study highlights the importance of seamless transitions between screens, personal devices, and physical surroundings, culminating in a cohesive experience. Furthermore, the integration of interactive technology with ambient elements of in-store design is deemed crucial for enriching content quality, enhancing brand messaging, and shaping customer perception and engagement. By affording customers control over the information they access, interactive technology fosters immersive and personalised experiences, strengthening brand relationships and mitigating the effects of information overload. The contributions also posit the idea of the fusion of digital and physical elements within the retail landscape, particularly in fashion stores, to optimise the consumer experience. Through the deployment of interactive technology, brands can seamlessly blend digital atmospherics with physical

atmospherics, leveraging design, aesthetics, and sensory stimuli to captivate consumers. This integrated approach ensures a robust augmentation of the overall consumer journey, where digital content serves as a conduit for brand communication and engagement, strategically complementing specific aspects of the physical store environment. By embracing channel integration, fashion brands can navigate the evolving retail landscape, fostering meaningful consumer connections and delivering compelling experiences that resonate with their clientele.

Moving beyond the research contributions, the chapter delves into the theoretical implications of the study and delves into the practical implications of the research findings. Moreover, with the discussion about the recommendations that can be adopted by fashion brands to enhance their practicability.

Chapter 6 Conclusion

6.1 Introduction

The previous chapter delineates the principal contributions of this study, the key themes were discussed with literature that was reviewed in chapter two. Additionally, the research implications and recommendations were indicated.

This final chapter provides the conclusion of the project. The chapter commences with an explanation of the achievement of the aim and objectives of the research: to investigate the role of interactive technology in fashion retail stores. Subsequently, the research questions were revisited to present the responses. The chapter culminates with the limitations of this research and future studies.

6.2 The Conclusion of the Research

The research aimed to examine the role of interactive technology in fashion retail stores. Six specific objectives were formulated to facilitate the achievement of this aim. The subsequent statements outline the attainment of these objectives. Through the fulfilment of these objectives, it can be concluded that the overarching aim of the research has been realised.

Objective one

To identify gaps in the literature by conducting a literature review surrounding the topic that contextualised retail design and technology within fashion retail stores, essential characteristics of in-store interactive technology, and investigated customer engagement and channel integration.

All of these objectives have been accomplished. The pertinent literature was meticulously reviewed, commencing with an exploration of retail design, which forms the fundamental basis of the phenomenon under research. This review encompasses an in-depth investigation of retail design, brand experience, and technology within the context of fashion retail stores. Subsequently, literature about in-store interactive technology was scrutinised, focusing on the essential characteristics of such technology and its perception by customers. This segued

into an examination of the fashion customer, encompassing their engagement with technology and in-store behaviour within an omnichannel environment.

Through the literature review, a gap in the existing research was successfully identified. It was imperative to delve deeper into the role of interactive technology in fashion stores. Few studies have explored how customers interact with interactive technology in physical retail settings and how such interactions may contribute to enhancing customer brand engagement. This identified research gap subsequently informed the formulation of research questions that guided the subsequent stages of the research.

Object two

To establish a methodology and implement methods as the foundation for primary research, case studies prove particularly beneficial in emerging research domains, where the objective is to uncover insights in areas lacking comprehensive theoretical frameworks (Eisenhardt, 1989). Specifically, five cases were examined, each demonstrating the successful integration of interactive technology within a retail setting. These cases included Canada Goose, Burberry, Ralph Lauren, Lily, and Uniqlo. The selection of these cases was guided by three key considerations: (1) the significance of the case as a successful and innovative fashion retailer, particularly in the utilisation of interactive technology within physical retail environments; (2) the representation of various segments within the fashion retail industry, spanning from high-end premium brands to mid-range fast fashion brands, in order to offer diverse perspectives on the implementation of interactive technology in fashion retail; (3) willingness to participate in the study.

Object three

To acquire data for addressing the research questions through primary research, it was imperative to conduct data collection using appropriate methodologies. Data were gathered through semi-structured interviews with experts directly engaged in the design, development, and implementation of the five selected cases.

Moreover, to adhere to local distancing restrictions during the pandemic, extensive reviews of pictures and videos from selected stores were conducted in lieu of field studies. Furthermore, supplementary measures such as interviews with store personnel and customer surveys were conducted to provide additional context and insights.

Object four

To generate findings and insights capable of addressing the research questions, the data collected through various methods were analysed thematically. In order to ensure relevance and responsiveness to the research inquiries, the abundant qualitative data required systematic evaluation. This entailed employing a six-phase analysis method, as proposed by Braun, V. and Clarke (2006), which included data familiarisation, initial code generation, theme identification, theme review, theme definition and naming, and report production. The iterative process of data collection and analysis facilitated efficiency by enabling the researcher to expedite the generation of findings while concurrently enhancing data quality through continuous review of questions and responses during data collection. Consequently, the volume of data was significantly reduced, and the analysis yielded highly pertinent findings, which were encapsulated within three overarching themes and twelve subthemes. These findings and insights possess the capacity to address the research questions and contribute towards achieving the research aim.

Object five

To elucidate the key contributions: (1) stimulates dynamic and multi-dimensional experiences; (2) supports channel integration and gamification; (3) encourages social media engagement and promotional footprints; and (4) extends in-store engagement and strengthens the relationship between brands and customers. These contributions were subsequently examined in conjunction with the theoretical underpinnings outlined in chapter two. A strong alignment between the core themes, literature, and framework was observed. Importantly, the findings not only extend upon existing knowledge from prior studies but also offer novel and practical insights, thus providing guidance for the integration of interactive technology within fashion stores.

Object six

To formulate a theory for integrating interactive technology into fashion retail stores. The findings of this research effectively address the research questions. They fill a notable gap in knowledge by offering a deeper understanding of the role of interactive technology in such retail environments.

In sum, the role of interactive technology in retail design is multifaceted, encapsulated in three key themes. Firstly, interactive technology enriches sensory, emotional, intellectual, and behavioural dimensions of experiences, profoundly shaping retail experiences. Secondly, it augments customer engagement by capturing attention, stimulating cognitive processes, evoking emotions, and empowering co-creation experiences, thereby fostering brand loyalty and advocacy. Lastly, interactive technology transforms physical stores into dynamic brand destinations, integrating multimedia content, gamification elements, and omnichannel capabilities, thus enhancing engagement across online and offline touchpoints. By offering customers dynamic experiences and engagement through both the digital and physical realms, interactive technology enriches their sense of control, resulting in a distinctive and holistic experience. The convergence of the physical and digital worlds can be facilitated through seamless integration by design.

The concluding argument posits that the findings and contributions of this thesis underscore the significance of interactive technology for physical retail stores. Furthermore, they serve as the foundation for designing retail spaces that integrate interactive technology to enhance customer shopping experiences and engagement. A well-designed retail space incorporating interactive technology has the ability to blur the boundaries between different channels, providing customers with dynamic experiences and engagement across these channels.

6.3 Revisiting the Research Questions

Three research questions were formulated based on identified gaps in the literature review. After the data collection and analysis, proved successful in yielding substantial findings and core themes essential for addressing the research questions. This subchapter systematically presents the responses to

the research questions, arranged in sequential order from question one to question three.

Research question one:

How do customers interact with interactive technology in fashion stores?

Customers engage with interactive technology in fashion stores through a multifaceted engagement process that intertwines physical and digital experiences. This interaction occurs via personal devices, physical decor elements, and interactive technology, shaping the overall shopping journey. This research indicates that leveraging the familiarity and ubiquity of smartphones helps fashion retail brands establish comfort and trust with customers, mitigating any reservations they may have about engaging with such technology. By seamlessly integrating personal devices into the shopping experience, brands create a sense of familiarity and convenience, fostering trust between the consumer and interactive technology. This symbiotic relationship encourages prolonged engagement, as customers interact with technology with heightened comfort and confidence.

Interactive technology empowers customers to actively select and manage the content they encounter, enhancing their agency within the shopping experience. Granting customers control over their interactions helps fashion retail stores capture and sustain interest more effectively, potentially leading to higher conversion rates and sales. Customers can curate their own shopping journey, resulting in a more meaningful and relevant experience. When customers feel in control, they derive satisfaction from the experience and develop a deeper affinity towards the brand.

Furthermore, the strategic placement of interactive technology significantly influences customer engagement. Aligning interactive installations with familiar physical touchpoints, such as clothing racks or fitting rooms, facilitates the seamless integration of digital and physical experiences. This fosters customer confidence and familiarity, making the retail environment inclusive and accommodating. Different types of interactive technologies placed strategically within fashion retail stores enable the curation of personalised shopping journeys tailored to individual customer preferences and objectives. For

instance, setting navigational interactive technology at the store entrance to locate the products more easily and integrating smart mirror fashion technology (SMFT) into fitting rooms or product displays allows customers to interact directly with the merchandise. Such placement enhances the relevance and coherence of the shopping experience, guiding customers through a curated exploration of the brand's offerings.

Research question two:

How might interactive technology change the way customers engage with the brand?

The integration of interactive technology within fashion retail stores facilitates the proliferation of touchpoints between brands and customers across multiple channels throughout the shopping journey. This expansion of touchpoints, encompassing person-to-person interactions, social media engagement, website interactions, mobile applications, and various forms of communication, fundamentally reshapes the dynamics of customer-brand engagement within the fashion retail landscape.

Brands seek to create a cohesive and interconnected shopping experience across both physical and digital platforms. Interactive technology serves as the linchpin of this omni-channel approach, enabling brands to seamlessly integrate touchpoints throughout the customer journey. Whether through interactive displays in-store, virtual try-on experiences, or social media engagement with brand ambassadors and other customers, interactive technology facilitates continuous engagement and interaction between brands and customers, blurring the boundaries between online and offline realms (see Figure 6.1).

Figure 6.1 The Store with Interactive Technology Adopt From Wang et al. (2023c)

Within the physical retail environment, interactive technology enriches the in-store experience by offering customers opportunities for personalised engagement and exploration. Interactive displays, augmented reality mirrors, and interactive digital signage not only captivate attention but also provide customers with valuable information, product recommendations, and styling tips tailored to their preferences. By leveraging data analytics and AI algorithms, fashion retail stores can deliver hyper-personalised experiences that resonate with individual customers, thereby deepening brand loyalty and affinity. The integration of interactive technology also enhances the convenience and accessibility of the shopping experience. Interactive features such as virtual fitting rooms, AI-powered chatbots, and personalised recommendations streamline the browsing and purchasing process, empowering customers to make informed decisions and navigate the vast array of fashion offerings with ease. By providing seamless access to products, services, and support across multiple digital touchpoints, fashion retail brands can enhance customer satisfaction and loyalty in an increasingly competitive landscape.

Moreover, interactive technology enables customers to receive real-time feedback from social media in physical stores enabling brands to engage with customers through a myriad of digital touchpoints. Social media platforms serve

as dynamic channels for brand-customer interaction, allowing brands to showcase products, solicit feedback, and foster community engagement in real time. By leveraging user-generated content, influencer partnerships, and interactive campaigns, fashion retail brands can cultivate a sense of belonging and advocacy among customers, thereby strengthening brand loyalty and driving sales.

Research question three:

What is the role of the interactive technology in retail design?

Three main themes and their corresponding sub-themes were constructed from the findings. They are the factors that are linked strongly, forming one framework of the role of interactive technology in fashion stores. The framework comprehensively presents parts that jointly construct the totality of consumers' interaction experience. These elements are also interrelated in the interaction experience process.

Theme one indicates that interactive technology acts to enhance three dimensions of experiences and these are sensory, emotional experience, intellectual experience and behavioural experience. Returning briefly to the discussion on experience within the literature review, it is posited that experience entails a continual interplay between cognition, affect, and behaviour (Jantzen, 2013). Particularly during interactions with objects, awareness typically intensifies. Consequently, while knowledge holds significance, actions and reactions often rely heavily on embodied perceptions of stimuli. This suggests that sensory streams central to human perception play a paramount role, serving as pivotal determinants of interaction experiences.

The findings of this thesis carry insights into the role of interactive technology in retail design. Theme two particularly displays these insights. Firstly, interactive technology captures conscious attention by creating immersive and captivating experiences that resonate with customers. Platforms like smart mirrors and gamified interfaces attract and sustain attention, facilitating deeper cognitive processing and meaningful brand interactions. For instance, pressure-sensitive flooring that emits the sound of crushing ice enhances environmental realism and triggers associative cognitive processes, fostering authentic product

evaluation and decision-making. Furthermore, gamification techniques within mobile applications challenge customers to solve problems, enhancing cognitive stimulation and brand recall. Interactive technologies such as chatbots and intelligent assistants provide personalised recommendations, deepening cognitive engagement by addressing individual needs and preferences. Interactive technology also significantly impacts affective engagement by eliciting emotional responses and fostering connections between customers and brands. Personalised recommendations, interactive storytelling, and social media interactions evoke positive emotions and cultivate a sense of belonging, driving repeat purchases and advocacy. Additionally, interactive technology empowers customers as co-creators of brand experiences, fostering a sense of ownership and community through user-generated content platforms and co-creation initiatives.

Theme three emphasises the transformative potential of interactive technology in redefining physical stores as dynamic platforms for conveying brand narratives, integrating gamification elements, and serving as hubs for channel integration. Physical retail stores, once limited to transactional exchanges, now serve as immersive stages for compelling brand narratives. Integrating multimedia content, interactive storytelling modules, and sensory-rich experiences transforms stores into immersive brand destinations. This research elucidates this concept by showing how gamification transforms customers from passive observers to active participants in their shopping journey. Through technical, social, immersive, and interactive installations, brands create memorable experiences that foster co-creation and ownership, deepening emotional bonds with customers. Brands investing in these experiences gain a competitive advantage in capturing attention and fostering loyalty. In an era of omnichannel retailing, physical stores serve as pivotal touchpoints within the broader consumer journey. The findings show that interactive technology facilitates seamless channel integration, bridging online and offline experiences. Technologies such as QR codes, mobile payment systems, and interactive catalogues create cohesive omnichannel experiences. This convergence of digital and physical elements heralds a new era of consumer engagement and brand interaction, empowering customers to engage with both digital and physical atmospheres.

6.4 Research Limitations

This thesis is not without its limitations. Primarily, the reliance on small sample size, an inherent constraint endemic to qualitative research, poses potential limitations on the generalisability of findings. Moreover, the necessity of conducting online interviews owing to the exigencies of the COVID-19 pandemic introduces an additional layer of complexity, potentially influencing the depth and nuance of participant responses. Furthermore, the exclusive focus on soliciting perspectives from retailers and designers, while offering valuable insights into industry dynamics, inevitably restricts the breadth of understanding, particularly regarding consumer sentiments. Although discernible indications of engagement and satisfaction emerge from this approach, the absence of direct customer input warrants acknowledgement as a limitation. Additionally, the selective nature of the sampling strategy, tailored to specific retailers and business models, underscores the necessity for caution in extrapolating findings to broader contexts. While the study advances the understanding within its defined scope, the applicability of findings to diverse retail contexts may be constrained by these inherent limitations.

6.5 Further Research

This thesis adopts the perspective of retail designers to address the advent of innovative interactive fashion technologies. It endeavours to explore the potential transformation of the retail experience into one that is more immersive and engaging, thereby fostering an enhanced relationship between customers and brands. Through the lens of design, the study offers recommendations on the integration of interactive technologies within fashion retail spaces. However, to comprehensively assess the efficacy of such an approach, future research should pivot towards the examination of customers' perceptions and experiences. For example, a qualitative investigation into the subjective responses of consumers towards interactive technologies within retail environments could offer nuanced insights.

6.6 Chapter Summary

This chapter culminates in a comprehensive synthesis of findings, encapsulating the culmination of the study's objectives and the responses to the research questions. The chapter commences by summarising the attainment of the six specific objectives delineated at the onset of the research endeavour. Through a meticulous review of pertinent literature, identification of gaps, establishment of a robust methodology, and subsequent data collection and analysis, the study systematically addresses the role of interactive technology within fashion retail stores. By examining five case studies and employing thematic analysis, the research elucidates key contributions and formulates a framework for integrating interactive technology into the retail space. In essence, the study indicates the multifaceted impact of interactive technology on enhancing customer experiences and engagement within fashion retail environments.

Moving beyond the research findings, the chapter revisits the research questions. Finally the research limitations as well as the further research are discussed.

References

Abrar, M., Baig, S.A. and Hussain, I. 2020. Understanding brand love in fashion clothing online brand communities: Moderating role of social identity. *Pakistan Journal of Social Sciences.* **40**(1), pp.315-325.

Adikari, S.B., Ganegoda, N.C., Meegama, R.G. and Wanniarachchi, I.L. 2020. Applicability of a single depth sensor in real-time 3D clothes simulation: augmented reality virtual dressing room using kinect sensor. *Advances in Human-Computer Interaction.* **2020**.

Agarwal, G., Garg, R., Chhikara, R. and Deshpande, A. 2021. Exploration of retail design in integrated bricks & clicks environment. *Materials Today: Proceedings.* **37**, pp.1887-1892.

Ahmad, N., Salman, A. and Ashiq, R. 2015. The impact of social media on fashion industry: Empirical investigation from Karachiites. *Journal of resources development and management.* **7**.

Ajzen, I. 2002. Perceived behavioral control, self‐efficacy, locus of control, and the theory of planned behavior 1. *Journal of applied social psychology.* **32**(4), pp.665-683.

Akpan, I., Marshall, P., Bird, J. and Harrison, D. 2013. Exploring the effects of space and place on engagement with an interactive installation. In: *Proceedings of the SIGCHI conference on human factors in computing systems*, pp.2213-2222.

al-Qerem, A. 2016. Virtual dressing room implementation using body image–clothe mapping. *Int J Eng Comput Sci.* **5**(2), pp.15859-15862.

Alexander, B. and Alvarado, D.O. 2017. Convergence of physical and virtual retail spaces: the influence of technology on consumer in-store experience. *Advanced fashion technology and operations management.* IGI Global, pp.191-219.

Alexander, B. and Nobbs, K. 2020. Multi-sensory fashion retail experiences: The impact of sound, smell, sight and touch on consumer based brand equity. *Global Branding: Breakthroughs in Research and Practice.* IGI Global, pp.39-62.

Algharabat, R., Rana, N.P., Alalwan, A.A., Baabdullah, A. and Gupta, A. 2020. Investigating the antecedents of customer brand engagement and consumer-based brand equity in social media. *Journal of Retailing and Consumer Services.* **53**, p101767.

Amoako, G., Omari, P., Kumi, D.K., Agbemabiase, G.C. and Asamoah, G. 2021. Conceptual framework—artificial intelligence and better entrepreneurial decision-making: the influence of customer preference, industry benchmark, and employee involvement in an emerging market. *Journal of Risk and Financial Management.* **14**(12), p604.

Armstrong, K. and Rutter, C. 2017. Exploring the enigma of the happiness construct in phygital fashion experiences. *Advanced fashion technology and operations management.* IGI Global, pp.220-233.

Arnold, M.J. and Reynolds, K.E. 2012. Approach and avoidance motivation: investigating hedonic consumption in a retail setting. *Journal of retailing.* **88**(3), pp.399-411.

Ather, S.M., Khan, N.U., ur Rehman, F. and Nazneen, L. 2018. Relationship between social media marketing and consumer buying behavior. *Peshawar Journal of Psychology and Behavioral Sciences (PJPBS).* **4**(2), pp.193-202.

Augustin, S., Frankel, N. and Coleman, C. 2009. *Place advantage: Applied psychology for interior architecture.* John Wiley & Sons.

Babin, B.J., Darden, W.R. and Griffin, M. 1994. Work and/or fun: measuring hedonic and utilitarian shopping value. *Journal of consumer research.* **20**(4), pp.644-656.

Baek, E., Choo, H.J., Wei, X. and Yoon, S.-Y. 2020. Understanding the virtual tours of retail stores: how can store brand experience promote visit intentions? *International Journal of Retail & Distribution Management.* **48**(7), pp.649-666.

Baek, E., Choo, H.J., Yoon, S.-Y., Jung, H., Kim, G., Shin, H., Kim, H. and Kim, H. 2015. An exploratory study on visual merchandising of an apparel store utilizing 3D technology. *Journal of Global Fashion Marketing.* **6**(1), pp.33-46.

Baker, J., Levy, M. and Grewal, D. 1992. An experimental approach to making retail store environmental decisions. *Journal of retailing.* **68**(4), p445.

Baker, J., Parasuraman, A., Grewal, D. and Voss, G.B. 2002. The influence of multiple store environment cues on perceived merchandise value and patronage intentions. *Journal of marketing.* **66**(2), pp.120-141.

Ballantine, P.W., Parsons, A. and Comeskey, K. 2015. A conceptual model of the holistic effects of atmospheric cues in fashion retailing. *International Journal of Retail & Distribution Management.* **43**(6), pp.503-517.

Bapat, D. and Thanigan, J. 2016. Exploring relationship among brand experience dimensions, brand evaluation and brand loyalty. *Global Business Review.* **17**(6), pp.1357-1372.

Barhemmati, N. and Ahmad, A. 2015. Effects of social network marketing (SNM) on consumer purchase behavior through customer engagement. *Journal of Advanced Management Science.* **3**(4).

Barlow, A.K., Siddiqui, N.Q. and Mannion, M. 2004. Developments in information and communication technologies for retail marketing channels. *International Journal of retail & distribution management.* **32**(3), pp.157-163.

Barnes, S.J., Mattsson, J. and Sørensen, F. 2014. Destination brand experience and visitor behavior: Testing a scale in the tourism context. *Annals of Tourism Research.* **48**, pp.121-139.

Bauer, J.C., Linzmajer, M., Nagengast, L., Rudolph, T. and D'Cruz, E. 2020. Gamifying the digital shopping experience: games without monetary participation incentives increase customer satisfaction and loyalty. *Journal of Service Management.* **31**(3), pp.563-595.

Belghiti, S., Ochs, A., Lemoine, J.-F. and Badot, O. 2018. The phygital shopping experience: An attempt at conceptualization and empirical investigation. In: *Marketing Transformation: Marketing Practice in an Ever Changing World: Proceedings of the 2017 Academy of Marketing Science (AMS) World Marketing Congress (WMC)*: Springer, pp.61-74.

Bell, D.R., Gallino, S. and Moreno, A. 2018. Offline showrooms in omnichannel retail: Demand and operational benefits. *Management Science.* **64**(4), pp.1629-1651.

Bellizzi, J.A. and Hite, R.E. 1992. Environmental color, consumer feelings, and purchase likelihood. *Psychology & marketing.* **9**(5), pp.347-363.

Berman, B. and Evans, J.R. 1995. *Retail management: A strategic approach*. thesis, Univerza v Mariboru, Ekonomsko-poslovna fakulteta.

Berry, L.L., Wall, E.A. and Carbone, L.P. 2006. Service clues and customer assessment of the service experience: Lessons from marketing. *Academy of management perspectives.* **20**(2), pp.43-57.

Bèzes, C. 2019. What kind of in-store smart retailing for an omnichannel real-life experience? *Recherche et Applications en Marketing (English Edition).* **34**(1), pp.91-112.

Bezjian-Avery, A., Calder, B. and Iacobucci, D. 1998. New media interactive advertising vs. traditional advertising. *Journal of advertising research.* **38**, pp.23-32.

Bilal, G., Ahmed, M.A. and Shehzad, M. 2014. Role of social media and social networks in consumer decision making: A case of the garment sector. *International Journal of Multidisciplinary Sciences and Engineering.* **5**(3), pp.1-9.

Biswas, D., Lund, K. and Szocs, C. 2019. Sounds like a healthy retail atmospheric strategy: effects of ambient music and background noise on food sales. *Journal of the Academy of Marketing Science.* **47**, pp.37-55.

Blaikie, N. and Priest, J. 2019. *Designing social research: The logic of anticipation.* John Wiley & Sons.

Blázquez, M. 2014. Fashion shopping in multichannel retail: The role of technology in enhancing the customer experience. *International Journal of Electronic Commerce.* **18**(4), pp.97-116.

Blazquez, M., Kent, T. and Schwarz, E. 2014. Retail experiences and the role of in-store technologies and fashion apps. In: *Conference proceedings. Oxford Retail Futures Conference, Innovation in Retail and Distribution, 8th–9th December*.

Bloch, P.H. 1986. The product enthusiast: Implications for marketing strategy. *Journal of Consumer Marketing.* **3**(3), pp.51-62.

Blythe, M. and Hassenzahl, M. 2018. The semantics of fun: Differentiating enjoyable experiences. *Funology 2: From Usability to Enjoyment.* pp.375-387.

Bolton, R. and Saxena-Iyer, S. 2009. Interactive services: a framework, synthesis and research directions. *Journal of interactive marketing.* **23**(1), pp.91-104.

Bonetti, F. and Perry, P. 2017. A review of consumer-facing digital technologies across different types of fashion store formats. *Advanced fashion technology and operations management.* pp.137-163.

Bonetti, F., Perry, P. and Quinn, L. 2018. The digital revolution in fashion retailing: examining managerial processes and challenges in the adoption of consumer-facing in-store technology. In: *20th Annual Conference for the International Foundation of Fashion Technology Institutes*, pp.205-213.

Bourg, L., Chatzidimitris, T., Chatzigiannakis, I., Gavalas, D., Giannakopoulou, K., Kasapakis, V., Konstantopoulos, C., Kypriadis, D., Pantziou, G. and Zaroliagis, C. 2021. Enhancing shopping experiences in smart retailing. *Journal of Ambient Intelligence and Humanized Computing.* pp.1-19.

Boyatzis, R.E. 1998. *Transforming qualitative information: Thematic analysis and code development.* sage.

Brakus, J.J., Schmitt, B.H. and Zarantonello, L. 2009. Brand experience: what is it? How is it measured? Does it affect loyalty? *Journal of marketing.* **73**(3), pp.52-68.

Braun, C., Hadwich, K. and Bruhn, M. 2017. How do different types of customer engagement affect important relationship marketing outcomes? An empirical analysis. *Journal of Customer Behaviour.* **16**(2), pp.111-144.

Braun, V. and Clarke, V. 2006. Using thematic analysis in psychology. *Qualitative research in psychology.* **3**(2), pp.77-101.

Brodie, R.J., Hollebeek, L.D., Jurić, B. and Ilić, A. 2011. Customer engagement: Conceptual domain, fundamental propositions, and implications for research. *Journal of service research.* **14**(3), pp.252-271.

Brophy, P. 2016. *Narrative-based practice.* Routledge.

Brynjolfsson, E., Hu, Y.J. and Rahman, M.S. 2013. Competing in the age of omnichannel retailing. *MIT sloan management Review.*

Burke, R.R. 2002. Technology and the customer interface: what consumers want in the physical and virtual store. *Journal of the academy of Marketing Science.* **30**(4), pp.411-432.

Büttner, O.B. and Göritz, A.S. 2008. Perceived trustworthiness of online shops. *Journal of Consumer Behaviour: An International Research Review.* **7**(1), pp.35-50.

Cachon, G.P. and Swinney, R. 2011. The value of fast fashion: Quick response, enhanced design, and strategic consumer behavior. *Management science.* **57**(4), pp.778-795.

Cavdar Aksoy, N., Tumer Kabadayi, E., Yilmaz, C. and Kocak Alan, A. 2021. A typology of personalisation practices in marketing in the digital age. *Journal of marketing management.* **37**(11-12), pp.1091-1122.

Chang, Y.-W. and Chen, J. 2021. What motivates customers to shop in smart shops? The impacts of smart technology and technology readiness. *Journal of Retailing and Consumer Services.* **58**, p102325.

Chaudhuri, A. and Holbrook, M.B. 2001. The chain of effects from brand trust and brand affect to brand performance: the role of brand loyalty. *Journal of marketing.* **65**(2), pp.81-93.

Chebat, J.-C. and Dube, L. 2000. Evolution and Challenges Facing Retail Atmospherics:: The Apprentice Sorcerer Is Dying. *Journal of Business Research.* **49**(2), pp.89-90.

Chen, J.-S., Tsou, H.-T., Chou, C.Y. and Ciou, C.-H. 2020. Effect of multichannel service delivery quality on customers' continued engagement intention: a customer experience perspective. *Asia Pacific Journal of Marketing and Logistics.* **32**(2), pp.473-494.

Cheung, J. and Vazquez, D. 2015. An exploratory study to understand online consumers' experiential responses towards fashion visual content. *Academy of Marketing 2015: The Magic in Marketing.*

Childers, T.L., Carr, C.L., Peck, J. and Carson, S. 2001. Hedonic and utilitarian motivations for online retail shopping behavior. *Journal of retailing.* **77**(4), pp.511-535.

Christiaans, H. 2016. The future of retail and retail design. *Retail Design.* Routledge, pp.220-234.

Christiaans, H. and Almendra, R. 2012. Retail design: a new discipline. In: *DS 70: Proceedings of DESIGN 2012, the 12th International Design Conference, Dubrovnik, Croatia*, pp.1893-1902.

Citrin, A.V., Stem Jr, D.E., Spangenberg, E.R. and Clark, M.J. 2003. Consumer need for tactile input: An internet retailing challenge. *Journal of Business research.* **56**(11), pp.915-922.

Claes, S., Quartier, K. and Vanrie, J. 2016. Reconsidering education in retail design: Today's challenges and objectives. In: The Design & Emotion Society.

CLAES, S., QUARTIER, K. and VANRIE, J. 2017. The retail designer in the age of Phygital retail: a practice-based retail design competence framework for retail design education.

Clarke, D.W., Perry, P. and Denson, H. 2012. The sensory retail environment of small fashion boutiques. *Journal of Fashion Marketing and Management: An International Journal.*

Collier, J.E. and Kimes, S.E. 2013. Only if it is convenient: Understanding how convenience influences self-service technology evaluation. *Journal of Service Research.* **16**(1), pp.39-51.

Cornelio, P., Velasco, C. and Obrist, M. 2021. Multisensory integration as per technological advances: A review. *Frontiers in neuroscience.* **15**, p652611.

Cornelius, B., Natter, M. and Faure, C. 2010. How storefront displays influence retail store image. *Journal of Retailing and Consumer Services.* **17**(2), pp.143-151.

Cotarelo, M., Fayos, T., Calderón, H. and Mollá, A. 2021. Omni-channel intensity and shopping value as key drivers of customer satisfaction and loyalty. *Sustainability.* **13**(11), p5961.

Cox, A.D., Cox, D. and Anderson, R.D. 2005. Reassessing the pleasures of store shopping. *Journal of Business research.* **58**(3), pp.250-259.

Crewe, L. 2016. Placing fashion: Art, space, display and the building of luxury fashion markets through retail design. *Progress in Human Geography.* **40**(4), pp.511-529.

Crewe, L. 2017. *The geographies of fashion: Consumption, space, and value.* Bloomsbury Publishing.

Crofton, E.C., Botinestean, C., Fenelon, M. and Gallagher, E. 2019. Potential applications for virtual and augmented reality technologies in sensory science. *Innovative Food Science & Emerging Technologies.* **56**, p102178.

Cuong, P.H. 2019. Antecedents of store management strategies and visual merchandising on the in-store engagement of consumer good buyers: An empirical study. *Global Business & Finance Review (GBFR).* **24**(4), pp.76-89.

Dabholkar, P.A. 1996. Consumer evaluations of new technology-based self-service options: an investigation of alternative models of service quality. *International Journal of research in Marketing.* **13**(1), pp.29-51.

Dabholkar, P.A. 2014. How to improve perceived service quality by increasing customer participation. In: *Proceedings of the 1990 academy of marketing science (AMS) annual conference*: Springer, pp.483-487.

David, M. and Sutton, C.D. 2004. *Social research: The basics.* Sage.

De Certeau, M. and Mayol, P. 1998. *The Practice of Everyday Life: Living and Cooking. Volume 2.* U of Minnesota Press.

de Vere, I. 2014. A new consumerism: The influence of social technologies on product design.

Della Porta, D. and Keating, M. 2008. *Approaches and methodologies in the social sciences: A pluralist perspective.* Cambridge University Press.

Demirkan, H. and Spohrer, J. 2014. Developing a framework to improve virtual shopping in digital malls with intelligent self-service systems. *Journal of Retailing and Consumer Services.* **21**(5), pp.860-868.

Dennis, C., Brakus, J.J., Gupta, S. and Alamanos, E. 2014. The effect of digital signage on shoppers' behavior: The role of the evoked experience. *Journal of Business research.* **67**(11), pp.2250-2257.

Dennis, C., Michon, R., Brakus, J.J., Newman, A. and Alamanos, E. 2012. New insights into the impact of digital signage as a retail atmospheric tool. *Journal of consumer Behaviour.* **11**(6), pp.454-466.

Dennis, C., Newman, A., Michon, R., Brakus, J.J. and Wright, L.T. 2010. The mediating effects of perception and emotion: Digital signage in mall atmospherics. *Journal of Retailing and Consumer services.* **17**(3), pp.205-215.

Deterding, S., Dixon, D., Khaled, R. and Nacke, L. 2011. From game design elements to gamefulness: defining" gamification". In: *Proceedings of the 15th international academic MindTrek conference: Envisioning future media environments*, pp.9-15.

Doherty, N.F. and Ellis‐Chadwick, F. 2010. Internet retailing: the past, the present and the future. *International Journal of Retail & Distribution Management.* **38**(11/12), pp.943-965.

Dudovskiy, J. 2016. The ultimate guide to writing a dissertation in business studies: A step-by-step assistance. *Pittsburgh, USA.* p51.

Easterby-Smith, M., Thorpe, R. and Jackson, P.R. 2012. *Management research.* Sage.

Eisenhardt, K.M. 1989. Building theories from case study research. *Academy of management review.* **14**(4), pp.532-550.

Eisingerich, A.B., Marchand, A., Fritze, M.P. and Dong, L. 2019. Hook vs. hope: How to enhance customer engagement through gamification. *International Journal of Research in Marketing.* **36**(2), pp.200-215.

Erdem, T. and Swait, J. 2001. Brand equity as a signaling. *Journal of consumer Psychology.* **7**(2), pp.131-157.

Euromonitor international. 2021. *The future of the store.* [Online]. [Accessed 25 April]. Available from: www.euromonitor.com/article/ the-future-of-the-store

Ezeh, C. and Harris, L.C. 2007. Servicescape research: a review and a research agenda. *The Marketing Review.* **7**(1), pp.59-78.

Fernandes, T. and Pedroso, R. 2017. The effect of self-checkout quality on customer satisfaction and repatronage in a retail context. *Service Business.* **11**, pp.69-92.

Fiore, A.M., Kim, J. and Lee, H.-H. 2005. Effect of image interactivity technology on consumer responses toward the online retailer. *Journal of Interactive Marketing.* **19**(3), pp.38-53.

Fiore, A.M., Yah, X. and Yoh, E. 2000. Effects of a product display and environmental fragrancing on approach responses and pleasurable experiences. *Psychology & Marketing.* **17**(1), pp.27-54.

Floor, K. 2006. *Branding a store: How to build successful retail brands in a changing marketplace.* Kogan Page Publishers.

Forlizzi, J. and Battarbee, K. 2004. Understanding experience in interactive systems. In: *Proceedings of the 5th conference on Designing interactive systems: processes, practices, methods, and techniques*, pp.261-268.

Foroudi, P., Gupta, S., Sivarajah, U. and Broderick, A. 2018. Investigating the effects of smart technology on customer dynamics and customer experience. *Computers in Human Behavior.* **80**, pp.271-282.

Foster, J. and McLelland, M.A. 2015. Retail atmospherics: The impact of a brand dictated theme. *Journal of Retailing and consumer services.* **22**, pp.195-205.

Franzen, G. and Moriarty, S.E. 2015. *The science and art of branding.* Routledge.

Fuentes, C., Bäckström, K. and Svingstedt, A. 2017. Smartphones and the reconfiguration of retailscapes: Stores, shopping, and digitalization. *Journal of Retailing and Consumer Services.* **39**, pp.270-278.

Gallace, A., Ngo, M.K., Sulaitis, J. and Spence, C. 2012. Multisensory presence in virtual reality: possibilities & limitations. *Multiple sensorial media advances and applications: New developments in MulSeMedia.* IGI Global, pp.1-38.

Gao, F., Agrawal, V.V. and Cui, S. 2022. The effect of multichannel and omnichannel retailing on physical stores. *Management Science.* **68**(2), pp.809-826.

Gao, Y., Petersson Brooks, E. and Brooks, A.L. 2014. The performance of self in the context of shopping in a virtual dressing room system. In: *International Conference on HCI in Business*: Springer, pp.307-315.

Garlin, F.V. and Owen, K. 2006. Setting the tone with the tune: A meta-analytic review of the effects of background music in retail settings. *Journal of business research.* **59**(6), pp.755-764.

Gilbert, A. 2008. *What the nose knows: The science of scent in everyday life.* Crown.

Glaser, B. and Strauss, A. 1967. *The discovery of grounded theory Aldine Press*. Chicago.

Godey, B., Manthiou, A., Pederzoli, D., Rokka, J., Aiello, G., Donvito, R. and Singh, R. 2016. Social media marketing efforts of luxury brands: Influence on brand equity and consumer behavior. *Journal of business research.* **69**(12), pp.5833-5841.

Goffman, W. and Newill, V.A. 1967. Communication and epidemic processes. *Proceedings of the Royal Society of London. Series A. Mathematical and Physical Sciences.* **298**(1454), pp.316-334.

Goldkuhl, L. and Styvén, M. 2007. Sensing the scent of service success. *European Journal of Marketing.*

Gray, D.E. 2013. *Doing research in the real world.* Sage.

Grewal, D., Noble, S.M., Roggeveen, A.L. and Nordfalt, J. 2020. The future of in-store technology. *Journal of the Academy of Marketing Science.* **48**, pp.96-113.

Guest, G., MacQueen, K.M. and Namey, E.E. 2011. *Applied thematic analysis.* sage publications.

Gupta, S. and Ramachandran, D. 2021. Emerging market retail: transitioning from a product-centric to a customer-centric approach. *Journal of Retailing.* **97**(4), pp.597-620.

Hagberg, J., Jonsson, A. and Egels-Zandén, N. 2017. Retail digitalization: Implications for physical stores. *Journal of Retailing and Consumer services.* **39**, pp.264-269.

Halaszovich, T. and Nel, J. 2017. Customer–brand engagement and Facebook fan-page "Like"-intention. *Journal of Product & Brand Management.* **26**(2), pp.120-134.

Hamari, J., Koivisto, J. and Sarsa, H. 2014. Does gamification work?--a literature review of empirical studies on gamification. In: *2014 47th Hawaii international conference on system sciences*: Ieee, pp.3025-3034.

Hammond, M. and Wellington, J. 2012. *Research methods: The key concepts.* Routledge.

Hansen, A.H. and Mossberg, L. 2013. 11. consumer immersion: a key to extraordinary experiences. *Handbook on the experience economy.* **209**.

Harrison, S. and Dourish, P. 1996. Re-place-ing space: the roles of place and space in collaborative systems. In: *Proceedings of the 1996 ACM conference on Computer supported cooperative work*, pp.67-76.

Hassenzahl, M. 2010. *Experience design: Technology for all the right reasons.* Morgan & Claypool Publishers.

Hassenzahl, M. and Tractinsky, N. 2006. User experience-a research agenda. *Behaviour & information technology.* **25**(2), pp.91-97.

Hauser, D.J. and Schwarz, N. 2021. Situated embodiment: When physical weight does and does not inform judgments of importance. *Social Psychological and Personality Science.* **12**(7), pp.1225-1232.

Hausman, A.V. and Siekpe, J.S. 2009. The effect of web interface features on consumer online purchase intentions. *Journal of business research.* **62**(1), pp.5-13.

Heinonen, K. and Strandvik, T. 2020. Reframing service innovation: COVID-19 as a catalyst for imposed service innovation. *Journal of Service Management.* **32**(1), pp.101-112.

Herhausen, D., Binder, J., Schoegel, M. and Herrmann, A. 2015. Integrating bricks with clicks: retailer-level and channel-level outcomes of online–offline channel integration. *Journal of retailing.* **91**(2), pp.309-325.

Hernández, N., Mattila, H. and Berglin, L. 2019. Can virtually trying on apparel help in selecting the correct size? *Clothing and Textiles Research Journal.* **37**(4), pp.249-264.

Herz, R. 2009. *The scent of desire: Discovering our enigmatic sense of smell.* Harper Collins.

Herz, R.S. 2016. The role of odor-evoked memory in psychological and physiological health. *Brain sciences.* **6**(3), p22.

Higgins, E.T. and Scholer, A.A. 2009. Engaging the consumer: The science and art of the value creation process. *Journal of Consumer Psychology.* **19**(2), pp.100-114.

Hirschman, E.C. and Holbrook, M.B. 1982. Hedonic consumption: emerging concepts, methods and propositions. *Journal of marketing.* **46**(3), pp.92-101.

Hollebeek, L. 2011. Exploring customer brand engagement: definition and themes. *Journal of strategic Marketing.* **19**(7), pp.555-573.

Hollebeek, L.D. and Chen, T. 2014. Exploring positively-versus negatively-valenced brand engagement: a conceptual model. *Journal of Product & Brand Management.* **23**(1), pp.62-74.

Hollebeek, L.D., Glynn, M.S. and Brodie, R.J. 2014. Consumer brand engagement in social media: Conceptualization, scale development and validation. *Journal of interactive marketing.* **28**(2), pp.149-165.

Howard, J.A. and Sheth, J.N. 1969. The theory of buyer behavior. *New York.* **63**, p145.

Hoyer, W.D., Kroschke, M., Schmitt, B., Kraume, K. and Shankar, V. 2020a. Transforming the customer experience through new technologies. *Journal of Interactive Marketing.* **51**, pp.57-71.

Hoyer, W.D., Kroschke, M., Schmitt, B., Kraume, K. and Shankar, V. 2020b. Transforming the customer experience through new technologies. *Journal of interactive marketing.* **51**(1), pp.57-71.

Hsu, L.-C. 2017. Investigating community members' purchase intention on Facebook fan page: From a dualistic perspective of trust relationships. *Industrial Management & Data Systems.* **117**(5), pp.766-800.

Huang, T.-L. and Hsu Liu, F. 2014. Formation of augmented-reality interactive technology's persuasive effects from the perspective of experiential value. *Internet Research.* **24**(1), pp.82-109.

Hughes, C., Swaminathan, V. and Brooks, G. 2019. Driving brand engagement through online social influencers: An empirical investigation of sponsored blogging campaigns. *Journal of Marketing.* **83**(5), pp.78-96.

Husserl, E. 1965. Phenomenology and the crisis of philosophy: Philosophy as a rigorous science, and philosophy and the crisis of European man.

Hwang, J. and Lee, J. 2019. A strategy for enhancing senior tourists' well-being perception: Focusing on the experience economy. *Journal of Travel & Tourism Marketing.* **36**(3), pp.314-329.

Hyken, S. 2018. Customer experience is the new brand. *Retrieved.* **12**(28), p2018.

Imtiaz, R., Kazmi, S., Amjad, M. and Aziz, A. 2019. The impact of social network marketing on consumer purchase intention in Pakistan: A study on female apparel. *Management Science Letters.* **9**(7), pp.1093-1104.

Inman, J.J. and Nikolova, H. 2017. Shopper-facing retail technology: A retailer adoption decision framework incorporating shopper attitudes and privacy concerns. *Journal of retailing.* **93**(1), pp.7-28.

Insley, V. and Nunan, D. 2014. Gamification and the online retail experience. *International Journal of Retail & Distribution Management.* **42**(5), pp.340-351.

Iyengar, S.S. and Lepper, M.R. 2000. When choice is demotivating: Can one desire too much of a good thing? *Journal of personality and social psychology.* **79**(6), p995.

Jain, R. and Bagdare, S. 2011. Music and consumption experience: a review. *International Journal of Retail & Distribution Management.* **39**(4), pp.289-302.

Jantzen, C. 2013. Experiencing and experiences: A psychological framework. *Handbook on the experience economy.* pp.146-170.

Johnson, G.J., Bruner II, G.C. and Kumar, A. 2006. Interactivity and its facets revisited: Theory and empirical test. *Journal of advertising.* **35**(4), pp.35-52.

Johnson, M.D. and Fornell, C. 1991. A framework for comparing customer satisfaction across individuals and product categories. *Journal of economic psychology.* **12**(2), pp.267-286.

Joo Park, E., Young Kim, E. and Cardona Forney, J. 2006. A structural model of fashion ‐ oriented impulse buying behavior. *Journal of Fashion Marketing and Management: An International Journal.* **10**(4), pp.433-446.

Joy, A., Sherry Jr, J.F., Venkatesh, A., Wang, J. and Chan, R. 2012. Fast fashion, sustainability, and the ethical appeal of luxury brands. *Fashion theory.* **16**(3), pp.273-295.

Joy, A., Wang, J.J., Chan, T.-S., Sherry Jr, J.F. and Cui, G. 2014. M (Art) worlds: consumer perceptions of how luxury brand stores become art institutions. *Journal of Retailing.* **90**(3), pp.347-364.

Jung, L.H. and Soo, K.M. 2012. The effect of brand experience on brand relationship quality. *Academy of Marketing Studies Journal.* **16**(1), p87.

Kahn, W.A. 1992. To be fully there: Psychological presence at work. *Human relations.* **45**(4), pp.321-349.

Kang, J. and Park‐Poaps, H. 2010. Hedonic and utilitarian shopping motivations of fashion leadership. *Journal of Fashion Marketing and Management: An International Journal.* **14**(2), pp.312-328.

Kaplan, A.M. and Haenlein, M. 2010. Users of the world, unite! The challenges and opportunities of Social Media. *Business horizons.* **53**(1), pp.59-68.

Kent, A., Dennis, C., Cano, M.B., Helberger, E. and Brakus, J. 2018. Branding, marketing, and design: Experiential in-store digital environments. *Fashion and Textiles: Breakthroughs in Research and Practice.* IGI Global, pp.275-298.

Kent, A., Vianello, M., Cano, M.B. and Helberger, E. 2016. Omnichannel fashion retail and channel integration: The case of department stores. *Handbook of research on global fashion management and merchandising.* IGI Global, pp.398-419.

Kent, T. 2007. Creative space: design and the retail environment. *International Journal of Retail & Distribution Management.* **35**(9), pp.734-745.

Kent, T. and Stone, D. 2007. The Body Shop and the role of design in retail branding. *International Journal of Retail & Distribution Management.* **35**(7), pp.531-543.

Ki, C.-W.C., Cuevas, L.M., Chong, S.M. and Lim, H. 2020. Influencer marketing: Social media influencers as human brands attaching to followers and yielding positive marketing results by fulfilling needs. *Journal of Retailing and Consumer Services.* **55**, p102133.

Kim, E., Lin, J.-S. and Sung, Y. 2013. To app or not to app: Engaging consumers via branded mobile apps. *Journal of Interactive Advertising.* **13**(1), pp.53-65.

Kim, H.-Y., Lee, J.Y., Mun, J.M. and Johnson, K.K. 2017. Consumer adoption of smart in-store technology: assessing the predictive value of attitude versus beliefs in the technology acceptance model. *International Journal of Fashion Design, Technology and Education.* **10**(1), pp.26-36.

Kim, H.Y., Lee, Y., Cho, E. and Jung, Y.J. 2020. Digital atmosphere of fashion retail stores. *Fashion and Textiles.* **7**, pp.1-17.

Kim, J. and Forsythe, S. 2008. Sensory enabling technology acceptance model (SE‐TAM): A multiple‐group structural model comparison. *Psychology & Marketing.* **25**(9), pp.901-922.

Kim, J. and Forsythe, S. 2010. Factors affecting adoption of product virtualization technology for online consumer electronics shopping. *International Journal of Retail & Distribution Management.* **38**(3), pp.190-204.

Kim, M. and Cheeyong, K. 2015. Augmented reality fashion apparel simulation using a magic mirror. *International journal of smart home.* **9**(2), pp.169-178.

Kindleysides, J. 2007. *An introduction to retail design. London: Design Council.* [Online]. [Accessed Auguest 16]. Available from: http://www.design-council.org.uk/en/About-Design/Design-Disciplines/Retail-Design/Re-commended-reading/

King, N., Horrocks, C. and Brooks, J. 2018. *Interviews in qualitative research.* Sage.

Kinzinger, A., Steiner, W., Tatzgern, M. and Vallaster, C. 2022. Comparing low sensory enabling (LSE) and high sensory enabling (HSE) virtual product presentation modes in e‐commerce. *Information Systems Journal.* **32**(5), pp.1034-1063.

Klein, P.D. 2005. Epistemology (from Routledge Encyclopedia of Philosophy). *Retrieved November.* **1**, p2007.

Kokku, R. 2021. Omni and multi-channel: Relationship with utilitarian/hedonic benefits, shopping value and channel patronage. *International Review of Management and Marketing.* **11**(2), p11.

Koo, W. 2016. Usage of Smartphone Applications: A Descriptive Study of Top 100 US Retailers. *International Journal of Interactive Mobile Technologies.* **10**(3).

Kotler, P. 1973. Atmospherics as a marketing tool. *Journal of retailing.* **49**(4), pp.48-64.

Kozinets, R.V., Sherry, J.F., DeBerry-Spence, B., Duhachek, A., Nuttavuthisit, K. and Storm, D. 2002. Themed flagship brand stores in the new millennium: theory, practice, prospects. *Journal of retailing.* **78**(1), pp.17-29.

Krishna, A. and Elder, R.S. 2021. A review of the cognitive and sensory cues impacting taste perceptions and consumption. *Consumer Psychology Review.* **4**(1), pp.121-134.

Kumar, V. 2013. *Profitable customer engagement: Concept, metrics and strategies.* SAGE Publications India.

Kumar, V., Aksoy, L., Donkers, B., Venkatesan, R., Wiesel, T. and Tillmanns, S. 2010. Undervalued or overvalued customers: Capturing total customer engagement value. *Journal of service research.* **13**(3), pp.297-310.

Kwon, K.-N. and Jain, D. 2009. Multichannel shopping through nontraditional retail formats: Variety-seeking behavior with hedonic and utilitarian motivations. *Journal of Marketing Channels.* **16**(2), pp.149-168.

Layder, D. 1998. *Sociological practice: Linking theory and social research.* Sage.

Lazaris, C., Sarantopoulos, P., Vrechopoulos, A. and Doukidis, G. 2021. Effects of increased omnichannel integration on customer satisfaction and loyalty intentions. *International Journal of Electronic Commerce.* **25**(4), pp.440-468.

Lazaris, C., Vrechopoulos, A., Doukidis, G. and Fraidaki, A. 2015. Mobile apps for omnichannel retailing: Revealing the emerging showroom phenomenon.

Lee, H. and Leonas, K. 2018. Consumer experiences, the key to survive in an omni-channel environment: Use of virtual technology. *Journal of Textile and Apparel, Technology and Management.* **10**(3).

Lee, H. and Xu, Y. 2020. Classification of virtual fitting room technologies in the fashion industry: from the perspective of consumer experience. *International journal of fashion design, technology and education.* **13**(1), pp.1-10.

Lee, H. and Xu, Y. 2022. Influence of motivational orientations on consumers' adoption of virtual fitting rooms (VFRs): moderating effects of fashion leadership and technology visibility. *International Journal of Fashion Design, Technology and Education.* pp.1-11.

Lee, L., Inman, J.J., Argo, J.J., Böttger, T., Dholakia, U., Gilbride, T., Van Ittersum, K., Kahn, B., Kalra, A. and Lehmann, D.R. 2018. From browsing to buying and beyond: The needs-adaptive shopper journey model. *Journal of the Association for Consumer Research.* **3**(3), pp.277-293.

Lemon, K.N. and Verhoef, P.C. 2016. Understanding customer experience throughout the customer journey. *Journal of marketing.* **80**(6), pp.69-96.

Lewis-Beck, M., Bryman, A.E. and Liao, T.F. 2003. *The Sage encyclopedia of social science research methods.* Sage Publications.

Lim, E.A.C. and Ang, S.H. 2008. Hedonic vs. utilitarian consumption: A cross-cultural perspective based on cultural conditioning. *Journal of business research.* **61**(3), pp.225-232.

Lin, Z., Chen, Y. and Filieri, R. 2017. Resident-tourist value co-creation: The role of residents' perceived tourism impacts and life satisfaction. *Tourism Management.* **61**, pp.436-442.

Lindstrom, M. 2005. Broad sensory branding. *Journal of Product & Brand Management.* **14**(2), pp.84-87.

Lindstrom, M. 2011. *Brand sense: Sensory secrets behind the stuff we buy.* Simon and Schuster.

Liu, Y. and Shrum, L.J. 2002. What is interactivity and is it always such a good thing? Implications of definition, person, and situation for the influence of interactivity on advertising effectiveness. *Journal of advertising.* **31**(4), pp.53-64.

Llamas, R. and Belk, R. 2013. Living in a digital world. *The Routledge companion to digital consumption.* Routledge, pp.3-12.

Loker, S., Ashdown, S.P., Cowie, L. and Schoenfelder, K.A. 2004. Consumer interest in commercial applications of body scan data. *Journal of Textile and Apparel technology and Management.* **4**(1), pp.1-13.

Longoni, C. and Cian, L. 2022. Artificial intelligence in utilitarian vs. hedonic contexts: The “word-of-machine” effect. *Journal of Marketing.* **86**(1), pp.91-108.

Lopes, J.M., Gomes, S., Lopes, P., Silva, A., Lourenço, D., Esteves, D., Cardoso, M. and Redondo, V. 2023. Exploring the role of gamification in the online shopping experience in retail stores: An exploratory study. *Social Sciences.* **12**(4), p235.

Low, G.S. and Fullerton, R.A. 1994. Brands, brand management, and the brand manager system: A critical-historical evaluation. *Journal of marketing research.* **31**(2), pp.173-190.

Lundqvist, A., Liljander, V., Gummerus, J. and Van Riel, A. 2013. The impact of storytelling on the consumer brand experience: The case of a firm-originated story. *Journal of Brand Management.* **20**(4), pp.283-297.

Madsen, S.M. and Petermans, A. 2020. Exploring the system of digitised retail design—flattening the ontology. *Journal of Retailing and Consumer Services.* **54**, p102053.

Mangold, W.G. and Faulds, D.J. 2009. Social media: The new hybrid element of the promotion mix. *Business horizons.* **52**(4), pp.357-365.

Marshall, P., Rogers, Y. and Pantidi, N. 2011. Using F-formations to analyse spatial patterns of interaction in physical environments. In: *Proceedings of the ACM 2011 conference on Computer supported cooperative work*, pp.445-454.

Maslowska, E., Malthouse, E.C. and Collinger, T. 2016. The customer engagement ecosystem. *Journal of marketing management.* **32**(5-6), pp.469-501.

Mathwick, C., Malhotra, N. and Rigdon, E. 2001. Experiential value: conceptualization, measurement and application in the catalog and Internet shopping environment☆. *Journal of retailing.* **77**(1), pp.39-56.

Mathwick, C., Malhotra, N.K. and Rigdon, E. 2002. The effect of dynamic retail experiences on experiential perceptions of value: an Internet and catalog comparison. *Journal of retailing.* **78**(1), pp.51-60.

Mayrhofer, M., Matthes, J., Einwiller, S. and Naderer, B. 2020. User generated content presenting brands on social media increases young adults’ purchase intention. *International Journal of Advertising.* **39**(1), pp.166-186.

McCarthy, J. and Wright, P. 2004. Technology as experience. *interactions.* **11**(5), pp.42-43.

McCormick, H., Cartwright, J., Perry, P., Barnes, L., Lynch, S. and Ball, G. 2014. Fashion retailing–past, present and future. *Textile Progress.* **46**(3), pp.227-321.

McCormick, H. and Livett, C. 2012. Analysing the influence of the presentation of fashion garments on young consumers' online behaviour. *Journal of Fashion Marketing and Management: An International Journal.* **16**(1), pp.21-41.

McDonald, M.H. 1985. Methodological problems associated with qualitative research: some observations and a case analysis of international marketing planning. *International Studies of Management & Organization.* **15**(2), pp.19-40.

Melero, I., Sese, F.J. and Verhoef, P.C. 2016. Recasting the customer experience in today's omni-channel environment. *Universia Business Review.* (50), pp.18-37.

Merrilees, B. 2016. Interactive brand experience pathways to customer-brand engagement and value co-creation. *Journal of Product & Brand Management.* **25**(5), pp.402-408.

Mesher, L. 2010. *Basics Interior Design 01: Retail Design.* Ava Publishing.

Miles, M.B. and Huberman, A.M. 1994. *Qualitative data analysis: An expanded sourcebook.* sage.

Miller, R.L. and Brewer, J.D. 2003. *The AZ of social research: a dictionary of key social science research concepts.* Sage.

Mintel. 2023a. UK Direct-to-Consumer Retail Market Report 2023. *Mintel Group Ltd, London.*

Mintel. 2023b. UK Fashion Technology and Innovation Market Report 2023. *Mintel Group Ltd, London.*

Mollen, A. and Wilson, H. 2010. Engagement, telepresence and interactivity in online consumer experience: Reconciling scholastic and managerial perspectives. *Journal of business research.* **63**(9-10), pp.919-925.

Moore, C., Bruce, M. and Birtwistle, G. 2007. *International retail marketing.* Routledge.

Morgan, N., Pritchard, A. and Pride, R. 2011. *Destination brands: Managing place reputation.* Routledge.

Mrad, M., Majdalani, J., Cui, C.C. and El Khansa, Z. 2020. Brand addiction in the contexts of luxury and fast-fashion brands. *Journal of Retailing and Consumer Services.* **55**, p102089.

Müller, J., Alt, F. and Michelis, D. 2011. Pervasive advertising. *Pervasive Advertising.* Springer, pp.1-29.

Müller, J., Walter, R., Bailly, G., Nischt, M. and Alt, F. 2012. Looking glass: a field study on noticing interactivity of a shop window. In: *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, pp.297-306.

Naim, A. 2022. Understanding the customer centric approach to add value to social ecrm (SECRM). *American Journal of Technology and Applied Sciences.* **3**, pp.17-31.

Nasir, S., Vel, P. and Mateen, H. 2012. Social media and buying behaviour of women in Pakistan towards the purchase of textile garments.

Neslin, S.A., Grewal, D., Leghorn, R., Shankar, V., Teerling, M.L., Thomas, J.S. and Verhoef, P.C. 2006. Challenges and opportunities in multichannel customer management. *Journal of service research.* **9**(2), pp.95-112.

Newman, A.J. and Foxall, G.R. 2003. In‐store customer behaviour in the fashion sector: some emerging methodological and theoretical directions. *International Journal of Retail & Distribution Management.* **31**(11), pp.591-600.

Nieroda, M.E., Mrad, M. and Solomon, M.R. 2018. How do consumers think about hybrid products? Computer wearables have an identity problem. *Journal of Business Research.* **89**, pp.159-170.

Nysveen, H., Pedersen, P.E. and Skard, S. 2013. Brand experiences in service organizations: Exploring the individual effects of brand experience dimensions. *Journal of brand management.* **20**, pp.404-423.

O'Brien, H.L. and Toms, E.G. 2008. What is user engagement? A conceptual framework for defining user engagement with technology. *Journal of the American society for Information Science and Technology.* **59**(6), pp.938-955.

Ogunjimi, A., Rahman, M., Islam, N. and Hasan, R. 2021. Smart mirror fashion technology for the retail chain transformation. *Technological Forecasting and Social Change.* **173**, p121118.

Palmatier, R.W., Kumar, V. and Harmeling, C.M. 2017. *Customer engagement marketing.* Springer.

Pansari, A. and Kumar, V. 2017. Customer engagement: the construct, antecedents, and consequences. *Journal of the Academy of Marketing Science.* **45**, pp.294-311.

Pantano, E. 2016. Engaging consumer through the storefront: Evidences from integrating interactive technologies. *Journal of Retailing and Consumer Services.* **28**, pp.149-154.

Pantano, E. and Naccarato, G. 2010. Entertainment in retailing: The influences of advanced technologies. *Journal of Retailing and Consumer Services.* **17**(3), pp.200-204.

Pantano, E. and Priporas, C.-V. 2016. The effect of mobile retailing on consumers' purchasing experiences: A dynamic perspective. *Computers in human behavior.* **61**, pp.548-555.

Pantano, E., Priporas, C.-V., Sorace, S. and Iazzolino, G. 2017. Does innovation-orientation lead to retail industry growth? Empirical evidence from patent analysis. *Journal of Retailing and Consumer Services.* **34**, pp.88-94.

Pantano, E., Priporas, C.V. and Dennis, C. 2018a. A new approach to retailing for successful competition in the new smart scenario. *International Journal of Retail & Distribution Management.*

Pantano, E., Priporas, C.V. and Dennis, C. 2018b. A new approach to retailing for successful competition in the new smart scenario. *International Journal of Retail & Distribution Management.* **46**(3), pp.264-282.

Pantano, E. and Vannucci, V. 2019. Who is innovating? An exploratory research of digital technologies diffusion in retail industry. *Journal of Retailing and Consumer Services.* **49**, pp.297-304.

Pantano, E., Viassone, M., Boardman, R. and Dennis, C. 2022. Inclusive or exclusive? Investigating how retail technology can reduce old consumers' barriers to shopping. *Journal of Retailing and Consumer Services.* **68**, p103074.

Papagiannidis, S., Pantano, E., See-To, E.W. and Bourlakis, M. 2013. Modelling the determinants of a simulated experience in a virtual retail store and users' product purchasing intentions. *Journal of Marketing Management.* **29**(13-14), pp.1462-1492.

Parasuraman, A. 2000. Technology Readiness Index (TRI) a multiple-item scale to measure readiness to embrace new technologies. *Journal of service research.* **2**(4), pp.307-320.

Park, N.K. and Farr, C.A. 2007. The effects of lighting on consumers' emotions and behavioral intentions in a retail environment: A cross–cultural comparison. *Journal of Interior Design.* **33**(1), pp.17-32.

Patton, M.Q. 1990. *Qualitative evaluation and research methods.* SAGE Publications, inc.

Pauwels, K. and Neslin, S.A. 2015. Building with bricks and mortar: The revenue impact of opening physical stores in a multichannel environment. *Journal of retailing.* **91**(2), pp.182-197.

Peck, J. and Wiggins, J. 2006. It just feels good: Customers' affective response to touch and its influence on persuasion. *Journal of Marketing.* **70**(4), pp.56-69.

Pegler, M.M. 1983. *Visual merchandising and display.* Fairchild Publications.

Pepper, M.R., Freeland-Graves, J.H., Yu, W., Stanforth, P.R. and Xu, B. 2010. Evaluation of a rotary laser body scanner for body volume and fat assessment. *Journal of testing and evaluation.* **39**(1), p1.

Perry, A. 2016. Consumers' acceptance of smart virtual closets. *Journal of Retailing and Consumer Services.* **33**, pp.171-177.

Perry, P., Kent, A. and Bonetti, F. 2019. The use of mobile technologies in physical stores: The case of fashion retailing. *Exploring omnichannel retailing: common expectations and diverse realities.* pp.169-195.

Petermans, A. and Van Cleempoel, K. 2009. Retail Design and the Experience Economy: Where Are We (Going)? *Design Principles & Practices.* **3**, pp.171-181.

Petit, O., Javornik, A. and Velasco, C. 2022. We eat first with our (digital) eyes: enhancing mental simulation of eating experiences via visual-enabling technologies. *Journal of Retailing.* **98**(2), pp.277-293.

Petit, O., Velasco, C. and Spence, C. 2019. Digital sensory marketing: Integrating new technologies into multisensory online experience. *Journal of Interactive Marketing.* **45**(1), pp.42-61.

Picot-Coupey, K., Huré, E. and Piveteau, L. 2016. Channel design to enrich customers' shopping experiences: synchronizing clicks with bricks in an omni-channel perspective-the Direct Optic case. *International Journal of Retail & Distribution Management.*

Pine, B.J. and Gilmore, J.H. 2013. The experience economy: past, present and future. *Handbook on the experience economy.* **1**, pp.21-44.

Pitale, A. and Bhumgara, A. 2019. Human computer interaction strategies—designing the user interface. In: *2019 International Conference on Smart Systems and Inventive Technology (ICSSIT)*: IEEE, pp.752-758.

Poncin, I. and Mimoun, M.S.B. 2014. The impact of "e-atmospherics" on physical stores. *Journal of Retailing and Consumer Services.* **21**(5), pp.851-859.

Pookulangara, S., Hawley, J. and Xiao, G. 2011. Explaining multi‐channel consumer's channel‐migration intention using theory of reasoned action. *International Journal of Retail & Distribution Management.* **39**(3), pp.183-202.

Potvin, J. 2013. *The places and spaces of fashion, 1800-2007.* Routledge.

Priporas, C.-V., Stylos, N. and Fotiadis, A.K. 2017. Generation Z consumers' expectations of interactions in smart retailing: A future agenda. *Computers in human behavior.* **77**, pp.374-381.

Puccinelli, N.M., Goodstein, R.C., Grewal, D., Price, R., Raghubir, P. and Stewart, D. 2009. Customer experience management in retailing: understanding the buying process. *Journal of retailing.* **85**(1), pp.15-30.

Quartier, K., Claes, S. and Vanrie, J. 2020. A holistic competence framework for (future) retail design and retail design education. *Journal of Retailing and Consumer Services.* **55**, p101914.

Quartier, K., Vanrie, J. and Van Cleempoel, K. 2014. As real as it gets: What role does lighting have on consumer's perception of atmosphere, emotions and behaviour? *Journal of Environmental Psychology.* **39**, pp.32-39.

Quinn, B. 2003. The fashion of architecture.

Ratneshwar, S. and Mick, D.G. 2005. *Inside consumption: Consumer motives, goals, and desires.* Psychology Press.

Reichertz, J. 2013. Induction, deduction. *The SAGE handbook of qualitative data analysis.* pp.123-135.

Rese, A., Baier, D., Geyer-Schulz, A. and Schreiber, S. 2017. How augmented reality apps are accepted by consumers: A comparative analysis using scales and opinions. *Technological Forecasting and Social Change.* **124**, pp.306-319.

Riaz, H., Baig, U., Meidute-Kavaliauskiene, I. and Ahmed, H. 2021. Factors effecting omnichannel customer experience: evidence from fashion retail. *Information.* **13**(1), p12.

Ridder, H.-G. 2014. *Book Review: Qualitative data analysis. A methods sourcebook.* Sage publications Sage UK: London, England.

Riegger, A.-S., Klein, J.F., Merfeld, K. and Henkel, S. 2021. Technology-enabled personalization in retail stores: Understanding drivers and barriers. *Journal of Business Research.* **123**, pp.140-155.

Riewoldt, O. 2002. *Brandscaping: Worlds of experience in retail design/Erlebnisdesign für Einkaufswelten.* Springer Science & Business Media.

Robert, D. and John, R. 1982. Store atmosphere: an environmental psychology approach. *Journal of retailing.* **58**(1), pp.34-57.

Rodriguez, M. 2020. *Brand storytelling: Put customers at the heart of your brand story.* Kogan Page Publishers.

Rogers, Y., Sharp, H. and Preece, J. 2002. Interaction design: Beyond human-computer interaction, jon wiley & sons. *Inc.*

Roggeveen, A.L., Grewal, D., Karsberg, J., Noble, S.M., Nordfält, J., Patrick, V.M., Schweiger, E., Soysal, G., Dillard, A. and Cooper, N. 2021. Forging meaningful consumer-brand relationships through creative merchandise offerings and innovative merchandising strategies. *Journal of Retailing.* **97**(1), pp.81-98.

Roggeveen, A.L. and Sethuraman, R. 2020. Customer-interfacing retail technologies in 2020 & beyond: An integrative framework and research directions. *Journal of Retailing.* **96**(3), pp.299-309.

Roschk, H. and Hosseinpour, M. 2020. Pleasant ambient scents: a meta-analysis of customer responses and situational contingencies. *Journal of Marketing.* **84**(1), pp.125-145.

Rosengarten, P.G. and Stürmer, C.B. 2005. Premium power. *Das Geheimnis des Erfolgs von Mercedes-Benz, BMW, Porsche und Audi.* **2**.

Rothbard, N.P. 2001. Enriching or depleting? The dynamics of engagement in work and family roles. *Administrative science quarterly.* **46**(4), pp.655-684.

Roy, S.K., Balaji, M., Quazi, A. and Quaddus, M. 2018. Predictors of customer acceptance of and resistance to smart technologies in the retail sector. *Journal of Retailing and Consumer Services.* **42**, pp.147-160.

Roy, S.K., Balaji, M., Sadeque, S., Nguyen, B. and Melewar, T. 2017. Constituents and consequences of smart customer experience in retailing. *Technological Forecasting and Social Change.* **124**, pp.257-270.

SACKRIDER, F., GUIDÉ, G. and HERVÉ, D. 2009. Entre vitrinas: distribuição e visual merchandising na moda. *São Paulo: Editora Senac São Paulo.*

Salanova, M., Agut, S. and Peiró, J.M. 2005. Linking organizational resources and work engagement to employee performance and customer loyalty: the mediation of service climate. *Journal of applied Psychology.* **90**(6), p1217.

Saldaña, J. 2021. *The coding manual for qualitative researchers.* sage.

Sample, K.L., Hagtvedt, H. and Brasel, S.A. 2020. Components of visual perception in marketing contexts: A conceptual framework and review. *Journal of the Academy of Marketing Science.* **48**, pp.405-421.

Saunders, M., Lewis, P. and Thornhill, A. 2007. Research methods. *Business Students 4th edition Pearson Education Limited, England.*

Saunders, M.N., Lewis, P., Thornhill, A. and Bristow, A. 2015. Understanding research philosophy and approaches to theory development.

Savastano, M., Barnabei, R. and Ricotta, F. 2016. Going online while purchasing offline: An explorative analysis of omnichannel shopping behaviour in retail settings. In: *Proceedings of the international marketing trends conference*, p.22.

Scarpi, D. 2006. Fashion stores between fun and usefulness. *Journal of Fashion Marketing and Management: An International Journal.* **10**(1), pp.7-24.

Scarpi, D., Pizzi, G. and Visentin, M. 2014. Shopping for fun or shopping to buy: is it different online and offline? *Journal of Retailing and Consumer Services.* **21**(3), pp.258-267.

Schaufeli, W.B. and Bakker, A.B. 2004. Job demands, job resources, and their relationship with burnout and engagement: A multi‐sample study. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior.* **25**(3), pp.293-315.

Schlinke, J. and Crain, S. 2013. Social media from an integrated marketing and compliance perspective. *Journal of Financial Service Professionals.* **67**(2).

Schmitt, B. 1999. Experiential marketing. *Journal of marketing management.* **15**(1-3), pp.53-67.

Seifert, C. and Kwon, W.-S. 2020. SNS eWOM sentiment: impacts on brand value co-creation and trust. *Marketing Intelligence & Planning.* **38**(1), pp.89-102.

Sen, S., Block, L.G. and Chandran, S. 2002. Window displays and consumer shopping decisions. *Journal of Retailing and Consumer services.* **9**(5), pp.277-290.

Shankar, V. and Balasubramanian, S. 2009. Mobile marketing: A synthesis and prognosis. *Journal of interactive marketing.* **23**(2), pp.118-129.

Shankar, V., Kleijnen, M., Ramanathan, S., Rizley, R., Holland, S. and Morrissey, S. 2016a. Mobile shopper marketing: Key issues, current insights, and future research avenues. *Journal of Interactive Marketing.* **34**(1), pp.37-48.

Shankar, V., Kleijnen, M., Ramanathan, S., Rizley, R., Holland, S. and Morrissey, S. 2016b. Mobile shopper marketing: Key issues, current insights, and future research avenues. *Journal of Interactive Marketing.* **34**, pp.37-48.

Sheetal, Tyagi, R. and Singh, G. 2023. Gamification and customer experience in online retail: a qualitative study focusing on ethical perspective. *Asian Journal of Business Ethics.* **12**(1), pp.49-69.

Shneiderman, B. 2002. Creativity support tools. *Communications of the ACM.* **45**(10), pp.116-120.

Silverman, D. 2015. *Interpreting qualitative data.* Sage.

Sinha, J. and Bagchi, R. 2019. Role of ambient temperature in influencing willingness to pay in auctions and negotiations. *Journal of Marketing.* **83**(4), pp.121-138.

Siregar, Y. and Kent, A. 2019. Consumer experience of interactive technology in fashion stores. *International Journal of Retail & Distribution Management.* **47**(12), pp.1318-1335.

Smith, P.R. and Zook, Z. 2024. *Marketing communications: Integrating online and offline, customer engagement and digital technologies.* Kogan Page Publishers.

So, K.K.F., King, C. and Sparks, B. 2014. Customer engagement with tourism brands: Scale development and validation. *Journal of Hospitality & Tourism Research.* **38**(3), pp.304-329.

So, K.K.F., King, C., Sparks, B.A. and Wang, Y. 2016. The role of customer engagement in building consumer loyalty to tourism brands. *Journal of Travel Research.* **55**(1), pp.64-78.

Sohn, D. 2011. Anatomy of interaction experience: distinguishing sensory, semantic, and behavioral dimensions of interactivity. *New Media & Society.* **13**(8), pp.1320-1335.

Song, J. 2010. Retail design and sensory experience: Design inquiry of complex reality.

Song, J.H. and Zinkhan, G.M. 2008. Determinants of perceived web site interactivity. *Journal of marketing.* **72**(2), pp.99-113.

Sousa, E.d.S.S. 2021. *The impact of the QR code content and customer experience on QR code usage intention and customer satisfaction: an analysis in the context of food packaging*. thesis.

Spence, C. 2021. Musical scents: On the surprising absence of scented musical/auditory events, entertainments, and experiences. *i-Perception.* **12**(5), p20416695211038747.

Spence, C., Puccinelli, N.M., Grewal, D. and Roggeveen, A.L. 2014. Store atmospherics: A multisensory perspective. *Psychology & Marketing.* **31**(7), pp.472-488.

Stillman, P., Lee, H., Deng, X., Unnava, H.R. and Fujita, K. 2020. Examining consumers' sensory experiences with color: A consumer neuroscience approach. *Psychology & Marketing.* **37**(7), pp.995-1007.

Stone, D., Jarrett, C., Woodroffe, M. and Minocha, S. 2005. *User interface design and evaluation.* Elsevier.

Stott, R. and Walker, J. 2018. Storefront Salvation. *LS: N Global.* **4**.

Strauss, A.L. 1987. *Qualitative analysis for social scientists.* Cambridge university press.

Sweeney, J.C. and Wyber, F. 2002. The role of cognitions and emotions in the music‐approach‐avoidance behavior relationship. *Journal of services marketing.*

Thorson, K.S. and Rodgers, S. 2006. Relationships between blogs as eWOM and interactivity, perceived interactivity, and parasocial interaction. *Journal of Interactive Advertising.* **6**(2), pp.5-44.

Titton, M. 2015. Fashionable personae: Self-identity and enactments of fashion narratives in fashion blogs. *Fashion Theory.* **19**(2), pp.201-220.

Torres, P., Augusto, M. and Neves, C. 2022. Value dimensions of gamification and their influence on brand loyalty and word‐of‐mouth: Relationships and combinations with satisfaction and brand love. *Psychology & Marketing.* **39**(1), pp.59-75.

Tuckett, A.G. 2005. Applying thematic analysis theory to practice: A researcher's experience. *Contemporary nurse.* **19**(1-2), pp.75-87.

Turley, L.W. and Milliman, R.E. 2000. Atmospheric effects on shopping behavior: a review of the experimental evidence. *Journal of business research.* **49**(2), pp.193-211.

Turner, J.H. 1988. *A theory of social interaction.* Stanford University Press.

Underhill, P. 2009. *Why We Buy: The Science of Shopping-updated and Revised for the Internet, the Global Consumer, and Beyond.* Simon and Schuster.

Van Doorn, J., Lemon, K.N., Mittal, V., Nass, S., Pick, D., Pirner, P. and Verhoef, P.C. 2010. Customer engagement behavior: Theoretical foundations and research directions. *Journal of service research.* **13**(3), pp.253-266.

van Tongeren, M. 2013. *One to one: The essence of retail branding and design.* BIS Pub.

Varadarajan, R., Srinivasan, R., Vadakkepatt, G.G., Yadav, M.S., Pavlou, P.A., Krishnamurthy, S. and Krause, T. 2010. Interactive technologies and retailing

strategy: A review, conceptual framework and future research directions. *Journal of Interactive Marketing.* **24**(2), pp.96-110.

Venkatesh, V. and Davis, F.D. 2000. A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management science.* **46**(2), pp.186-204.

Verhoef, P.C., Kannan, P.K. and Inman, J.J. 2015. From multi-channel retailing to omni-channel retailing: introduction to the special issue on multi-channel retailing. *Journal of retailing.* **91**(2), pp.174-181.

Vivek, S.D. 2009. *A scale of consumer engagement.* The University of Alabama.

Vivek, S.D., Beatty, S.E., Dalela, V. and Morgan, R.M. 2014. A generalized multidimensional scale for measuring customer engagement. *Journal of Marketing Theory and Practice.* **22**(4), pp.401-420.

Vivek, S.D., Beatty, S.E. and Morgan, R.M. 2012. Customer engagement: Exploring customer relationships beyond purchase. *Journal of marketing theory and practice.* **20**(2), pp.122-146.

Vohs, K.D., Baumeister, R.F., Schmeichel, B.J., Twenge, J.M., Nelson, N.M. and Tice, D.M. 2018. Making choices impairs subsequent self-control: A limited-resource account of decision making, self-regulation, and active initiative. *Self-regulation and self-control.* Routledge, pp.45-77.

Vukadin, A., Lemoine, J.-F. and Badot, O. 2019. Store artification and retail performance. *Journal of Marketing Management.* **35**(7-8), pp.634-661.

Walter, R., Bailly, G., Valkanova, N. and Müller, J. 2014. Cuenesics: using mid-air gestures to select items on interactive public displays. In: *Proceedings of the 16th international conference on Human-computer interaction with mobile devices & services*, pp.299-308.

Wang, M., Marsden, J., Oguz, E. and Thomas, B. 2023a. Exploring Sustainable Retail Experiences: Shall We Make It Fashionable? *Sustainability.* **15**(23), p16478.

Wang, M., Marsden, J., Oguz, E. and Thomas, B. 2023b. The Role of Interactive Technology in Retail Design: A Case Study within the Fashion Sector. *Journal of Marketing Development and Competitiveness.*

Wang, M., Marsden, J. and Thomas, B. 2023c. Smart mirror fashion technology for better customer brand engagement. *International Journal of Fashion Design, Technology and Education.* pp.1-12.

Watson, A., Alexander, B. and Salavati, L. 2018. The impact of experiential augmented reality applications on fashion purchase intention. *International Journal of Retail & Distribution Management.* **48**(5), pp.433-451.

Werbach, K., Hunter, D. and Dixon, W. 2012. *For the win: How game thinking can revolutionize your business.* Wharton digital press Philadelphia.

Willems, K., Smolders, A., Brengman, M., Luyten, K. and Schöning, J. 2017. The path-to-purchase is paved with digital opportunities: An inventory of shopper-oriented retail technologies. *Technological Forecasting and Social Change.* **124**, pp.228-242.

Wright, P. and McCarthy, J. 2010. Experience-centered design: designers, users, and communities in dialogue. *Synthesis lectures on human-centered informatics.* **3**(1), pp.1-123.

Wright, P., McCarthy, J. and Meekison, L. 2018. Making sense of experience. *Funology 2: From Usability to Enjoyment.* pp.315-330.

Wright, P., Wallace, J. and McCarthy, J. 2008. Aesthetics and experience-centered design. *ACM Transactions on Computer-Human Interaction (TOCHI).* **15**(4), pp.1-21.

Wu, J. and Holsapple, C. 2014. Imaginal and emotional experiences in pleasure-oriented IT usage: A hedonic consumption perspective. *Information & Management.* **51**(1), pp.80-92.

Yin, R.K. 2009. *Case study research: Design and methods.* sage.

Yin, R.K. 2015. *Qualitative research from start to finish.* Guilford publications.

Zarantonello, L. and Schmitt, B.H. 2010. Using the brand experience scale to profile consumers and predict consumer behaviour. *Journal of brand management.* **17**, pp.532-540.

Zha, D., Foroudi, P., Jin, Z. and Melewar, T. 2021. Conceptualising sensory brand experience: Using review of knowledge fields to identify potential future research direction. *Building Corporate Identity, Image and Reputation in the Digital Era.* Routledge, pp.140-168.

Zha, D., Foroudi, P., Melewar, T. and Jin, Z. 2022. Experiencing the sense of the brand: the mining, processing and application of brand data through sensory brand experiences. *Qualitative Market Research: An International Journal.*

Zhang, P. and Von Dran, G.M. 2000. Satisfiers and dissatisfiers: A two‐factor model for website design and evaluation. *Journal of the American society for information science.* **51**(14), pp.1253-1268.

Zhao, L. and Lu, Y. 2012. Enhancing perceived interactivity through network externalities: An empirical study on micro-blogging service satisfaction and continuance intention. *Decision support systems.* **53**(4), pp.825-834.

Zhu, Z., Nakata, C., Sivakumar, K. and Grewal, D. 2007. Self-service technology effectiveness: the role of design features and individual traits. *Journal of the Academy of Marketing Science.* **35**, pp.492-506.

APPENDIX

Ethics approval

The Secretariat
University of Leeds
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UNIVERSITY OF LEEDS

Mian Wang
School of Design
University of Leeds
Leeds, LS2 9JT

Arts, Humanities and Cultures Faculty Research Ethics Committee
University of Leeds

4 December 2019

Dear Mian

Title of study: **New technology in retail: a customer experience perspective**
Ethics reference: **LTDESN-120**

I am pleased to inform you that the above application for proportionate (light touch) ethical review has been reviewed by a representative of the Arts, Humanities and Cultures Faculty Research Ethics Committee and I can confirm a favourable ethical opinion as of the date of this letter. The following documentation was considered:

Document	Version	Date
LTDESN-120 LT_EthicsForm_Wang.docx	1	18/11/2019

Please notify the committee if you intend to make any amendments to the original research as submitted at date of this approval, including changes to recruitment methodology. All changes must receive ethical approval prior to implementation. The amendment form is available at http://ris.leeds.ac.uk/EthicsAmendment.

Please note: You are expected to keep a record of all your approved documentation, as well as other documents relating to the study. You will be given a two week notice period if your project is to be audited, there is a checklist listing examples of documents to be kept which is available at http://ris.leeds.ac.uk/EthicsAudits.

We welcome feedback on your experience of the ethical review process and suggestions for improvement. Please email any comments to ResearchEthics@leeds.ac.uk.

Yours sincerely

Jennifer Blaikie
Senior Research Ethics Administrator, the Secretariat
On behalf of Prof Robert Jones, Chair, AHC FREC
CC: Dr Jamie Marsden

Interview Research Questions

(1) Could you explain how the ‘The Journey’ project came about? How did it start? What initiated the idea? What was the inspiration?

(2) Could you describe your process of designing this project? What was the strategy? Who was involved?

(3) What retail theories informed your approach to this project?

(4) What was the general response to ‘The Journey’? Increase in visitors or sales? Heightened brand awareness and/or engagement?

(5) Did you consider the length of time customers spend in the store?

(6) Has ‘The Journey’ project affected the way you now approach retail design? (i.e. the incorporation of technology) (To what extent? Specific details?)

(7) In your experience what do you consider to be the immediate priorities for retail design? (Why?)

(8) How would you describe the role of interactive technologies within a physical retail atmosphere and online? What’s the relationship?

(9)Do you think any particular retail functions benefit from being made interactive and/or immersive? Why is this important? (why do you feel that immersive experience is important?)

(10) Looking forward, (five to ten years) what impact do you think interactive technologies will have in the retail environment? (Why?)

(11) Have you been involved in any other retail technology project that you think is very impressive?

Sample of data

Participant 20

Q1: Could you explain how this Lily project came about? How did it start? What initiated the idea?

In 2019, we once again accepted the invitation of LILY to take the lead in upgrading its flagship store, with a total area of 1,000 square meters and two floors, at East Nanjing Road Pedestrian Street in Shanghai. This is also the second flagship store design project completed by us for LILY. The difficulties of design are mainly from two aspects. One is the site. The original building is not the ideal proportion for commercial use. The other is about LILY's product line expansion. Previously, LILY's product style and positioning were relatively consistent, while this time, we needed to provide corresponding display space for three different product lines.

We finally decided to use geometries to match the temperament of the product lines. The geometries placed in the store dispel the staleness of the original space, allowing customers to have an in-depth shopping experience just like "visiting an exhibition". Each product line of LILY also takes the energy of different geometries to show their distinct. Therefore, together with the brand, we completed a perfect brand transformation.

Q2: Could you describe your process of designing this project? What was the strategy? Who involved?

The flagship store project indeed had a slightly different process, given its substantial investment, leading the brand to exercise caution, resulting in extensive preliminary discussions. Additionally, Lily underwent a product line upgrade at the time, introducing a new logo, VI, and all visual elements. To address these changes, the brand enlisted the expertise of the brand planning team, CAIUS, with whom we collaborated in the initial stages, particularly regarding the VI aspect. Coincidentally, I have a penchant for branding and was able to contribute valuable ideas during these discussions. Working with TOPIN for construction is proved to be a delightful experience, marking our first collaboration. We successfully tackled challenges in the later stages,

accomplishing what seemed initially impossible, leaving a vivid impression in my memory.

Could you please provide more details about your design process?

Sure, firstly, we noticed that the opening of the entrance is too narrow while the depth of the store is way too long. About 30% of customers would return and leave halfway. This is the first pain point that needs to be solved. To make the space more attractive, we reshaped the space by inserting the concept of "art gallery" to arrange the exhibition hall in this old building. Recalling the experience of visiting an art museum, despite the exhibition hall being huge, we always keep looking forward to the next showroom. Based on this, we gave up the strategy of having all the eye-catching points near the store entrance, instead, we put a few geometries, such as circles, squares and triangles, in different places in the store. In this way, those geometries become semi-independent showrooms guiding customers get into the store step by step.

After discussing with the client, the three product lines gradually became clear. 'Fresh' continues LILY's previous product style, which is casual and sweet; 'Sharp' is based on black, white and grey colour, which is more formal and neat; 'Basic' focuses on the basic items that are more mature classic and have higher quality. In each display area, we add correspondent geometries as the "showrooms", which are in different shapes, materials and atmospheres to match the temperaments of 'Fresh' 'Sharp' and 'Basic'.

On the first level, a white box - "un/able", made of frosted square acrylic for 'Fresh' is a metaphor for the newcomers who are just starting their careers in a vague stage of exploring themselves. When it comes to the 'Sharp' and 'Basic' areas on the second level, a triangle - 'ex/internal', with a metallic black matte fluorocarbon paint on the outside, and internal wood-coloured inside, belongs to Sharp, which symbolises the women at work, who are tough outside while soft deeply inside. The other geometry, 'Basic' box called "in/visible", is a mysterious and sexy black glass box, representing mature women who know how to appreciate and show their femininity.

Moreover, as a street shop with two levels, it has to encourage customers to go up to the second level. The first and second levels belong to different product lines with different personalities. We try to merge these two with a void, in the shape of a chamfered square, which is the best balance between two levels. The spiral staircase implies the process circling of the career - there is always a moment when we feel lost, but when we reach the expected place, everything is

bright, and we will witness a more mature and diverse self-existence in harmony.

We know that office ladies enjoy a fast-paced life. They are eager to stay fresh and trending. In that case, we conduct interactive art installations for them to take pictures and smart mirrors to let them virtual try-on the different clothes.

Q3: What was the general response to LILY? Increase in visitors or sales? Heightened brand awareness and/ or engagement?

Most clients' demands are pretty much the same - they want it all! Haha. We've collaborated on numerous projects with Lily before, establishing a strong trust-based relationship. For this project, aside from the usual objectives of foot traffic and sales, the brand's primary focus is to captivate a new generation of consumers with a fresh approach. The target customers of the Lily brand are the modern female, whom we call ‘Lily girls.’ They are a group of people who are in the ascending stage of career development. They are fashionable, ever-changing, optimistic, cheerful, full of positive energy, independent, and care about self-expression and artistry. We want visitors to realise our brand value by themselves. With product upgrades and a revamped brand visual identity in place, the physical space becomes a crucial aspect as it directly impacts customer experience. That is one of the reasons why we set up two art installations in our store. For example, the ‘Delayed Photography Art Installation’ enables individuals to become integral to the art, "copying and pasting" numbers of images of themselves onto the screen. That is also a form of self-expression and delivers the message that Lily girls are creative, have their own style, and are ever-changing. In addition, The concept of personalisation is pivotal in contemporary retail. Every customer has different requirements, and they want to feel special. We aim to optimise their in-store shopping journey by offering intuitive and personalised recommendations. For example, the 'Thousand Faces Big Screen' accomplishes this by categorising fashion styles into three distinct series, catering to different customer preferences. By presenting tailored recommendations, the mirror helps create a more meaningful and engaging shopping journey. Our team excels in adapting to various styles, effectively realising the brand's commercial objectives.

Q4: Has this project affected the way you now approach retail design?

We approach each project with utmost care, finding value and learning opportunities in every endeavour. In the Lily flagship store, we've ventured into

some experimental design with installations, creating unique zones the integrated with technologies within the space.

What kind of unique zones did you mention? Could you tell me more specific?

Yes, of course. We are specifically setting up an interactive experience area for customers to explore our 'new retail store' and engage more effectively in order to attract our customers back to the store. Customers are pleasantly surprised by the significant changes we've made, including the integration of various smart mirrors that allow our customers to immerse themselves in the digital world. The 'Thousand Faces Big Screen' is a large, interactive mirror that immediately captures visitors' attention upon entering the store. Its ability to identify suitable clothing styles for customers creates a visually stimulating environment. The size of the mirror and the real-time recommendations it provides immerse customers in a novel visually appealing experience. Customers will find the location of the recommended clothing when they touch the screen and scan the QR code. The other kind of smart mirror is called ‘Versatile Magic Mirror’. The 'Versatile Magic Mirror' is a pivotal element in providing customers with a comprehensive understanding of the clothing they are interested in. When customers place clothing items in front of the mirror, it swiftly provides detailed information, including price, material, styling options, and purchase links. By offering rapid access to comprehensive information, the mirror streamlines the decision-making process. Customers can compare different items without the need for assistance, and they can assess and select products based on their preferences and needs. And another one, the 'Thousand Faces Big Screen' serves to identify visitors' clothing preferences and recommend suitable styles. The 'Lightning Dressing' mirror enables customers to virtually try on different outfits without the need for physical clothing changes. Lastly, the 'Versatile Magic Mirror' enriches the shopping experience by providing instant access to comprehensive information about clothing items. Customers are keen on experiencing these different kinds of smart mirrors, making shopping an enjoyable and immersive activity. This also ensures that customers are well-informed and confident in their purchase decisions. Therefore, they are highly likely to make a purchase after these engaging experiences.

Q5 What do you consider to be the most important aspect of retail design? Why?

In my personal experiences, In the realm of retail design, the most crucial aspect is arguably creating an immersive and engaging customer experience. This encompasses various elements, including layout, aesthetics, lighting, signage, and interactive features.

Firstly, the layout plays a pivotal role in guiding customers through the space efficiently, ensuring they can navigate effortlessly and discover products with ease. A well-designed layout considers factors such as traffic flow, product placement, and focal points to enhance the overall shopping experience.

Moreover, aesthetics significantly influence customers' perceptions and emotional responses to the brand. From interior design elements to visual merchandising displays, the aesthetics should reflect the brand's identity, evoke the desired mood, and resonate with the target demographic.

Lighting also plays a crucial role in setting the ambience and highlighting key products or areas within the store. Strategic lighting design can create focal points, add depth to the space, and enhance the overall visual appeal.

Effective signage is another essential component of retail design, helping customers navigate the store, locate specific products or departments, and understand promotional offers or pricing information.

Lastly, integrating interactive features or experiential elements can elevate the customer experience by providing entertainment, education, or personalisation. This could include digital displays, interactive product demonstrations, or immersive brand storytelling experiences.

In sum, a successful retail design is one that seamlessly integrates these elements to create a memorable and enjoyable shopping journey, fostering customer loyalty and driving sales. More importantly, I believe the most critical aspect of retail design is understanding the retail industry itself. You cannot merely be a "designer" but must also embody the qualities of a proficient "businessperson." Approaching retail design solely from a designer's perspective limits the scope of considerations and fails to delve into the deeper layers of the industry.

Q6 How would you describe the role of interactive technology within a physical atmosphere and online? What’s the relationship?

In the contemporary retail landscape, where online shopping has become increasingly prevalent, flagship stores represent a unique opportunity for brands to create immersive and memorable experiences for their customers. Beyond merely facilitating transactions, physical storefronts enable the forging of deeper connections with consumers, providing them not only with products but also an environment that invites customers to deeply understand the brand's value In a physical atmosphere, interactive technology can create immersive experiences that captivate customers and differentiate a store from its competitors. Like the technologies I mentioned earlier, smart mirrors, and interactive art installations. These interactive elements create a dynamic and immersive atmosphere, enticing customers to explore and interact with the brand. While in the online realm, interactive technology plays a crucial role in simulating the physical retail experience and fostering customer engagement.

The relationship between interactive technology in physical and online retail lies in its complementary nature. Retailers can create a seamless omnichannel experience by integrating interactive elements across both platforms. For example, customers may use a mobile app to scan QR codes in-store for additional product details or access exclusive online content related to their purchase. This integration enhances brand consistency, fosters customer engagement, and ultimately drives sales across channels.

Q7 Do you think any particular retail functions benefit from being made interactive and/or immersive? Why do you feel those kinds of experiences are important?

Absolutely, certain retail functions greatly benefit from being made interactive and immersive, especially in catering to the expectations of the Millennial generation, who are accustomed to digital technology in their daily lives. By incorporating various forms of technology into the retail environment, such as interactive art installations and smart mirrors, we aim to engage our clients in a way that resonates with their digital upbringing. For example, within our store,

we have implemented two interactive art installations to pique curiosity and create an immersive atmosphere. Alongside these installations, we've integrated three different types of smart mirrors: the 'Thousand Faces Big Screen' offers personalised recommendations and efficient navigation, the 'Versatile Magic Mirror' provides customers with information and transparency, and the 'Lightning Dressing Mirror' combines efficiency with playfulness. Moreover, we offer a laboratory where customers can co-create clothes with the brand, further enhancing their engagement and sense of involvement. By providing these interactive and immersive experiences, we not only meet the expectations of the Millennial generation but also create opportunities for deeper connections with our brand. The more customers engage with our brand through these experiences, the greater the likelihood they will revisit our store and become loyal advocates.

Q8 Looking forward, (five to ten years) what impact do you think interactive technology will have in the retail environment? Why?

Make a bold prediction, I don't think within 5 years. I believe internet technology will change the retail landscape and overall consumption patterns, but I don't think interactive technology can significantly alter the retail environment on a large scale. It's possible that a few iconic interactive-themed commercial spaces may emerge, but it's unlikely to become standard for every commercial entity. What about in 10 years? Well, then I think it's possible. With technological advancements and iterative improvements in both software and hardware, when interactive technology and hardware costs become cheaper than traditional renovation materials, there could indeed be a fundamental shift. When predicting industry trends, I always approach it from a business perspective rather than solely as a designer.

Q9 Have you been involved in any other retail technology project that you think is very impressive?

Let's talk about a project we're currently working on. It's a shop called ITAEF UP, which exclusively offers takeaway and delivery services. In this store, we have designed a motive installation with an interactive QR code. This

installation can be placed flexibly not only in the store, but also in the entire mall or even anywhere in the community. A non-movable shop, a few movable ordering installations, plus an unlimited number of mobile phones in each one of us; from one to many, then to infinity; from fixed, to mobile, then to the unlimited cloud interconnection, forming a multi-store Dimensional takeaway/delivery ITAFE UP store.