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# The Haptic Experience and its Impact on Purchase Decision in the Retail Context: A Comparative Study Between Augmented Reality and In-Store Haptic Experience

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# Abstract

The study aims to examine and evaluate the haptic experience of augmented reality (AR) and in-store shopping and its influence on purchase decisions. The objectives are divided into defining haptic experience, to determine whether AR haptic experience delivers a better impact on purchase decisions in the retail sector and to determine whether in-store haptic experience delivers a better impact on purchase decisions in the retail sector. Furthermore, to find whether consumers behaviour after the Covid-19 pandemic have changed the preference of the purchase channel towards experience the haptic sensory. The study will follow the positivist research philosophy to collect primary data from retail consumers across the UK. This development paper aims to contribute towards the retailing customer experience literature and to the customer behaviour with respect to new innovative technologies.

**Keywords:** *Haptic, Augmented Reality (AR), In-store-experience, Intangibility, Consumer Purchase decision, Perceived Risk.*

**Track:** Marketing and Retail

**Word-count**: (without references and tables) 1985

# 1.Introduction

Consumers prefer to make purchases in person because it allows them to observe, handle, and try out products (Skrovana, 2017). However,the advent of the internet has revolutionised the way we shop, making it possible for consumers to purchase items from anywhere in the world without leaving their homes (Markham cited in StudyCorgi, 2016). Despite the significant growth of e-commerce in recent years, the majority of consumer purchases still take place in physical retail stores, with more than 85% of consumer purchases being made in brick-and-mortar stores (Ringler et al., 2019). However, the global pandemic has caused a shift in consumer behaviour, leading to increased digital adoption, changes in travel behaviour, and changes in purchasing behaviour as consumers have shifted towards value-based buying and online purchasing (Ivkovic, 2021).

To address the issue of physical intangibility in online shopping, businesses have sought to change the way consumers interact with technology (Racat et al., 2021) and have adopted newer technologies to enhance the consumer experience. These new technologies have created interfaces that give the impression of physical touch when exploring online and virtual settings, such as Virtual Reality and Augmented Reality (AR) (Racat et al., 2021).Online businesses are increasingly investing in AR technology (Mishra et al., 2020) (Heller et al., 2019), which is an immersive technology that can alter physical reality by adding virtual elements on top of it (Fan et al., 2020). AR allows customers to virtually interact with objects and overlay a digital representation over their actual surroundings, enhancing the tactile quality of the item. This is particularly important when touch (haptic) plays a crucial role in influencing purchasing behavior (Peck and Childers, 2006). The inability to touch a product can frustrate customers who are motivated by touch (Peck and Childers, 2003).

The use of technologies like AR can help bridge the gap between online and physical shopping by providing a more tactile shopping experience. However, further research is needed to fully understand and address the complexities of online shopping. Hence, the aim of this paper is to evaluate the haptic experience between in-store purchasing and Augmented Reality and their influence on purchase decisions. This involves determining which channels offer a superior haptic experience and have a greater impact on purchase decisions, as well as examining the factors that influence these decisions.

## 1.1. Problem Questions

The focus of this study revolves around several key questions:

- Does the in-store haptic experience have a positive impact on purchase decisions?
- Does the in-store provide a superior haptic experience compared to augmented reality?
- Do customers perceive haptic feedback in in-store purchases to be better than in augmented reality?

# 2. Literature Review and Hypothesis Development

## *2.1 Haptic Experience and the Brick and Mortar*

Consumers tend to be skeptical of the features of contact experiences, such as impact, stick, sliding, slipping and texture exploration. By touching an item's physical qualities, such as its texture, warmth, and weight, users form detailed knowledge acquired and it helps customers make better decisions (Liu et al. 2017, Peck and Childers 2003a, 2003b). There are some forms of purchasing, especially those that do not provide touch indicators, that may illustrate a higher product purchase risk for the consumer (Ratnasingham, 1998).

Most consumers think that brick-and-mortar retailers have traditionally had an advantage in terms of merchandise, meaning that buyers can feel the quality and see the variety of items on display and that products are available for immediate purchase (McAlister and Pessemier, 1982; Meanon and Kahn, 1995). So we can hypothesise:

- H.1 A. In-store purchasing provides a better haptic experience.

- H1. B. In-store haptic experience positively impacts the purchase decision.

## *2.2 AR and Retail*

The interaction between consumers and retailers has changed in those days, and people engage now with technology in their purchasing journey over the last two years (Racat et al., 2021). That customers' needs and buying habits changed significantly (Kantar, 2020), making it even additional critical for businesses to rely on developing their marketing methods for sustainability (Wang, 2020). According to Statista (2020), online purchases increased by 13.9% of all retail sales in 2019, so online businesses are now faced with the enormous task of giving customers a better experience to satisfy them (Fan et al., 2020). Retail firms started to use AR as one of the new marketing innovations to achieve their marketing goal, such as helping in adding interactive content to printed and digital items data and delivering available information at the point of purchase (Mauroner et al., 2016; Spreer and Kallweit, 2014). So, we can hypothesize that:

- H2. A. Purchasing through AR satisfies the consumers of the haptic experience.
- H2. B. Where in-store haptic experience is unavailable, AR haptic experience results in a better purchase decision.

## 2.3 *Haptic Experience and AR*

Velasco et al. (2019) argued that Augmented Reality is a digital sensory-enabling technology that can fulfil consumers' need for more sensory input when shopping online. According to Gatter (2021), consumers may engage with the offered material and even mentally picture-touching it via AR. The imaginative experiences are supposed to be quite comparable to the original ones (Barsalou, 2008). That can generate value by providing appealing purchasing experiences through current and upcoming retail channels (Rafaeli et al., 2017), enabling a digitally improved realism vision by projecting images to help decision-making (Heller et al., 2019). It has also created interfaces that simulate physical touch when browsing online and in

virtual settings (Racat et al., 2021). When using Augmented Reality for a personal shopping experience, customers have a large amount of control over the items, choosing what to touch and in what order (Eru, 2022). comparison between the customers' haptic experience (touch sensory) through physical purchasing versus virtual (Augmented Reality) purchasing experience is still limited, (Racat et al., 2021).

## 2.4 *AR and Purchase Perceived Risk*

Perceived risk is commonly stated as purchasers' beliefs of unknown and negative repercussions of purchasing items or services (Dowling and Staelin, 1994). Psychosocial, financial, time and item or quality risk are the four kinds of perceived risk (Aghekyan-Simonian et al., 2012; Casidy and Wymer, 2016; Nepomuceno et al., 2014). Consumers are much less apprehensive about risk when trying a product because of its anticipated potential results. When it comes to purchasing, individuals inexperienced with AR may not think it may help, while others who have become proficient with AR feel it can reduce the risk of a purchase (Bonnin, 2020). AR may increase client understanding of a product's features, reducing the probability of selecting the incorrect product (Beck and Crié, 2018; Kim and Forsythe, 2009). , most of the product information is obtained by customers through sight and touch (Schifferstein and Clemen, 2005), and the absence of them with online shopping may make the perceived risk higher (Perry et al., 2013). The hedonic value of the online purchasing experience can be increased, and perceived product risk can be decreased with AR (Kim and Forsythe, 2009). So, we can hypothesize that:

- H3. A. AR haptic experience results in a reduction in perceived risk.
- H3. B. Reduction in perceived risk results in a greater effect on purchase decisions.

## 2.4 *Covid-19 Impact on Consumer Shift*

Cultural Factors Influencing Consumer Behavior: According to Lee (2021), culture is one of the main factors that is included in any study related to consumer behaviour, defined as the thoughts, feelings, customs, and explanations used to develop societal standards of behaviour. Customers all around the world have experienced remarkable psychological and behavioural changes because of Covid-19. As a result, consumer purchasing habits have shifted dramatically, and to combat the disease, countries worldwide have had to implement drastic actions such as lockdowns (Tao et al., 2022). Traditional retailer practices must adapt to these alarming measures (Sundström et al., 2019; Wei and Ho, 2019).

Buyers utilise new technologies like mobile phones to gain purchasing flexibility since customers' buying behaviour is no longer restricted by period and place (Zhang et al., 2020), which helps online retailing grow and opens the door for faster acceptance of technical developments in their industry (Willems et al., 2021). AR was the technological innovation that provided solutions to consumers' issues while purchasing online by bringing the virtual world into the actual world (Ling, 2017). Customers frequently use it to avoid in-person interactions with salespeople or other customers (Sayyida et al., 2021). So, we can hypothesize that:

- H4. the pandemic changed the consumer preference for the purchase channel between Augmented Reality and physical purchases.

# 3. Conceptual Framework

Based on the research models created by various researchers in their studies, including the Technology Acceptance Model (TAM) by Davis (EduTech, 2021), Embodied Cognition by William James (Van Den Bergh et al., 2011), The Haptic Communication theory (Noll, 1975), and the Theory of Reasoned Action TRA (Fishbein and Ajzen, 2011), the following hypotheses were formulated:

The first main hypothesis H0: In-store purchasing does not provide a better haptic experience.

The following sub-hypotheses are branched from this hypothesis:

- H.1 A. In-store purchasing provides a better haptic experience
- H1. B. In-store haptic experience positively impacts the purchase decision
- H2. A. Purchasing through AR satisfies the consumers of the haptic experience
- H2. B. Where in-store haptic experience is unavailable, AR haptic experience results in a better purchase decision.
- H3. A. AR haptic experience results in a reduction in perceived risk.
- H3. B. Reduction in perceived risk results in a greater effect on purchase decisions.
- H4. the pandemic changed the consumer preference for the purchase channel between Augmented Reality and physical purchases.

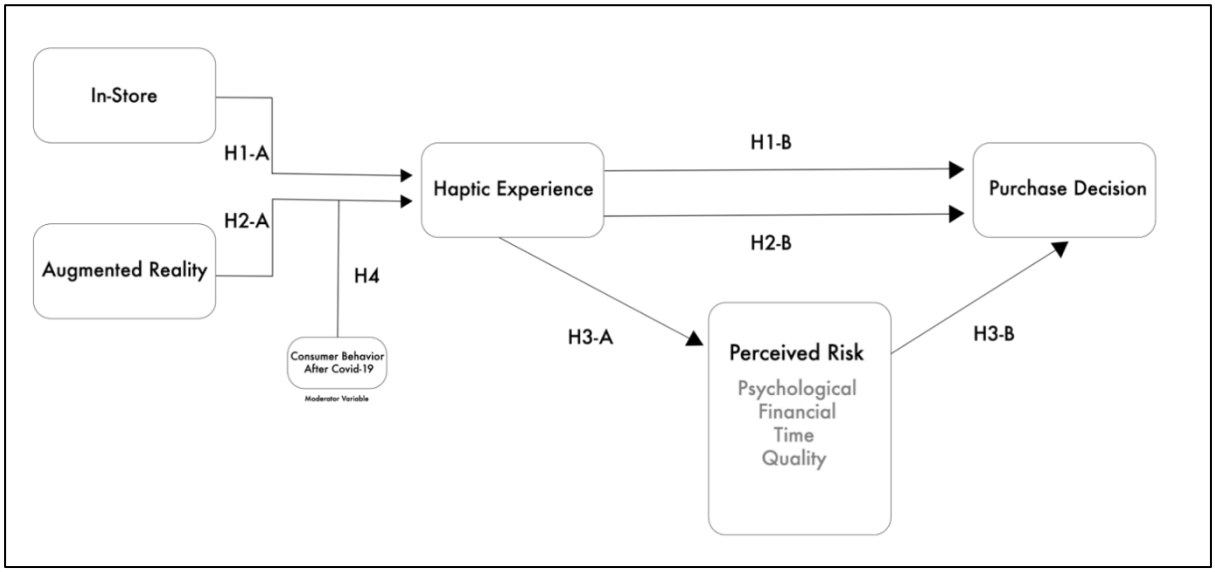


Figure 1: Conceptual Framework

# 4. Methodology

The study's objective will be achieved by adopting a descriptive analytical approach, which involved tracking the relationship between the study variables, identifying their trends, and determining their impact on the study problem. Bell et al. (2020) suggested that the deductive approach should be employed to formulate research hypotheses based on existing theories and to test these hypotheses through data collection. The study started from existing literature and will use quantitative approach to answer the research questions and to test the hypothesis. Structural Equation Modelling (SEM) will be employed in this research to analyse the complex relationships between augmented reality (AR), haptic experiences, and consumer purchase decisions in the retail context. Through SEM, this paper aims to validate hypotheses and offer insights into the efficacy of AR and haptic technologies in enhancing the retail shopping experience.

The research is expected to significantly enhance the understanding of the motivations and experiences driving the consumer shopping journey. Specifically, it will shed light on how consumers are actively utilizing augmented reality (AR) and haptic experiences to redefine their shopping journey. The study will also explore the impact of these technologies on purchase decisions within the retail context highlighting the purchasing preference channel.

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