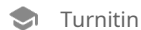


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MAJOR RESEARCH PROJECT

TOPIC - HOW AUGMENTED REALITY(AR) IMPACTS THE CUSTOMER BUYING BEHAVIOUR

Submitted by:

SAKSHI GUPTA

23/UMBA/92

Under the Guidance of:

Dr. Archana Singh

Professor



UNIVERSITY SCHOOL OF MANAGEMENT AND
ENTREPRENEURSHIP

Delhi Technological University

CERTIFICATION FROM INSTITUTE

This is to confirm that the project report titled "How Augmented Reality Impacts Customer Buying Behaviour" is an authentic and original work done by Ms. Sakshi Gupta, an MBA student from the 2023-25 batch. The report was submitted to the Delhi School of Management, Delhi Technological University, to meet the requirements for the award of the Master of Business Administration degree.

Signature of guide
Dr. Archana Singh

Signature of Department of Head
Dr. Saurabh Agarwal

DECLARATION

I, Sakshi Gupta, a student of the MBA program (Batch 2023–2025) at Delhi Technological University, declare that the project report titled “Impact of Augmented Reality on Customer Buying Behaviour” has been solely created and submitted by me as part of the academic requirements for the Master of Business Administration degree.

I further confirm that the findings and analysis in this report are the result of my independent research. To the best of my knowledge, the data and information provided are accurate and have not been submitted elsewhere for any degree, diploma, or academic recognition.

Sakshi Gupta

Place: New Delhi

Date of Submission:

ABSTRACT

The incorporation of emerging technologies has emerged as key factors in driving consumer engagement and competitive differentiation in the quickly changing retail landscape. Among these developments, Augmented Reality (AR) has become a game-changing instrument that combines digital improvements with real-world settings to completely change the way that customers shop. With an emphasis on impulsive purchases in the fashion and beauty industries, this study investigates how augmented reality try-on features affect consumer purchasing behaviour. These technologies are changing conventional decision-making processes and increasing perceived product value by enabling customers to virtually interact with products through smart mirrors, smartphone apps, or in-store augmented reality displays.

This study uses a quantitative approach by gathering primary data from 200 urban Indian consumers between the ages of 18 and 44 who are known for being tech-savvy and open to new ideas via a structured questionnaire. The hypothesis that a favourable opinion of AR experiences has a significant impact on impulsive purchasing behaviour was tested using statistical methods, such as regression analysis. The results show that consumers' perceptions of augmented reality and their propensity for impulsive purchases are strongly positively correlated. By boosting engagement, simplifying decision-making, and lowering perceived risk, augmented reality (AR) has improved the emotional and cognitive aspects of shopping, encouraging consumers to act impulsively rather than thoughtfully.

The novelty and entertainment value of AR, its capacity to replicate in-person product interaction, and the emotional thrill it evokes during the purchasing process are some of the main motivators that have been identified. Furthermore, by providing immersive and customised product experiences, AR has been demonstrated to boost consumer confidence, which in turn has improved purchase intent and brand recall. The psychological processes through which augmented reality affects consumer behaviour are highlighted in this study, adding to the expanding corpus of research on technology-driven retail experiences. It provides useful advice for merchants looking to

use creative in-store and online tactics to boost conversion rates, shorten the decision cycle, and improve customer satisfaction. As AR becomes more accessible and integrated across retail platforms, understanding its behavioural implications is critical for marketers aiming to capture and convert consumer interest in increasingly competitive markets.

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Sincerely,
Sakshi Gupta

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CHAPTER 1 - INTRODUCTION OF STUDY

1.1 Background of the Study

The retail industry is undergoing a technological transformation, with a variety of new technologies now accessible to businesses, offering opportunities to improve both their operations and customer experiences. Retailers who embrace these emerging technologies stand to benefit by enhancing customer satisfaction and increasing operational efficiency. This study specifically examines how these innovative in-store technologies are reshaping the way customers experience shopping. According to Lemon and Verhoef (2016), the in-store experience plays a vital role in the customer journey, and technology can assist frontline employees in their tasks, making the shopping process smoother and more efficient. These advancements have the potential to significantly alter how customers engage with stores and their interactions with staff.

As technology continues to evolve, so do customer expectations. Many of the innovations that once delighted consumers are now considered basic expectations. For example, today's customers expect a seamless omnichannel experience, where they can order online and pick up their items in-store. Another common convenience is the availability of free Wi-Fi in retail spaces. To remain competitive and appeal to today's consumers, stores need to think about what will captivate their customers. In our connected world, there's a growing desire for social interaction and experiences, particularly those that foster a sense of community. Social presence—feeling connected to others—doesn't require physical interaction. In stores, this can be achieved through reading customer reviews on social media or engaging in video calls with friends during the shopping experience.



1.2 What is Augmented Reality (AR)?

Devices like smartphones, tablets, AR glasses, and smart mirrors are commonly used to access augmented reality. Augmented Reality helps the customers to engage with virtual product representations in a retail setting in a manner that simulates in-person interaction. For example, consumers who are willing to can virtually try on apparels, accessories, or cosmetics without ever having to touch them, which makes it simpler to picture how things will fit and look before buying.

AR's function extends beyond making shopping more aesthetically pleasing. By affecting how consumers feel, think, and behave throughout their purchasing process, it fulfils a deeper psychological and behavioural purpose. AR is changing consumer expectations and how brands provide value as it gets more accessible and immersive. AR is frequently utilised in retail fashion and beauty through:

- ❖ Virtual try-on tools (e.g., eyewear, makeup, clothing)
- ❖ Interactive fitting rooms or smart mirrors
- ❖ Mobile apps that enable consumers to try products at home.

1.3 Consumer Buying Behaviour

It refers to the choices and actions people make when they buy products or services. It includes the psychological, emotional, and social elements that

affects the customers' needs, look for information, weigh their options, decide what to buy, and express their happiness or regret afterward.

Consumer purchasing behaviour is fundamentally influenced by a complex interplay between internal and external stimuli. These consist of personal preferences, cultural influences, lifestyle, income, peer recommendations, marketing stimuli, and—more and more—technological advancements.

Types of Consumer Buying Behaviour

- ❖ **Routine Buying Behaviour** – This involves the frequent purchase of low-cost, everyday items that require minimal thought or involvement from the consumer. Products under this category are usually familiar, low-risk, and bought out of habit or necessity (e.g., groceries, toiletries, household essentials). Consumers often show strong brand loyalty and minimal brand comparison in this type of behaviour.
- ❖ **Limited Decision-Making** – Here, customers invest a moderate amount of time and effort in evaluating different alternatives before making a purchase. This behaviour typically occurs when the product is moderately priced, purchased less frequently, and when consumers perceive some risk in making the wrong choice (e.g., selecting clothing, shoes, or small home appliances). Factors like brand reputation, price, and features are considered, but the decision process is not overly complex.
- ❖ **Extensive Decision-Making** – This type of buying behaviour is a high level of consumer involvement, often associated with expensive, infrequent, and high-risk purchases (e.g., buying luxury fashion items, cars, or real estate). Consumers conduct extensive research, compare numerous options, seek peer opinions, and carefully evaluate all aspects before making a final decision. The consumer decision making process is deliberate, lengthy and highly influenced by emotional and psychological factors.

- ❖ **Impulse Buying Behaviour** – Impulse buying occurs when consumers make spontaneous, unplanned purchases driven by strong emotions or immediate gratification rather than rational thinking (e.g., buying a new accessory, cosmetics, or snacks at checkout counters). Such decisions are triggered by external stimuli like attractive product displays, promotions, or emotional states like excitement, stress, or boredom. Impulse buying is typically quick, with little evaluation of the consequences.

This study is particularly focused on impulse buying behaviour, a form of unplanned buying driven more by emotional triggers and situational cues than by logical evaluation. In the context of fashion and beauty retail, impulse buying is especially prevalent due to the visual and experiential nature of the products.

Stages of the Consumer Buying Process

- ❖ **Need Recognition** – This process begins when a consumer identifies a gap between the current state of needs and a desirable state.
- ❖ **Information Search** – Consumers actively seek out information through various sources to explore available product or service options.
- ❖ **Evaluation of Alternatives** – Different brands, features, and prices are compared to determine the most suitable option.
- ❖ **Purchase Decision** – Making the final choice to buy.
- ❖ **Post-Purchase Behavior** – The consumer evaluates the purchase made, leading to benefit, complaints, or future brand loyalty.

Figure 1.1 Consumer Buying Process



AR has begun to intervene in multiple stages of the buying process—most notably in evaluation of alternatives and purchase decision-making. By giving consumers access to the real-time, personalized, and interactive product experience, Augmented Reality reduces the uncertainty that often comes with buying fashion products without trying them on. This increase in confidence can shift the consumer’s mindset from deliberation to action, sometimes resulting in impulse purchase decisions.

1.4 Consumer Perception

This refers to the process by which people interpret the sensory data to create understanding of their surroundings and experiences. Consumer perception has a major impact on purchasing decisions, brand loyalty, levels of satisfaction, and general shopping behaviour in the context of marketing and retail.

Consumers actively interpret stimuli by drawing on their past experiences, emotions, attitudes, and expectations. Perception is not just the passive reception

of information. As a result, different customers may have quite different opinions about the same goods, services, or technological advancement.

Components of Consumer Perception

- ❖ **Sensory Stimuli:** Perception is greatly influenced by sensory inputs, including sounds, textures, smells, and images. By giving customers an immersive, interactive way to experience products, augmented reality (AR) improves visual stimuli.
- ❖ **Selective Attention:** People concentrate on stimuli that are most interesting or relevant to them rather than paying attention to all of the information they are exposed to. By providing novelty and a distinctive shopping experience, augmented reality technology attracts customers.
- ❖ **Interpretation:** Interpretation is the process of giving the sensory information we receive meaning. In AR-based shopping, consumers interpret virtual try-on experiences as previews of real-world usage, influencing their confidence and trust in the product.
- ❖ **Memory and Learning:** Perceptual experiences are retained in memory and have an impact on choices made in the future. Good augmented reality experiences have the power to leave a lasting impression, enhancing brand recall and promoting repeat business.

Factors Influencing Consumer Perception

- ❖ **Past Experiences** – Previous interactions with a brand or similar technologies.
- ❖ **Cultural and Social Background** – Norms and expectations that shape how innovations are received.
- ❖ **Emotional State** – Feelings like excitement, curiosity, or skepticism during the shopping process.

- ❖ Marketing Stimuli – Advertising, branding, and promotional strategies surrounding AR experiences.

1.5 Retail Industry

The selling of product and service by companies to the customers for domestic or personal use is referred to as the retail industry. This is one of the most dynamic industries in the world economy, marked by shifting consumer tastes, advances in technology, and intense competition. Retail operates in a number of ways, including physical stores, online marketplaces, and increasingly, hybrid models that combine digital and physical experiences.

Traditional retail models are changing quickly in this digital age to satisfy the needs of tech-savvy customers who want speed, convenience, and customisation. One such technological development that enables retailers to reinvent the way products are displayed, interacted with, and sold is Augmented Reality (AR).

Augmented Reality improves the customer journey by making features like virtual try ons, interactive displays, real-time customisation possible, especially in industries where fit and aesthetic appeal are crucial. It can shorten the path to purchase, boost engagement, and lessen uncertainty—all of which are extremely valuable in the cutthroat retail industry. The degree to which AR is successfully incorporated into the customer experience will determine its success in retail. By integrating augmented reality into their physical stores and apps, retailers such as Zara are leading this change and improving consumer perception and purchasing behaviour.

1.6 Retail Industry Market Overview

- ❖ **Department Stores:** Reliance Retail leads with 670 fashion stores across 350 cities in India approximately. Other key players in the department store sector include Shoppers Stop with 83 stores, Lifestyle with 40 stores and Pantaloon with 342 outlets in 78 towns and cities, and Westside with 169 stores in 88 cities.
- ❖ **Supermarkets:** Among the top supermarket chains, Big Bazaar, Spencer's and Reliance stand out. Aditya Birla Retail manages 20 locations of More Hypermarket, while Spencer operates 20, and Trent runs around 10 stores under the Star retail chains. Big Bazaar, with 295 stores, remains a leader in the sector, and there are 37 Hyper stores spread nationwide.
- ❖ **Aditya Birla Retail:** This group encompasses a wide range of retail stores, including 645 More Supermarkets, 120 Spencer's Daily outlets, 621 Reliance Fresh locations, 350 REI 6Ten stores, 20 HyperCITY branches, and 234 Dmart stores.
- ❖ **Specialty Stores:** Titan Industries dominates the specialty retail space, with almost 496 world of titan stores, almost 262 tanishq locations and 509 titan eye+ outlets. Other major players include vijay sales, croma, and E-zone in electronics.

1.7 Emerging Trends and Opportunities in Retail Industry

Rapid technological change, changing consumer expectations, the growing desire for individualised, convenient, and immersive shopping experiences are all contributing to the significant transformation of the retail sector. In order to remain competitive, retailers around the world are reevaluating their approaches, which is opening up a lot of room for innovation, especially when it comes to integrating digital technologies like Augmented Reality (AR).

- ❖ **Omnichannel Integration:** One of the most dominant trends is the convergence of physical and digital retail, known as omnichannel retailing. Customers expect a hasslefree shopping experience across all touchpoints. Retailers are investing in unified platforms to provide real-time inventory updates, personalized recommendations, and consistent brand messaging across channels. Businesses can enhance customer satisfaction and loyalty by delivering consistent, cross-channel experiences that feel personalized and convenient.
- ❖ **Immersive Technologies (AR/VR):** AR and VR are changing the way consumers engage with products. In particular, Augmented Reality is enabling virtual product trials, interactive displays, and enhanced in-store experiences that merge the online and offline worlds. Retailers who adopt AR can offer experiential shopping that boosts customer engagement, confidence, and conversion rates—especially in sectors like fashion and beauty where visualization is critical.
- ❖ **Artificial Intelligence and Personalization:** AI is being used to analyze customer data and behaviour patterns to deliver hyper-personalized experiences. From product recommendations to dynamic pricing and chatbot assistance, AI helps in anticipating customer needs and creating targeted marketing strategies. Retailers can increase sales and customer

retention by providing tailored shopping journeys that adapt in real-time to customer preferences.

- ❖ **Social Commerce:** Social media platforms are emerging into powerful shopping hubs. Brands are using Instagram, TikTok, and Facebook not only for promotion but also for direct selling through integrated "Shop Now" features and influencer collaborations. This trend opens up new revenue streams and allows brands to reach younger, digitally-native audiences who prefer engaging with content-rich commerce.
- ❖ **Sustainable and Ethical Retailing:** Modern consumers are aware of the environmental and ethical impact of their purchases. Brands are being evaluated not just on price or quality but also on sustainability, ethical sourcing, and transparency. Companies that embrace sustainable practices and communicate their values effectively can build stronger emotional connections with their audience and foster long-term brand loyalty.
- ❖ **Data-Driven Decision Making:** With the increase of big data and advanced analytics, retailers have access to vast amounts of consumer information. This data can be leveraged to refine inventory management, pricing strategies, store layouts, and marketing campaigns. Smart data usage allows companies to optimize operations and respond proactively to changing customer trends.
- ❖ **Experiential Retail:** Retail is no longer just about buying a product; it's about creating experiences. Brands are now focusing on making the shopping process enjoyable, interactive, and memorable. In-store events, AR fitting rooms, and customizable product displays are some ways retailers are doing this. Experiential retail helps increase foot traffic, extend time spent in-store or online, and improve brand perception—especially among younger generations.

CHAPTER 2 - OBJECTIVE, SIGNIFICANCE AND SCOPE OF THE STUDY

2.1 Statement of the Problem

Brands are constantly pushed to innovate and set themselves apart in the fiercely competitive and rapidly changing retail landscape. Traditional in-store experiences are no longer enough to draw in and keep modern customers, particularly millennials and Gen Z, who value convenience, interaction, and personalisation in light of the growing digital transformation. The application of AR especially through virtual try-on experiences, has been one of the most noteworthy technological developments in recent years.

Despite its increasing popularity, little is known about how augmented reality influences consumer buying behaviour, particularly impulse buying, according to academic research. It's unclear how much augmented reality (AR) improves customer satisfaction, emotional engagement, and impulsive buying, despite the fact that many brands, including Zara, have incorporated AR into their in-store and app-based shopping environments.

By investigating the connection between consumers' perceptions of AR try-on features and their propensity for impulsive purchases, this study aims to fill this gap. By enhancing the general customer experience and affecting both cognitive and emotional reactions, the study tries to ascertain whether augmented reality can significantly increase impulsive purchases.



2.2 Scope of the Study

This study primarily aims on the retail and fashion industry, with Zara as the case organization. It explores how Augmented Reality-based try-on technologies impact customer buying behaviour, specifically impulse purchases, in the context of fashion retail. The scope includes:

- ❖ **Geographical Scope:** This study is limited to Urban Indian consumers, primarily from metro cities, where AR experiences are more likely to be available and used.
- ❖ **Demographic Scope:** Gen Z and millennial consumers (age 18–44) who are technologically savvy and more receptive to new retail innovations.
- ❖ **Technological Scope:** AR applications such as virtual try-ons via mobile apps, smart mirrors, and interactive in-store displays used in fashion and beauty shopping.
- ❖ **Behavioural Scope:** Perception of AR experiences, emotional and cognitive responses to AR, and resulting buying behaviour, especially unplanned or impulse purchases.

2.3 Objective of the study

This thesis seeks to ascertain how the offline retail industry's use of AR has improved the consumer experience. Determining how the introduction of new technology has affected consumer purchasing behaviour is another goal of this study.

2.4 Limitation of Study

- ❖ The survey-based primary data has limited sample size, affecting the generalizability of the results across all customer segments.
- ❖ The study focuses on urban Indian consumers and does not include global markets, which may have different consumer behaviours and technological exposures.
- ❖ Respondents' familiarity with AR technology may vary significantly, impacting their ability to accurately evaluate and perceive the experience.
- ❖ Survey responses may involve biases which might have affected the accuracy of the behavioural data collected.
- ❖ The views and preferences of people keep changing rapidly leading to the result of the thesis may not be relevant in the long term.

2.5 Significance of Study

As AR becomes more integrated into retail, an important question emerges: How does AR impact consumer buying behavior, especially when it comes to impulse buying? This study explores how try-on features influence consumer experiences and decision-making in retail environments, using Zara as a case study.

Retailers now have the chance to experiment with advanced technologies that can enhance the in-store experience by recognizing that customers seek a seamless, convenient, and socially engaging shopping journey. For example, Amazon Go stores enhance convenience by allowing customers to pick up products without having to stop at a checkout register, with AI and cameras

automatically handling transactions. Meanwhile, other retailers like H&M in New York are focusing on social presence. In their flagship store, voice-activated mirrors become interactive, offering discounts, style suggestions, and even selfies when customers engage with them for a certain amount of time. This study introduces a typology of modern technologies based on two main factors: convenience for the buyers and the social presence. Convenience is defined by how much effort in terms of time consumers must invest in purchasing or using products because of the technological advancements. Social presence refers to the extent to which technology makes customers feel linked to others, whether through interactions with machines like robots, human connections made possible by technology such as social media or online shopping collaboration, or other technological features that humanize the brand.

This study makes three key contributions. First, we introduce a typology for in-store technology. Second, we present a framework that connects the infusion of technology with the intended outcomes for retailers and service providers, drawing on vividness theory, which includes elements like participation, imagery, and elaboration. Modifiers such as social networks, consumer mental models, product/service attributes, and individual characteristics can strengthen the effects of technology on purchase intentions. Finally, we propose predictions regarding the use of advanced in-store technologies, particularly those that effectively evoke feelings of social presence, on consumer purchasing behavior.

CHAPTER 3 - LITERATURE REVIEW

The increased application of Augmented Reality in retail, especially in the fashion industry and beauty industry, has become a key area of concern for both academic researchers and professionals in the field. As retailers aim to offer more engaging and innovative customer experiences. These chapters review the existing literature on the use of AR in retail, its influence on consumer behavior, and its potential impact on impulse buying.

AR technology has quickly emerged as a transformative force in modern shopping. It enables customers to digitally interact with products through tools like mobile apps, smart mirrors, and interactive in-store displays. According to Poushneh and Vasquez (2017), “AR significantly enhances product visualization, allowing consumers to better understand how items will look in real-world settings”. This is particularly important in fashion and beauty, where aspects such as fit, color, and overall appearance play a major role. Researchers like Javornik (2016) note that “AR helps bridge the gap between physical and digital shopping, offering a more immersive, interactive, and personalized experience”. The shift is impactful in the fashion, where virtual try-ons can help in reducing returns and improve customer satisfaction.

Several studies, including those by Pantano and Viassone (2015), “recognize that AR can increase consumer engagement by encouraging shoppers to spend more time either in physical stores or on mobile platforms”. How customers perceive AR in retail is crucial to its success. As Grewal et al. (2017) point out, “AR can enhance consumer perceptions by enriching the shopping experience. The ability to visualize products more realistically boosts confidence in purchase decisions and positively influences customer attitudes toward the brand”. Poushneh (2018) found that “AR fosters trust and emotional connections, as customers see these experiences as more authentic and engaging”. Furthermore, AR encourages shoppers to explore products more thoroughly and

experiment with different styles, leading to a more enjoyable and rewarding shopping experience (Heller et al., 2019).

Impulse buying is defined as unplanned, spontaneous purchases driven by emotional responses rather than rational decision-making (Beatty & Ferrell, 1998). AR has been shown to significantly influence impulse buying behaviour by enhancing emotional engagement and triggering spontaneous purchasing decisions. According to Kim and Forsythe (2008), the ease and convenience of AR-based virtual try-on features can lead consumers to feel more confident about unplanned purchases, particularly when the technology helps visualize the fit and appearance of fashion items. Moreover, Pantano and Gandini (2017) suggest that the fun and entertainment aspect of AR experiences can trigger emotional responses such as excitement, leading to impulse buys. In a similar vein, Roggeveen et al. (2016) demonstrated that consumers are more likely to make impulse purchases when AR experiences are integrated with personalized recommendations and interactive experiences. These emotional connections formed through AR can lead to higher purchase intentions and, consequently, more impulse purchases. In line with this, Pantano et al. (2020) discovered that when consumers perceive AR as a useful and innovative tool, they are more likely to engage with it, and this can improve their overall brand perception. This is particularly true in fashion retail, where consumers place a high value on innovation and novelty in their buying experiences.

Retail industry has been one of the most receptive sectors to AR innovations due to the visual and aesthetic nature of the products. Zara, as a leading fashion retailer, has incorporated AR technology into both its physical stores and mobile applications. According to Priporas et al. (2017), virtual try-ons and AR-enhanced shopping experiences have a significant impact on consumer purchasing behavior in the fashion industry by reducing uncertainty and increasing product appeal. In addition to this, Javornik (2016) notes that AR in fashion allows consumers to interact with products in a manner that was previously unavailable. Consumers can see how garments fit on their virtual avatars or view makeup products in real-time through their smartphones, which greatly enhances the decision-making process. Goh et al. (2017) argue that AR in

fashion not only improves customer satisfaction but also influences consumers' willingness to recommend the brand to others, highlighting the word-of-mouth potential of AR in creating brand advocacy.

57 Several theoretical models have been used to understand how AR works consumer behaviour in retail. The Technology Acceptance Model (TAM) (Davis, 1989) suggests that perceived ease of use and usefulness of technology influence consumer acceptance and usage of AR. Moreover, Venkatesh et al. (2003)'s Unified Theory of Acceptance and Use of Technology (UTAUT) suggests that performance expectancy, effort expectancy, social influence, and facilitating conditions can influence how consumers engage with AR. This theory can be applied to understanding how different demographics are more likely to use AR in fashion retail environments.

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CHAPTER 4 - CASE STUDY : USE OF AUGMENTED REALITY BY ZARA

4.1 Introduction to ZARA

The Inditex Group owns Zara, a multinational corporation based in Spain that is among the biggest and most prosperous retailers in the world. Zara a well-known for its fast-fashion business model has consistently adjusted to the shifting needs of its customers by offering a wide selection of fashionable yet reasonably priced apparel. The company's use of technology in retail is just one example of how it innovates beyond its product offerings. Zara has maintained its competitiveness in an increasingly digital environment thanks to its dedication to incorporating technology into its retail operations. Zara has led the way in implementing Augmented Reality (AR) to change its online as well as in-store shopping experiences as smart retail technologies have grown in popularity.

4.2 Zara's Adoption of Augmented Reality

In an attempt to modify the consumer experiences and incorporate digital tools into its physical retail spaces, Zara started its foray into Augmented Reality (AR). To give customers a cutting-edge, the company implemented augmented reality (AR) its flagship locations and via its mobile app. The AR project was initially introduced in 2018 as a component of Zara's "Zara AR" campaign, which sought to improve in-store interactions between customers and the merchandise.

Key Features of Zara's Augmented Reality Implementation:

- ❖ **AR-enabled Windows and Mirrors:** In some of its stores, Zara has added AR-enabled windows and smart mirrors. By interacting with virtual models wearing the in-store clothing, these mirrors help customers to look how the items would look on them without having to try them on in person.
- ❖ **Interactive Mobile App:** With the help of AR technology, Zara's mobile app lets users scan particular photos or items that are on display in-store to virtually try them on or view more information. The distance between online and in-store shopping is filled by this immersive feature.
- ❖ **Virtual Fashion Shows:** Through the creation of virtual fashion shows in a few store windows, Zara has also integrated augmented reality into its campaigns. These fashion shows attract onlookers and boost foot traffic by showcasing collections in an extremely participatory and captivating way.

4.3 Objectives Behind Zara's Use of Augmented Reality Technology

Zara's implementation of AR technology is driven by several important goals focused on enhancing the experience, improving customer satisfaction, and sales. These goals include:

- ❖ **Enhancing Customer Engagement:** Engaging customers more deeply with their products was one of Zara's main objectives when integrating augmented reality. Zara builds emotional bonds with customers by

providing an enjoyable, engaging shopping experience, which motivates them to spend more time in-store or on the mobile app.

- ❖ **Improving Product Visualization:** No need to physically try products because AR technology lets them see how they will appear in real-life scenarios. In the fashion retail industry, where customers frequently hesitate to purchase items without seeing how they will appear on them, this capability is especially helpful.
- ❖ **Boosting Impulse Purchases:** Zara promotes impulsive purchases by offering a fun and interesting experience. Customers are more to spend more time in the store and make impulsive purchases when they engage with augmented reality.
- ❖ **Building Brand Loyalty:** Zara establishes itself as a progressive, creative brand by incorporating augmented reality into the shopping experience. This tactic fosters brand loyalty, particularly among younger and tech-savvy customers who appreciate innovative shopping experiences.

4.4 Impact of Augmented Reality on Customer Experience at Zara

Zara's usage of augmented reality in its stores has transformed the way customers interact with the brand. By adding interactive elements, AR makes it possible for shoppers to explore products in a more engaging and tailored manner, creating a richer and more memorable in-store experience.

Enhanced Shopping Experience: By giving customers the chance to view the clothing they are interested in from a different angle, Zara's augmented reality

improves the in-store shopping experience. Immersion experiences like these boost customer engagement and foster a sense of excitement and fun, which considerably raises satisfaction levels, according to Javornik (2016).

Customer Feedback: Customers have reacted favourably to AR features, especially those found in flagship stores, stating that the virtual try-on function gives them more assurance when making purchases. Because augmented reality (AR) makes shopping more engaging and entertaining, many customers have expressed how much they enjoy the experience.

Streamlined Decision-Making Process: Customers have reacted favourably to AR features, especially those found in flagship stores, stating that the virtual try-on function gives them more assurance when making purchases. Because augmented reality (AR) makes shopping more engaging and entertaining, many customers have expressed how much they enjoy the experience.

4.5 Effectiveness of AR in Influencing Consumer Behaviour

Zara's use of AR has a measurable impact on consumer buying behaviour, especially in the context of impulse purchase.

Impulse Purchase: After interacting with the digital product representations, customers who utilise the augmented reality feature are likely to make impulsive buying. The increase in sales seen at stores that have incorporated augmented reality features is indicative of this emotional desire to purchase goods, which is sparked by AR technology.

Increased Engagement: By offering a distinctive, customised experience that entices customers into the store, augmented reality (AR) improves consumer engagement. According to Pantano et al. (2017), customers are more likely to spend more time browsing the store and thinking about other products when they feel entertained and involved, which increases conversion rates.

4.6 Challenges Faced by Zara in Implementing AR Technology

While Zara's implementation of AR technology has been largely successful, it has faced several challenges in the process:

- ❖ **Technology Integration:** It can be difficult and expensive to integrate AR across various retail locations while maintaining consistent quality. Zara must make sure that its augmented reality experiences are seamless and compatible with its current setup.
- ❖ **Customer Adaptation:** Some customers may not be familiar with AR technology or may find it difficult to interact with it. The success of AR depends on making sure it is simple to use and intuitive.
- ❖ **Cost of Implementation:** It costs a lot of money to develop and maintain AR technology, both in software and hardware. Zara needs to weigh the advantages of higher engagement against the expense of deploying and expanding AR in several locations.

4.7 Conclusion

Through the creation of immersive, captivating, and interactive experiences, Zara's use augmented reality has completely transformed the fashion retail industry. Zara has effectively improved customer satisfaction, engagement, and impulse buying by utilising augmented reality technology. Zara's augmented reality initiative is a example of how technology change the retail industry, even in the face of integration and customer adaptation challenges. Zara's use of augmented reality provides insightful information about how technology can

influence consumer behaviour and boost retail performance as the fashion industry develops further.

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CHAPTER 5 - RESEARCH METHODOLOGY

5.1 Research Design

Research methodology used in study is explanatory. The quantitative method is chosen for the study after reviewing the literature because most studies on the same topic with different product categories used a quantitative approach. The respondent's data was collected under various sections including Demographics, Perception of Augmented Reality , followed by their Emotional and cognitive response and impulse buying behaviour, and finally their recommendations and feedback were collected.

5.2 Research Questions

Question 1. Is there any direct relationship between customer buying behaviour due to use of AR by brands?

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Question 2. Does customer experience enhance due to the use of Augmented Reality in Offline retail sector?

5.3 Research Hypothesis

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Null Hypothesis (H_0):

There is no significant relationship between customer perception of AR try-on experiences and their impulse buying behavior.

Alternative Hypothesis:

Customer perception on AR try-on experiences significantly influences their impulse buying behavior.

5.4 Sample Size

200 responses were collected for the purpose of study through Questionnaire.

5.5 Research Method

The data is collected through the survey and is analysed using a descriptive method of analysis by using tables and graphs to determine the factor contributing to customer satisfaction. Regression Analysis method is also being used to determine the relation between the use of AR and its impact on consumer buying behaviour.

CHAPTER 6 - ANALYSIS OF DATA

6.1 Regression Analysis

Statistical method of analysis the relationship between two or multiple variables is regression analysis. It facilitates comprehension of how changes in one or more independent variables (predictors) affect the dependent variable (the result). Modelling the relationship between these variables in order to forecast outcomes or spot patterns is the aim.

6.1.1 Hypothesis

Null Hypothesis (H_0): There is no significant relation between customer perception of AR try-on experiences and their impulse buying behavior.

Alternative Hypothesis: Customer perception of AR experiences significantly influences their impulse buying behavior.

6.1.2 Regression Equation

$$\text{Impulse Buying} = \beta_0 + \beta_1 \times \text{Perception of AR} + \epsilon$$

Where:

- ❖ β_0 = Intercept
- ❖ β_1 = Coefficient of Perception of AR
- ❖ ϵ = Error term

- ❖ **Independent Variable** = Perception of AR
- ❖ **Dependent Variable** = Impulse Buying

6.1.3 SPSS Results

Coefficient Table

Predictor	B (Unstandardized)	Std. Error	Beta (Standardized)	t	Sig. (p-value)
(Constant)	-0.0912	0.1824	0.000	-0.5001	0.6176
Perception_AR	0.6428	0.0517	0.662	12.427	0.0000

$$\text{Impulse Buying Behavior} = -0.0912 + 0.6428 \times \text{Perception of AR} + \epsilon$$

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F Change	Sig. F Change
1	0.662	0.4382	0.4353	0.4692	154.4292	0.000

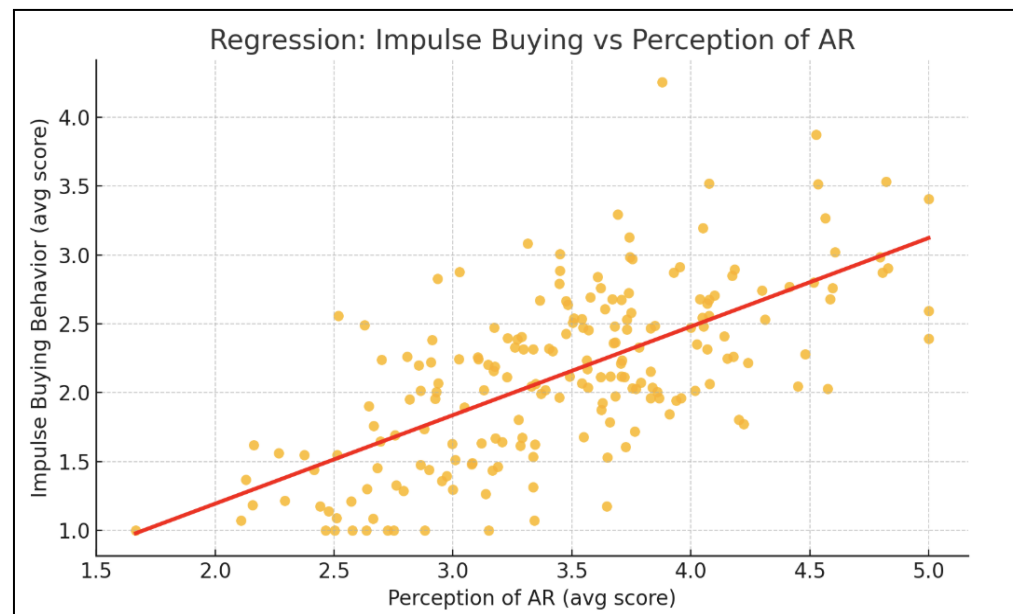
-0.0912: The intercept (β_0) This is the expected value of impulse buying behavior when the perception of AR is zero. In this case, it has no statistical significance ($p = 0.6176$), meaning it is not reliably different from zero.

0.6428: The regression coefficient (β_1) for Perception of AR. This tells us that for every one-unit increase in perception of AR (on a 5-point scale), the impulse buying behavior increases by 0.6428 units, holding other factors constant.

Impulse Buying Behavior: The dependent variable (Y), representing the consumer's tendency to make unplanned purchases.

Perception of AR: The independent variable (X), measured as the average score across six Likert scale questions about AR try-on features.

Figure 1.2 Linear Regression



6.1.4 Interpretation

- ❖ The coefficient for Perception of AR 0.6428, that is positive and statistically significant i.e. ($p < 0.001$). This indicates that higher customer perception of AR features is strongly associated with higher impulse buying.
- ❖ The R Square = 0.4382, meaning approximately 44% of the variation in impulse buying can explained by perception of AR.
- ❖ The Standardized Beta coefficient is 0.662, suggesting a strong positive standardized effect of perception of AR on impulse buying.
- ❖ The F-test is significant ($p < 0.001$), confirms that the regression model.

6.1.5 Result

Hence we reject the null hypothesis and accept the alternative that customers' views of AR try-on experiences do have a significant effect on their tendency to make impulsive purchases.

The data indicates that when users see AR try-on tools as engaging, convenient, and beneficial, they are likely to buy products on impulse. This finding reinforces the idea that augmented reality plays a key role in shaping buying behaviour, especially in the context of fashion retail.



6.2 Descriptive Analysis

Descriptive analysis is a statistical approach used to break down and present data in a way that is easy to understand. It focuses on highlighting the key features of a dataset by offering straightforward summaries, which help researchers gain initial insights.

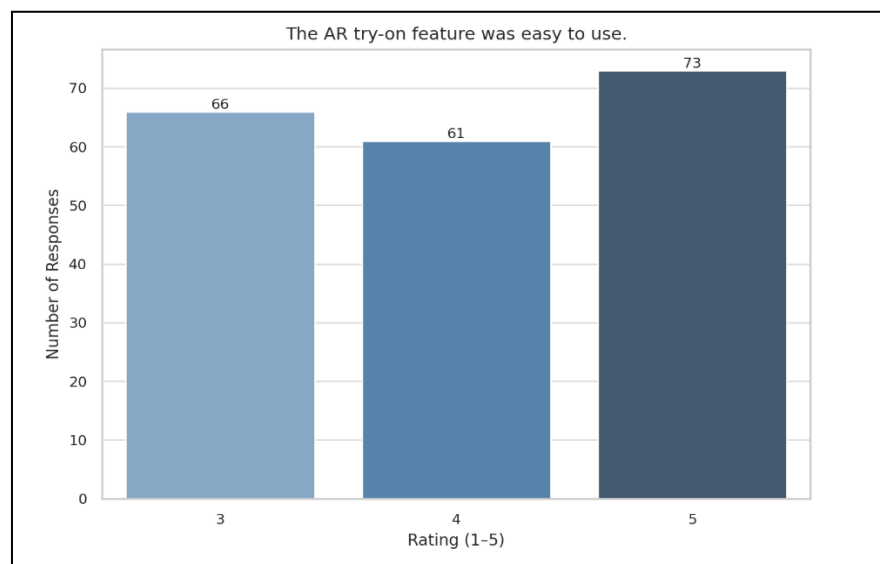
This analysis typically covers:

- ❖ **Central Tendency** – These are measures like the mean, median, and mode, which represent the typical or average value in a dataset. For instance, it can show the average rating given by users to an AR experience.
- ❖ **Data Spread (Dispersion)** – This includes metrics such as standard deviation, range, and variance that describe how much the data varies. For example, it shows whether customer satisfaction scores are generally similar or widely different.
- ❖ **Frequency Distribution** – This looks at how often certain responses occur, either as counts or percentages. An example would be identifying how many users rated the AR feature a full 5 out of 5.

6.2.1 Section B: Perception of AR Experience (Likert Scale: Linear scale 1–5)

- ❖ The AR try-on feature was easy to use

Figure 1.3



Interpretation - Most respondents gave a rating of 4 or 5, indicating high ease of use.

- ❖ The AR try-on helped me visualize the product better than traditional methods.

Figure 1.4



Interpretation - Respondents generally agreed that AR try-on provided better product visualization. This confirms the value of AR that it bridges the gap between physical and digital shopping experiences, especially in fashion retail.

❖ I found the AR experience engaging and enjoyable

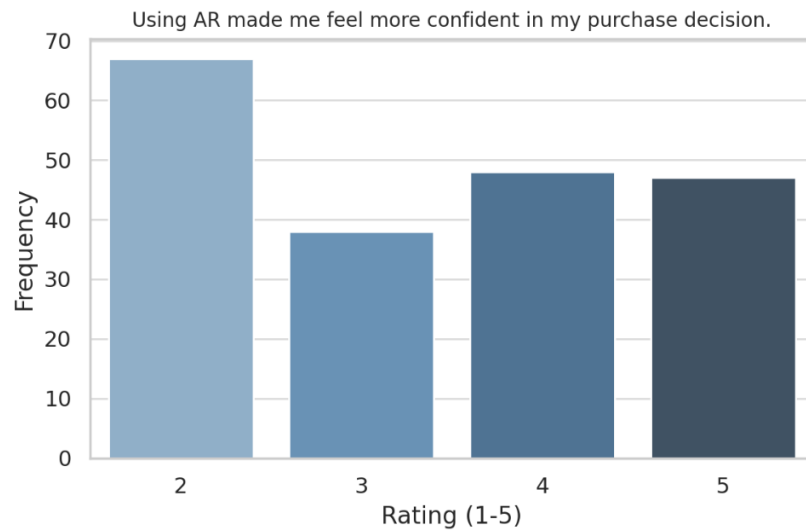
Figure 1.5



Interpretation - Although many respondents enjoyed the AR experience, the wider range of responses indicates room for improvement in making the experience more consistently engaging across users

- ❖ Using AR made me feel more confident in my purchase decision.

Figure 1.6



Interpretation - AR seems to provide a moderate confidence boost in decision-making, though further improvements or features (like side-by-side comparison or enhanced realism) could help build stronger consumer trust.

❖ Using AR made my shopping process easier and faster

Figure 1.7

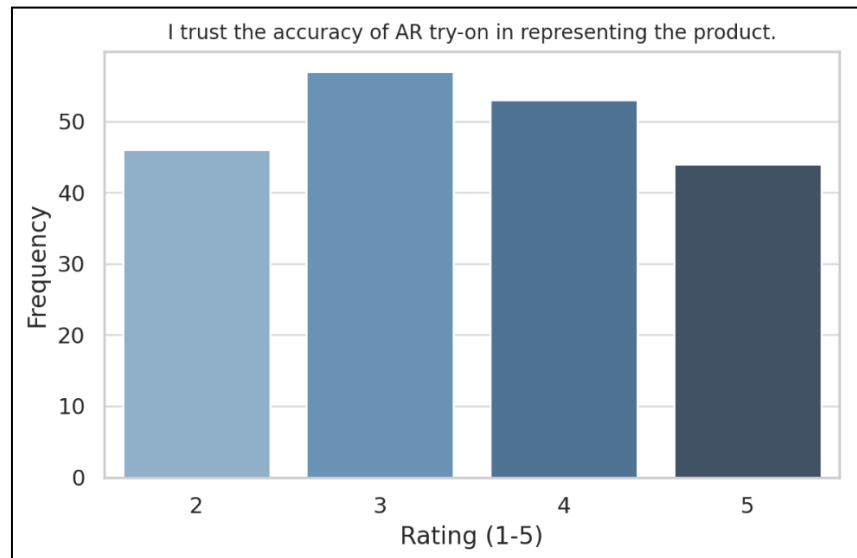


Interpretation - Most users found AR useful in streamlining the shopping process, indicating its potential in enhancing shopping efficiency and reducing decision fatigue.



❖ I trust the accuracy of AR try-on in representing the product.

Figure 1.8

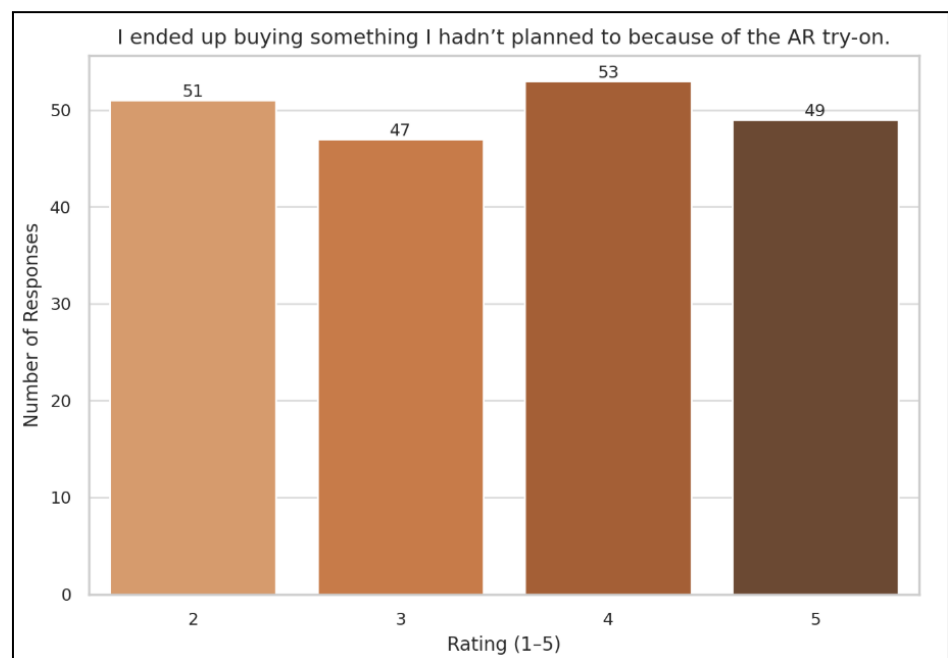


Interpretation - Most users found AR useful in streamlining the shopping process, indicating its potential in enhancing shopping efficiency and reducing decision fatigue.

6.2.1 Section D: Impulse Buying Behavior (Likert Scale: 1–5)

- ❖ I ended up buying something I hadn't planned to because of the AR try-on.

Figure 1.9



Interpretation - The graph illustrates customer responses regarding their impulse buying behavior influenced by AR try-on experiences. It is evident that a significant portion of respondents rated their agreement highly, with 53 individuals rating it 4 and 49 individuals rating it 5. This suggests that the AR feature has a strong influence on encouraging unplanned purchases. However, the notable number of lower ratings (51 for rating 2 and 47 for rating 3) indicates that while many users were positively

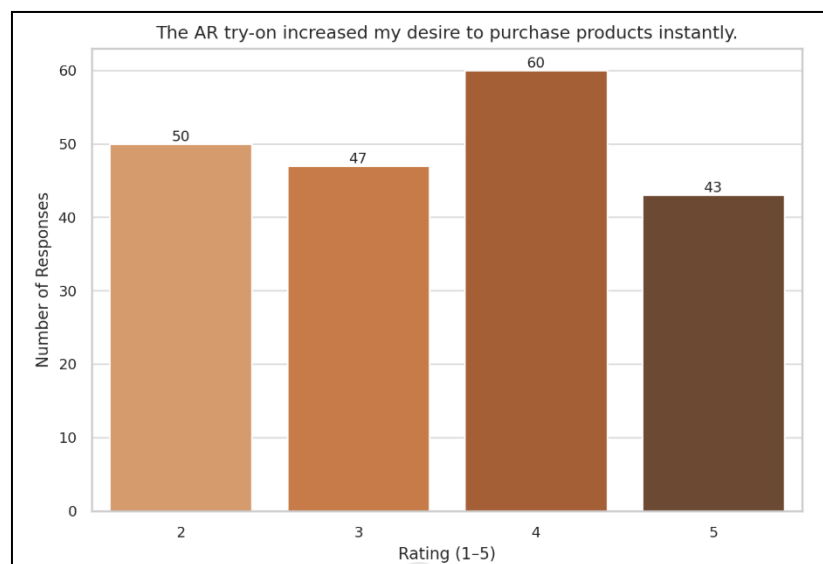
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impacted, a segment of customers remained neutral or unaffected. Overall, the results demonstrate that the integration of AR try-on tools effectively stimulates impulse buying, although there remains scope for further enhancing the experience to convert neutral customers into impulsive buyers.

- ❖ The AR try-on increased my desire to purchase products instantly.

Figure 1.10

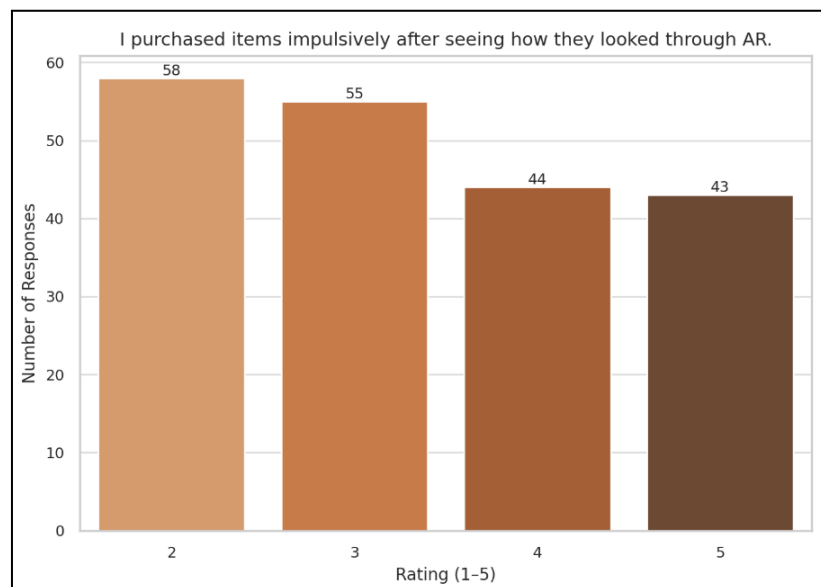


Interpretation - The graph shows that a majority of respondents (60) rated 4, indicating a strong agreement that AR try-on features enhanced their desire to make instant purchases. Meanwhile, 50 respondents rated 2, and 47 rated 3, reflecting a moderate level of disagreement or neutrality. A smaller but significant number (43 respondents) rated 5, showing very high agreement. Overall, the

responses suggest that AR try-on features positively influenced immediate purchasing desires for a large portion of users, although a certain share remained moderately unconvinced.

- ❖ I purchased items impulsively after seeing how they looked through AR.

Figure 1.11

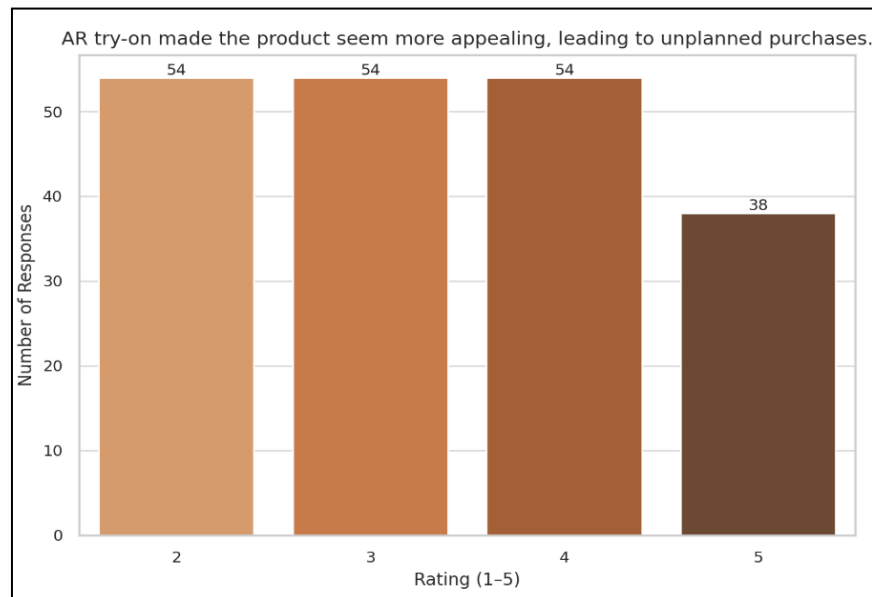


Interpretation - The graph shows that a majority of respondents (58) gave a rating of 2, indicating disagreement that AR directly caused impulsive purchases. 55 respondents rated 3, suggesting neutrality or slight agreement. A smaller but notable number (44 and 43 respondents) rated 4 and 5, showing that a portion of consumers did experience impulsive buying. Thus, while a

moderate influence of AR on impulsive buying is visible, the majority did not strongly associate AR with impulsive behavior.

- ❖ AR try-on made the product seem more appealing, leading to unplanned purchases.

Figure 1.12

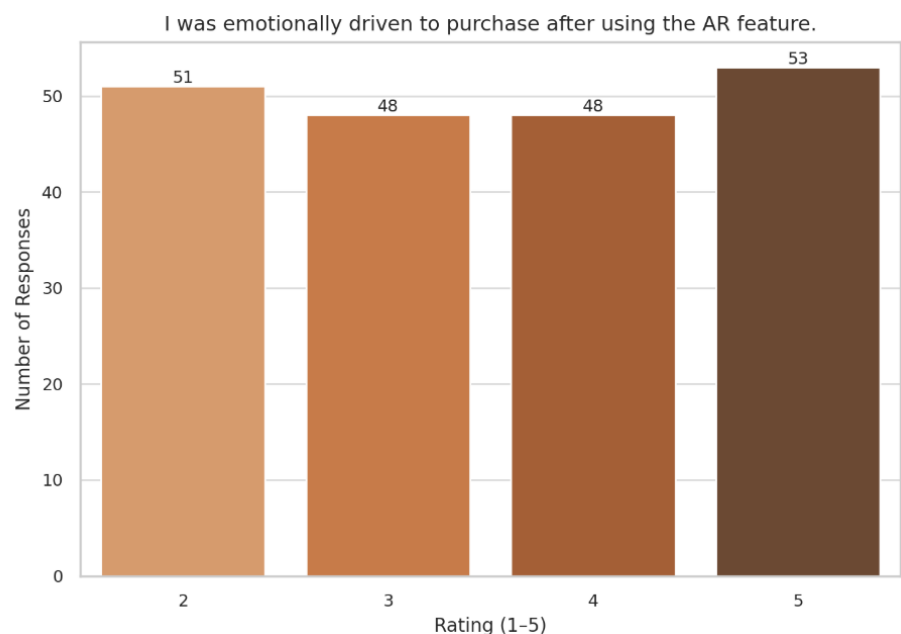


Interpretation - The responses are fairly balanced: 54 respondents each rated 2, 3, and 4, suggesting a mixed but overall moderate agreement that AR try-ons made products more appealing and led to unplanned purchases. A smaller group (38 respondents) strongly agreed (rating 5). Thus, AR has a noticeable but not

overwhelming impact on making products more attractive and encouraging unplanned buying.

❖ I was emotionally driven to purchase after using the AR feature.

Figure 1.13



Interpretation - The responses are quite balanced, with 51 participants rating 2, 48 participants each rating 3 and 4, and 53 participants rating 5. This suggests a strong emotional influence of AR on purchase decisions, especially since the highest number of respondents gave the top rating (5), indicating that many felt emotionally compelled to buy after using AR.

CHAPTER 7 - CONCLUSION, FINDINGS AND SUGGESTIONS

7.1 Conclusion

This study concludes that Augmented Reality (AR) try-on features significantly influence customer buying behavior, particularly enhancing impulse purchasing among fashion consumers. Through the case study of Zara, it became evident that the immersive and interactive nature of AR experiences stimulates immediate purchase desires by increasing product appeal, emotional connection, and perceived product fit.

The survey results demonstrated that a majority of respondents agreed that AR try-on features increased their desire to purchase products instantly and led to unplanned buying decisions. Additionally, the regression analysis confirmed a statistically significant positive relationship between the use of AR features and impulse buying tendencies, strengthening the quantitative support for the hypothesis.

Emotional drivers, such as excitement, satisfaction, and emotional attachment to the product post-AR try-on, emerged as critical factors influencing impulsive purchases. The younger demographic, particularly Gen Z and Millennials, showed a greater responsiveness to AR experiences, highlighting an important segment for brands leveraging AR technology. Demographic trends suggested that younger customers (aged 18–35) were more inclined to be influenced by AR experiences, highlighting a clear target segment for brands aiming to implement AR strategies.

From a brand perspective, Zara's strategic use of AR not only succeeded in driving immediate sales through impulsive behavior but also enhanced brand

perception, positioning Zara as a leader in digital innovation within the fashion industry. The findings suggest that when AR is effectively integrated into the customer journey, it can transform traditional shopping behaviors, increase impulse purchases, and strengthen brand loyalty.

7.2 Findings:

- ❖ AR try-on experiences significantly impact impulse buying by making products feel more desirable, visually fitting, and emotionally connecting with customers.
- ❖ Visual engagement through AR increases unplanned purchases, as customers perceive the products as more "real" and appealing after virtually trying them.
- ❖ Emotional connection (excitement, satisfaction) fostered through AR strengthens the impulse to purchase immediately.
- ❖ Regression analysis confirmed a positive relationship between AR try-on usage and increased impulse buying tendencies.
- ❖ Majority of respondents agreed or strongly agreed that AR try-on led to unplanned buying, showing that immersive experiences heavily influence consumer behavior.
- ❖ Ease of use and enjoyment of the AR feature enhanced customer satisfaction, further encouraging impulsive purchases.
- ❖ Younger consumers (especially Gen Z and Millennials) were more responsive to AR features, showcasing a demographic pattern.
- ❖ Zara's innovative AR integration differentiates it from competitors, strengthening brand engagement and driving impulse sales.

In conclusion, AR technology, when integrated thoughtfully, has the power to transform consumer shopping behavior, increase unplanned sales, and enhance brand loyalty. Zara's strategic adoption of AR not only boosts its immediate sales through impulse purchases but also positions it as a leader in digital innovation within the fashion industry.

7.3 Suggestions

The results of this study allow for the formulation of a number of strategic recommendations aimed at improving the efficacy and influence of Augmented Reality (AR) in retail settings. Initially, retailers are urged to extend the use of augmented reality (AR) in both online and offline channels, especially in product categories where visualisation is essential, like fashion and beauty. By bridging the gap between digital and physical retail formats, integrating augmented reality (AR) technologies, such as interactive mirrors and virtual try-ons, can greatly enhance the shopping experience.

Personalisation should be given priority through the incorporation of artificial intelligence (AI) in order to further boost AR's efficacy. Customers' preferences, past purchases, or browsing habits can be used by AI-driven algorithms to customize augmented reality experiences, resulting in more emotionally compelling and pertinent interactions. Simultaneously, it's critical that AR interfaces be made to be simple, easy to use, and accessible to users with different levels of digital expertise. This will guarantee wider use and adoption among various clientele groups.

Additionally, adding gamified components to AR experiences—like interactive product demos, AR-based rewards, or virtual styling competitions—can increase user engagement and promote longer interaction times. This raises the possibility of impulsive purchases in addition to improving enjoyment. In order to increase awareness and comfort with augmented reality features, particularly for first-time

users, retailers should also concentrate on consumer education by offering in-store demonstrations, video tutorials, or onboarding walkthroughs.

Marketers should modify their campaigns to suit the tastes and digital lifestyles of younger consumers, especially those from Gen Z and Millennial cohorts, as the study found that these consumers are more receptive to AR experiences. Brand loyalty and engagement can be greatly increased by using targeted augmented reality content that prioritises convenience, novelty, and personalisation.

Furthermore, AR's use should not be restricted to the pre-purchase phase; it can also be expanded to improve engagement after the purchase. To maintain consumer engagement and improve brand relationships, brands can consider providing interactive unboxing experiences, digital loyalty programs, or virtual styling advice. As part of a unified omnichannel strategy, retailers must also guarantee cross-platform consistency of AR features across websites, apps, and physical stores in order to create a seamless customer journey.

Finally, to improve the generalisability of findings, it is advised that larger and more demographically diverse samples be used in future studies on AR in retail. Understanding how customer reactions to AR change over time and in various retail environments may also be aided by longitudinal research. Retailers can better align technology with consumer expectations and achieve long-term business outcomes by continuously improving augmented reality strategies based on real-time customer feedback and behavioural data.

CHAPTER 8 - ANNEXURE

8.1 Questionnaire

Section A: Demographics

❖ **What is your gender?**

- Male
- Female
- Others
- Prefer not to say

❖ **What is your age group?**

- Under 18
- 18–24
- 25–34
- 35–44
- 45–54
- 55+

❖ **What is your monthly income (INR)?**

- Below ₹25,000
- ₹25,000–50,000
- ₹50,001–1,00,000
- Above ₹1,00,000

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- ❖ Have you ever used an AR try-on feature while shopping (e.g., smart mirrors, virtual try-on apps)?
 - Yes
 - No

Section B: Perception of AR Experience (Likert Scale: Linear scale 1–5)

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- ❖ The AR try-on feature was easy to use.
- ❖ The AR try-on helped me visualize the product better than traditional methods.
- ❖ I found the AR experience engaging and enjoyable.
- ❖ Using AR made me feel more confident in my purchase decision.
- ❖ The AR feature made the shopping process faster and more convenient.
- ❖ I trust the accuracy of AR try-on in representing the product.

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Section C: Emotional & Cognitive Response (Likert Scale: 1–5)

- ❖ I felt excited while using the AR feature.
- ❖ The AR experience made me curious to explore more products.
- ❖ AR try-on created a sense of fun and playfulness during shopping.
- ❖ I spent more time in the store/app because of the AR feature.

Section D: Impulse Buying Behavior (Likert Scale: 1–5)

- ❖ I ended up buying something I hadn't planned to because of the AR try-on.
- ❖ The AR try-on increased my desire to purchase products instantly.
- ❖ I purchased items impulsively after seeing how they looked through AR.
- ❖ AR try-on made the product seem more appealing, leading to unplanned purchases.
- ❖ I was emotionally driven to purchase after using the AR feature.

Section E: General Usage & Feedback

- ❖ **How often do you use AR features in fashion or beauty shopping?**
 - Rarely
 - Occasionally
 - Often
 - Always
- ❖ **Would you recommend stores that offer AR try-on features to others**
 - Yes
 - No
 - Maybe
- ❖ **Any additional comments about your AR shopping experience?**

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