

**TECHNOLOGY ACCEPTANCE IN INNOVATION OF AUGMENTED
REALITY AND PURCHASE INTENTION AMONG GENERATION Z
IN FASHION INDUSTRY**

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UNIVERSITI TEKNIKAL MALAYSIA MELAKA

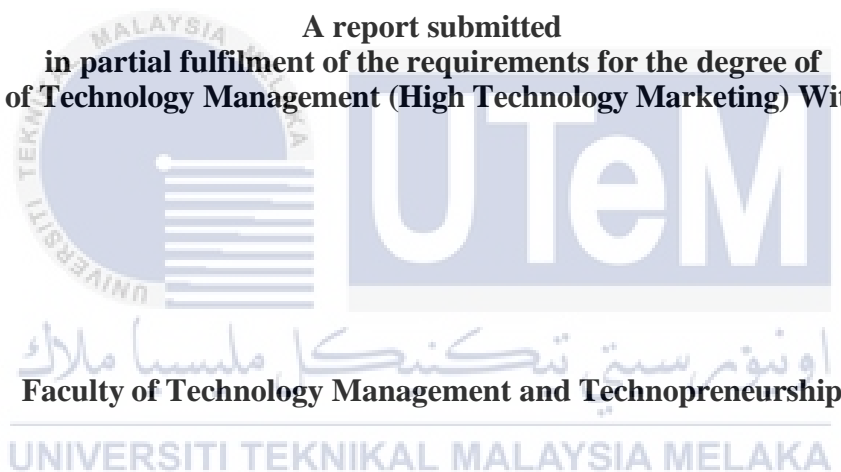
**BACHELOR OF TECHNOLOGY MANAGEMENT (HIGH
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**Technology Acceptance in Innovation of Augmented Reality and Purchase Intention
Among Generation Z in Fashion Industry**

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A report submitted
in partial fulfilment of the requirements for the degree of
Bachelor of Technology Management (High Technology Marketing) With Honours



UNIVERSITI TEKNIKAL MALAYSIA MELAKA

2024

DECLARATION

I declare that this thesis entitled “Technology Acceptance in Innovation of Augmented Reality and Purchase Intention Among Generation Z in Fashion Industry” the result of my own research except as cited in the references. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

Signature

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: 16 January 2024



APPROVAL

I hereby declare that I have checked this report entitled “Technology Acceptance in Innovation of Augmented Reality and Purchase Intention Among Generation Z in Fashion Industry” and in my opinion, this thesis fulfils the partial requirement to be awarded the degree of Bachelor of Technology Management (High Technology Marketing) With Honours.

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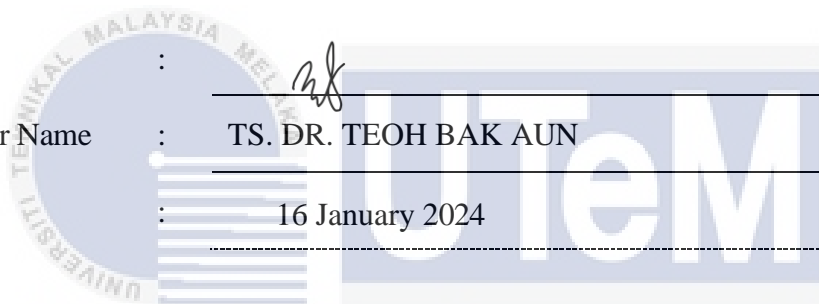
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DEDICATIONS

I dedicate this final year project to my parents, siblings, friends, and supervisor, who have all significantly shaped my academic journey and personal growth. Their unwavering support, encouragement, and contributions have been invaluable. This project is a tribute to their belief in my abilities and reflects the collective efforts that have led to its completion. I am grateful for their impact on my life and education, and I dedicate this project to every one of them.



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ABSTRACT

The rapid growth of technology has significantly influenced various industries, including the fashion industry. Augmented Reality (AR) has emerged as a promising innovation, providing immersive and interactive experiences for consumers. In physical stores, customers often do not engage deeply with products, limiting sales opportunities. Traditional marketing struggles to capture the attention of tech-savvy consumers, especially the younger demographic. This research explores the relationship between technology acceptance and purchase intention among Generation Z in the fashion industry, specifically focusing on the adoption of AR technology. Generation Z, known for its digital nativism and unique preferences, plays a crucial role in shaping consumer behavior. Using a quantitative survey method with 154 respondents, the study applies the Technology Acceptance Model (TAM) to examine factors affecting Generation Z's acceptance of AR in fashion. The perceived usefulness, ease of use, and enjoyment of technology will be measured and analyzed to assess their impact on the intention to purchase fashion products. The research aims to contribute to existing knowledge by exploring the role of technology acceptance in AR adoption within the fashion industry. Findings indicate that perceived usefulness has a minimal impact on purchase intention. However, perceived enjoyment and ease of use positively relate to purchase intention, challenging traditional assumptions. Theoretical implications highlight these influences, while practical ones suggest integrating AR features for engaging experiences aligned with Generation Z preferences. The study underscores the importance of user-friendly AR interfaces in aesthetically-driven industries, emphasizing the positive link between ease of use and purchase intention. However, there are limitations, including a focus on Melaka, industry-specific influences, survey biases, and limited ethical examination. Therefore, the study recommends future research to broaden the scope, adopt mixed methods, and address privacy concerns. Insights can guide fashion businesses, designers, and marketers in developing strategies for consumer engagement and increased sales.

Keywords: Technology acceptance, Augmented Reality, Generation Z, Fashion industry, Purchase intention, Perceived usefulness, Perceived ease of use, Attitude towards technology.

ABSTRAK

Pertumbuhan teknologi yang pesat telah memberikan dampak yang signifikan kepada pelbagai industri, termasuk industri fesyen. Salah satu inovasi adalah Realiti Tambah (AR), yang menjanjikan pengalaman mendalam dan interaktif bagi pengguna. Di kedai fizik, pelanggan sering tidak terlibat sepenuhnya dengan produk, menyekat peluang jualan. Pemasaran tradisional menghadapi kesulitan menarik perhatian pengguna mahir teknologi, terutama di kalangan demografi muda. Kajian ini meneliti hubungan antara penerimaan teknologi dan niat pembelian Generasi Z dalam industri fesyen, dengan fokus khusus pada penggunaan teknologi AR. Generasi Z, yang terkenal dengan nativisme digital dan pilihan unik mereka, memainkan peranan penting dalam membentuk perilaku konsumen. Dengan menggunakan kaedah kajian kuantitatif melibatkan 154 responden, kajian ini menerapkan Model Penerimaan Teknologi (TAM) untuk menilai faktor-faktor yang mempengaruhi penerimaan Generasi Z terhadap AR dalam fesyen. Persepsi kegunaan, kemudahan penggunaan, dan keseronokan teknologi diukur dan dianalisis untuk menilai dampak mereka terhadap niat pembelian produk fesyen. Hasil kajian menunjukkan persepsi kegunaan mempunyai dampak minima terhadap niat pembelian. Keseronokan dan kemudahan penggunaan berkaitan positif dengan niat pembelian, menentang asumsi tradisional. Implikasi teori menyoroti pengaruh ini, sementara implikasi praktikal mencadangkan penyesuaian ciri AR dengan preferensi Gen Z. Kajian ini menekankan antarmuka AR yang ramah pengguna dalam industri estetika, dengan menyoroti hubungan positif antara kemudahan penggunaan dan niat pembelian. Meskipun memberikan wawasan berharga, diperlukan penyelidikan tambahan terhadap faktor-faktor seperti pengaruh geografi, kecenderungan kajian selidik, dan pemeriksaan etika yang lebih terperinci. Oleh itu, kajian ini mencadangkan kajian masa depan untuk memperluaskan skop, menggabungkan kaedah campuran, dan menangani kebimbangan privasi. Kesimpulannya, wawasan ini dapat membimbing perniagaan fesyen, pereka, dan pemasar dalam membangunkan strategi untuk melibatkan pengguna dan meningkatkan penjualan.

Kata kunci: Penerimaan teknologi, Realiti Tambahan, Golongan milenium, Industri fesyen, Niat membeli, Kebergunaan yang dirasakan, Kemudahan penggunaan yang dirasakan, Sikap terhadap teknologi.

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LIST OF SYMBOLS AND ABBREVIATIONS

AR	- Augmented Reality
TAM	- Technology Acceptance Model
SSPS	- Statistical Package for the Social Sciences
PU	- Perceived Usefulness
PE	- Perceived Enjoyment
PEOU	- Perceived Ease of Use



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CHAPTER 1

INTRODUCTION

1.1 Chapter Overview

The first chapter of the project outlines the research concept and provides background for the present investigation. It briefly examines the relationship between technology acceptance, augmented reality (AR) innovations, and purchase intentions among Generation Z in the fashion industry. It includes the research background, problem statement, research objectives, research questions, research implications, and a chapter summary.

1.2 Background of Study

In today's global economy, advanced technology is crucial in fashion retail (Kamalendu Pal, 2020). Customers are seeking fresh innovations and novel systems, much like in other industries especially Generation Z. Shop owners are constantly searching for new approaches to meet customer demands and stay competitive (Pal & Yasar, 2020). Moreover, individuals who engage with technology often develop smart solutions that emerge in the marketplace. As a result of this innovative thinking, the concept of Augmented Reality Technology was introduced to the fashion industry.

Among the numerous advanced technologies, Augmented Reality (AR) has emerged as a prominent interactive technology increasingly used in fashion retail (Boardman et al., 2019). AR has become an effective interactive tool in fashion retail, enabling computer-generated visuals to be superimposed in real-time on the consumer's body or real-life surroundings (Petit et al., 2019). By integrating real-world information with virtual visual effects, the technology improves the impression of realism. It significantly improves the buying experience and is often utilized for virtual try-on of apparel, footwear, accessories, cosmetics, and even displaying things in customers' homes (Deloitte, 2020). AR's interactive nature delivers an immersive shopping experience and new methods for customers to connect with items.

AR offers obvious benefits since it improves customers' knowledge of products. Individuals in a brick-and-mortar setting may virtually experience a product and receive an initial sense of how they view it without experiencing it. This saves time and removes the bother of changing clothing or using various cosmetics to assess a product for the first time. Furthermore, AR may be utilized as a customer service tool to assist customers in evaluating items and reducing misunderstandings (Chen et al., 2021). Notably, although this method does not replace the experience of testing a product in person, it can substantially simplify the decision-making process for customers, enabling them to save time and restrict their options before performing an in-person trial (Riar et al., 2022).

Despite the apparent advantages, retailers, and companies have slowly embraced augmented reality technology. This unwillingness begins from concerns about augmented reality's performance and customer acceptability in the retail environment. For example, retailers are skeptical of the purchase intention rates achieved through AR-mediated shopping due to a lack of comprehensive empirical research and real-world evidence (Qin et al., 2021). Furthermore, users concern about possible monitoring and loss of autonomy may arise if they must exhibit and disclose their face, fingers, hands, or body in front of the camera. These perceived hazards and worries of being controlled may limit the adoption of self-service technology like augmented reality (AR). Crucially, the factors that prevent or encourage consumers to be willing to use AR for shopping are often not meaningfully measured for practitioners. Consequently, it is unclear if AR can give a worse or better customer experience in both online and offline purchasing contexts and what variables drive consumer adoption of AR (Riar et al., 2022).

Therefore, this research aims to synthesize the existing empirical literature on the augmented reality (AR) technology in the fashion context. The goal is to examine the technology acceptance in which AR has been utilized in shopping, as well as the known Generation Z purchase intention when using this technology. In addition, the paper aims to advance the research in this field by organizing the current theoretical perspectives that have guided investigations into AR shopping and proposing potential avenues for future research.

been identified. Therefore, it becomes critical to predict the purchase intention using AR technology (Marto et al., 2023).

In the context of AR applications in retail, it is important to comprehensively understand the impact of examined structures on purchase intention or customer experience. The Technology Acceptance Model (TAM), such as the one proposed by Hermes et al. (2022), can serve as a valuable theoretical framework for this research. By applying and developing these theories within the emerging AR domain, that can gain insights into augmented reality's perceived usefulness and ease of use as direct determinants or moderating variables of AR adoption surveys in brick-and-mortar retail stores. Previous studies, including the work of Hermes and Riedl (2021), have demonstrated the significant influence of perceived usefulness and ease of use on technology acceptance. Perceived usefulness refers to users' beliefs in how a particular technology can improve their performance, while perceived ease of use describes the ease of utilizing a system or application (Zimmermann et al., 2022). In the context of AR, perceived usefulness has been strongly linked to important factors such as predicting the user's purchase intention, as observed in the study conducted by Plotkina and Saurel (2019).

Furthermore, previous studies have identified distinctive characteristics of Generation Z that set them apart from other generations. For instance, their purchasing behavior expectations differ from those of previous generations due to their high digital literacy. This digital literacy empowers them to be well-informed consumers, making them more pragmatic and capable of making analytical decisions compared to individuals from earlier generations (Grigoreva et al., 2021). Thus, this study aims to investigate the willingness of Generation Z to accept Augmented Reality (AR) technology and its impact on their purchase intention.

Moreover, studies on games and movies have shown that experiencing an interactive encounter can elicit positive and negative emotions. Therefore, the study aims to evoke specific emotions that align with desired perceptions, fostering positive attitudes and purchase intentions towards AR technology. In addition, the research aims to analyze variables that account for more significant variations in perceived enjoyment within the context of AR technology. The study's significant role in enjoyment emphasizing the augmented elements associated with pleasure is crucial for companies that have effectively integrated AR technology into the retail industry (Holdack et al., 2022).

Table 1.1: Summary of Previous Research between Independent and Dependent Variables

Authors (Year)	Independent Variables	Dependent Variable	Relationship	Research Method
Butt et al. (2023)	Service experience with employees and augmented reality (AR)	Customer equity and loyalty	The customer satisfaction and loyalty of the users of beauty care products are positively influenced by AR-based and employee services.	Quantitative
Plotkina et al. (2022)	Augmented Reality Marketing	Service Brand Personality	Consumer innovativeness with IT and adventure shopping orientation positively moderates the impact of AR app attitude on perceived brand personality.	Quantitative
Caboni and Hagberg (2019)	Augmented reality in retailing	The Value AR Provides for Retailers and Consumers	Positively significant to the retail setting both online and in and physical stores by generating different value for consumers and retailers.	Qualitative
Xue et al. (2023)	Augmented reality in online retailing (AR App)	Consumer Behavior	Positively significant to the value in enjoyment to make the shopping experience more fun. Low significant to impulse consumers to use and purchase.	Quantitative
Cuomo et al. (2020)	Augmented Reality (AR) in the Italian Fashion Retailing System	Omni-Customer Brand Experience	Positively significant to the unique and engaging brand experience for customers, which can lead to increased satisfaction and loyalty.	Qualitative

Authors (Year)	Independent Variables	Dependent Variable	Relationship	Research Method
Ng et al. (2021)	The Use of Smart Retailing Technology (STR)	The Perceptions and Attitudes of Gen-Z Consumers Towards STR.	Positively significant in enhancing the shopping experiences of Gen-Z consumers and influence their purchase decisions.	Mixed method
Kumar et al. (2023)	The Use of Augmented Reality in Marketing	Consumer Attitudes, Perceptions, and Behaviour	Augmented reality in marketing has a positive impact on consumer attitudes, perceptions, and behaviour, and that its effectiveness is influenced by a range of factors.	Quantitative
Xu et al. (2020)	The Use of Augmented Reality Technology in New Product Display	The Product Attitude of The Consumers	Positively significant to AR technology on consumer attitude toward the displayed product.	Quantitative
Alam et al. (2022)	Augmented Reality Adoption Intention	Value Alignment	The higher the possibility of adopting AR by competitors, the higher the SMEs' propensity to accept it.	Quantitative
Wang et al. (2022)	Augmented Reality (AR) Apps in The Beauty Product Industry	Consumer Purchase Intention	Positively significant to consumers with a high level of individualism and fashion innovativeness.	Qualitative

Authors (Year)	Independent Variables	Dependent Variable	Relationship	Research Method
Abed (2021)	Augmented Reality Adoption	The Factors That Affect the Consumer Behavioural	Positive relationship with the behavioural intention to adopt augmented reality by consumers.	Quantitative
Vaidyanathan and Henningsson (2023)	The Effectiveness of AR Service Design	Customer Experiences	Positively significant to create superior customer experiences.	Quantitative
Kim et al. (2022)	The Effect of an AR-Based Product Display	Consumers' Website Evaluations and Purchase Intentions	Positively significant to the consumer experience by affecting the consumer's overall evaluation of website quality and positively affects website attitude and purchase intention.	Quantitative
Sengupta and Cao (2022)	AR's Role in Customers' Shopping Processes	The Effectiveness of Customers' AR Experience	Positively significant to the AR's role in the shopping process.	Quantitative
Perannagari and Chakrabarti (2020)	Augmented Reality in Retail	Factors Influencing acceptance of AR in retail	Positively significant to various factors influencing acceptance of AR in retail	Qualitative

Authors (Year)	Independent Variables	Dependent Variable	Relationship	Research Method
Sihi (2018)	The Use of Virtual and Augmented Reality Technologies in High Involvement Purchase Decisions"	High Involvement Purchase Decisions	Positively significant to purchase experience by providing a consumer more knowledge and understanding about a product or service.	Qualitative
Barta et al. (2023)	AR Web Facilities	To Reduce Cognitive Dissonance and Increase Purchase Intention	Positively significant to improve the consumer's shopping experience and reduce cognitive dissonance by lessening perceived similarity and confusion by over choice.	Mixed method
Vo et al. (2022)	Adoption Intention Toward Mobile Augmented Reality Applications (MAR Apps)	The Impact of Customer Immersive Experience on Attitude	MAR apps are positively significant to the retailers to generate a memorable experience and make customers become more immersed and engaged.	Quantitative
Kazmi et al. (2021)	The Use of AR Technology	Online Shopping Phobia	AR technology positively significant to increase confidence and true picture of the product in online shopping	Quantitative
Arghashi (2020)	AR Apps	Consumer Motivation and Purchase Behaviour	Positively significant to use AR for achieving a hedonic experience, which can improve purchase intention with AR	Quantitative

1.4 Research Objective

For This study is guided by the following specific objectives:

- 1) To identify the factors that affect the purchase intention among Generation Z in the fashion industry when adopting augmented reality (AR) technology.
- 2) To examine the relationship between the perceived usefulness, perceived ease of use, and perceived enjoyment towards AR technology and the purchase intention among Generation Z in the fashion industry.
- 3) To determine the most significant variable among perceived usefulness, perceived ease of use, and attitude towards technology in influencing the purchase intention of Generation Z in the fashion industry when adopting augmented reality (AR) technology.

1.5 Research Question

This study will be guided by the following research questions:

- 1) What are the factors that influence the purchase intention of Generation Z in the fashion industry when adopting augmented reality (AR) technology?
- 2) What is the relationship between perceived usefulness, perceived ease of use, and perceived enjoyment towards technology, and the purchase intention of Generation Z in the fashion industry when adopting AR technology?
- 3) Which of the variables, perceived usefulness, perceived ease of use, or attitude towards technology, has the most significant impact on the purchase intention of Generation Z in the fashion industry when adopting AR technology?

1.6 Scope of Study

This study explores technology acceptance, augmented reality (AR) innovations, and purchase intentions among Generation Z in the fashion industry context. The study will examine various determinants, such as perceived usefulness, ease of use, and enjoyment, to understand their impact on AR technology acceptance and purchase intention within the fashion industry. The researchers will employ survey methods to examine these determinants and their relationships.

The study focuses on Generation Z, the post-Millennial demographic, typically born between the mid-1990s and early 2010s. The Z generation grew up in an era of rapid technological development and is known for its digital fluency. This study focuses on the Z generation and aims to investigate their perceptions, and intentions regarding adopting augmented reality (AR) technology in the fashion industry. The focus on Generation Z is critical because they represent the future consumer base, and their preferences and behaviors may shape the future of the fashion industry.

This study focuses on Melaka, Malaysia, a significant fashion industry hub with a rich cultural heritage that attracts diverse Generation Z. By narrowing the scope to Melaka, the study aims to examine technology acceptance and purchase intentions among Generation Z, considering local fashion trends, consumer preferences, and Melaka's unique socio-cultural context. This localized approach will provide valuable insights into challenges and opportunities for fashion businesses in Melaka, leading to targeted recommendations to enhance augmented reality adoption and drive Generation Z's purchase intentions.

The research focuses on the fashion industry, which includes various clothing, accessories, and associated items. The fashion business is a dynamic and continuously shifting sector affected by consumer preferences, trends, and technological breakthroughs. The study's entry into the fashion business intends to investigate how incorporating augmented reality (AR) technology affects Generation Z interest in purchasing. This focus will provide insight into specific challenges and opportunities within the fashion industry, such as increasing consumer engagement, enhancing the shopping experience, and leveraging AR technology to drive sales and remain competitive in the rapidly evolving fashion market.

1.7 Significant of Study

Research on using augmented reality (AR) in marketing in the Malaysian fashion industry is critical. Since the highly competitive fashion industry, staying ahead of the curve requires innovative marketing strategies. Examining the use of AR in fashion marketing allows brands to explore new ways to engage customers and differentiate themselves from their competitors. It allows leveraging technology for a unique and immersive customer experience that gives brands a competitive advantage.

In addition, AR has the potential to dramatically enhance the customer experience in the fashion industry. AR can provide customers with a more immersive, convenient, and engaging shopping experience by allowing virtual fittings, personalized looks, and interactive activities. Understanding the impact of AR on the customer experience will help fashion brands meet evolving consumer expectations and increase customer purchase intention.

Furthermore, Generation Z represents the future of consumer behavior and preferences. By examining the fashion industry's acceptance of AR technology, this study sheds light on the future direction of fashion consumption. The insights gained from this study can help industry stakeholders anticipate and adapt to the evolving needs and expectations of the next generation of consumers.

Moreover, the findings of this study have practical implications for the fashion industry. Understanding how Generation Z interacts with AR technology and how it influences their purchase intentions can help fashion businesses, designers, and marketers to develop effective strategies to engage this influential consumer segment. It guides integrating AR technology in marketing campaigns, enhancing the shopping experience, and staying relevant in the rapidly evolving fashion market.

Overall, studying the use of AR in marketing in the Malaysian fashion industry has practical implications for fashion brands and academic implications for advancing knowledge in the field. It can drive innovation, improve customer purchase intention, and develop marketing strategies for the Malaysian fashion industry.

1.8 Definition of Key Terms

Augmented Reality (AR) is a visual technique and a form of digital content or computer-generated input that combines real imagery or environment with virtual 3D digital graphics/objects (Kang et al., 2022)

Fashion Industry is an industry encompasses the design, production, marketing, and sale of clothing, accessories, and related trends, influencing personal style and societal aesthetics (Botti, 2019).

Generation Z is an individual who were born from 1997 onwards (Dimock, 2019).

Purchase Intention is an individual's willingness and plan to buy a particular product or service in the future (Ihzaturrahma and Kusuma Wati, 2021).

Perceived Usefulness is the subjective likelihood, as perceived by the potential user, that utilizing a specific application system will enhance their job performance within an organizational setting (Silva et.al., 2023).

Perceived Ease of Use is the extent to which an individual perceives that utilizing a specific system would require minimal effort (Boardman et.al., 2020).

Perceived Enjoyment is the hedonic value of new technology refers to the level of pleasure or enjoyment that a user experiences when interacting with it (Holdack et.al., 2020).

1.9 Organization of Thesis

The study is structured into five chapters, each directly relevant to the research direction. Here is a revised version of the description:

Chapter One: This chapter offers a concise overview of the study, highlighting key issues to provide readers with a clear understanding. It presents the statement of problems, research objectives, research questions, significance of the study, and research limitations.

Chapter Two: This chapter provides a literature review on the relevant topics of technology acceptance in the innovation of augmented reality (AR) and purchase intention among Generation Z in the fashion industry. It examines empirical literature from previous studies deemed useful for the present study.

Chapter Three: This chapter focuses on the research methodology, providing detailed information on the research design, target population, sampling techniques, data collection methods, pre-testing procedures, and validity and reliability tests. The theoretical and research frameworks are developed based on technology acceptance in the innovation of augmented reality (ar) and purchase intention among Generation Z in the fashion industry.

Chapter Four: This chapter presents the research results and findings, categorized into descriptive analysis and content analysis, aligned with the study objectives. The chapter concludes with a discussion of the results, findings, and a summary referencing the literature reviewed in Chapter Two.

Chapter Five: This chapter summarizes the study's findings, conclusions, and recommendations. It includes policy recommendations based on the findings and suggestions for future research. Additionally, all relevant appendices about the study are included.

1.10 Summary

This chapter highlights the significance of exploring the relationship between technology acceptance, augmented reality (AR) innovations, and purchase intentions among Generation Z in the fashion industry. The next chapter of this study will provide a literature review to better understand the concept of augmented reality innovation. This review aims to contribute to existing knowledge and provide valuable insights for the fashion industry and marketers looking to leverage AR technology to enhance customer experience and drive purchase intent in the fashion industry.

CHAPTER 2

LITERATURE REVIEW

2.1 Chapter Overview

This chapter provides an extensive literature review that is contextualized within the industrial context of the research. It explores relevant studies and findings that contribute to the understanding of the research topic. Furthermore, it presents a comprehensive explanation of both the dependent variable and independent variables of the study, outlining their significance. The chapter also delves into the purpose of the conceptual framework, highlighting its role in providing a conceptual foundation for the study and guiding the research design and analysis. Finally, a summary is provided to concisely capture the main points and key findings discussed in this chapter.

2.2 Underpinning Theory

The research is grounded in the Technology Acceptance Model (TAM) (Davis et al., 1989), which provides an established framework for investigating consumer adoption of in-store technology, particularly in high-impact AR research (Xue et al., 2022). Originally derived from information systems research, the TAM is widely employed to understand and predict the factors driving organizations and individuals to adopt specific technologies (Boardman et al., 2019). The acceptance of innovation by customers is considered a crucial factor for its success in the market, with purchase intention as a key indicator. Purchase intention represents the willingness of users to engage in a particular action. Within the original TAM, perceived usefulness and ease of use are beliefs that capture the utilitarian aspects of technology, as highlighted by Xue et al. (2022). Thus, the foundational TAM revolves around these core elements: perceived usefulness and perceived ease of use, which significantly influence purchase intention. These determinants are vital in supporting technology adoption and its subsequent success.

The Technology Acceptance Model (TAM) is a widely utilized theoretical framework in information systems and technology research. Numerous studies, including those focusing on AR applications, have employed TAM to explore user acceptance and adoption of various technologies (Butt et al., 2021). Within high-impact AR research, TAM provides a clear and established framework for investigating consumer adoption of in-store technology. By employing the belief-attitude-intention-behavior paradigm, TAM explains and predicts technology adoption (Xue et al., 2022). In the context of this study, perceived usefulness refers to the anticipated benefits and improvements in the purchasing process that users associate with using new technologies (Silva et al., 2023). Thus, perceived usefulness captures the utility value of innovations. On the other hand, perceived ease of use relates to the user-friendliness of a device. It suggests that utilizing a specific technology will not require significant cognitive effort from the user (Jiang et al., 2021). Previous research has demonstrated the broad applicability of TAM in retailing and augmented reality (AR) contexts (Holdack et al., 2022), thus affirming the suitability of this model for the current study.

Numerous additional variables have led to the fragmentation and disconnection of models used in technology acceptance research (Plotkina and Saurel, 2019). Therefore, it is advisable to construct an adapted version of the Technology Acceptance Model (TAM) that incorporates previous studies' elements and considers AR technology's specific characteristics. Subsequent research has endeavored to incorporate a "perceived enjoyment" factor into the TAM model, addressing the hedonic aspects of technology. Perceived enjoyment focuses on the subjective pleasure experienced by users when engaging with new technology, capturing its hedonic value (Chen et al., 2021). It seeks to explain users' intrinsic motivation, stimulating their future technology adoption. This notion aligns with the understanding that while some in-store technologies may primarily serve functional purposes, others may be predominantly utilized for the sheer enjoyment of the technological experience, as highlighted by Nikhashemi et al. (2021). Furthermore, it is worth noting that the three beliefs of TAM may exhibit variations in their impact on purchase intention concerning AR technology (Chang and Chen, 2021).

2.3 Fashion Industry

The fashion industry spans thousands of years, originating from when

humans began using and producing textiles (Botti, 2019). Throughout its evolution, the industry has played a crucial role in providing economic prosperity and material value to society. It holds significant importance as a fundamental aspect of human existence and remains a subject of widespread interest, particularly in today's technologically advanced world (Xue et al., 2019).

The fashion industry has several significant product categories, including footwear, accessories, and clothes. The fashion business is undergoing a metamorphosis related to the changes occurring in the lifestyle and purchasing behaviors of society. These changes reflect shifts in the tastes and preferences of customers. (Oniku and Joaquim, 2021).

According to Gazzola et al. (2020), the fashion business is a significant contributor to the global economy and is led by well-known worldwide brands in a continuously changing, competitive marketplace. The worldwide fashion business is continually evolving and rearranging itself to stay up with the most current trends due to the quick improvements in digital technology. This involves using online sales, marketing, and operational tactics that may be implemented quickly and effectively (Gornostaeva, 2023).

2.3.1 Issues in Fashion Industry

The fashion industry holds immense economic significance, boasting a global worth of 1.3 trillion dollars and employing over 300 million individuals across the globe (BOF and McKinsey, 2019). It is a key player in the global economy, making substantial contributions to the global GDP (BCG, 2019). Operating within a highly competitive market, the industry is heavily influenced by renowned global brands. Despite facing the profound financial crisis of the previous decade, the fashion industry has experienced remarkable growth and undergone significant transformations in recent years.

Starting in January 2020, the Coronavirus disease 2019 (COVID-19) rapidly spread worldwide, causing unprecedented disruptions. The impact of this virus extended beyond health concerns and affected various aspects of daily life, including economic activities (Grimson, 2020). Like many others, the fashion industry has been profoundly affected by the COVID-19 outbreak, resulting in a decrease in economic profits for global fashion companies (McKinsey & Company, 2021). Both demand and supply forces within the industry have been significantly impacted.

Lockdown measures implemented to control the spread of the virus have led to decreased demand, resulting in sales losses and store closures. For instance, Primark, with its 376 stores across 12 countries, had to close all its locations, causing an estimated loss of approximately \$751.5 million in net sales per month (Chadha, 2020). Major fashion chains, including Neiman Marcus Group, J.C. Penny, J. Crew, and Brooks Brothers, have filed for bankruptcy protection. At the same time, Nike, Gap, and H&M have suspended online operations and closed retail outlets to contain the spread of COVID- 19 (Partridge, 2020). Furthermore, consumers have been spending less, leading to a significant reduction in discretionary expenses on fashion.

In addition, market analysis conducted by prominent international consultancy firms reveals that fashion companies operate in a highly dynamic and competitive environment characterized by rapid changes and growing uncertainty (Jacometti, 2019). This landscape is shaped by global demographic shifts, including an overall increase in life expectancy resulting from advancements in the medical field and other factors. Consequently, the fashion industry now faces the opportunity to cater to both younger and older generations simultaneously, necessitating the diversification of business strategies and marketing approaches to meet the needs of Generation Y and Generation Z (Gazzola et al., 2020). However, this environment is also marked by geopolitical and economic instability, which has persisted as an influential factor since the 2008 economic and financial crisis.

Furthermore, the fashion industry is experiencing heightened competitive pressures due to the demand for rapidly changing collections on a global scale (Jin & Shin, 2021). The concept of "fast fashion" has emerged, driven by the expectation of consumers to see and purchase new fashion items immediately (Kamalendu Pal, 2020). Rather than adhering to traditional seasonal releases, collections are now being introduced throughout the year, with some brands introducing new products every three weeks. This trend has spread across various markets, with customers craving frequent updates and new things in their favorite stores (Kaur et.al., 2021). However, this practice has placed increased pressure on fashion industry.

Therefore, companies must embrace change and proactively adapt to thrive amidst uncertainty and mitigate negative societal consequences. Drawing lessons from past experiences and fostering innovation for a better future is essential.

2.3.2 Technology in Fashion Industry

As highlighted by Adeola et al. (2021), the retail business undergoes continuous change driven by market dynamics such as taste, innovation, and consumer behavior. As one of the oldest industries in human history, the fashion industry has demonstrated remarkable dynamism, evolving in response to societal tastes, trends, and needs. The study emphasizes the importance for retailers to comprehend how technology can be leveraged to facilitate consumer purchasing behavior in both local and global markets in this era (Xue et al., 2019). Furthermore, the competitive landscape has evolved further with the increasing digitalization of the economy. The fashion industry has become increasingly intertwined with the digital world, with digital platforms and marketing strategies gaining significant prominence in the fashion market. The rise of e-commerce has also paved the way for the emergence of numerous new brands. Companies can now engage consumers through virtual reality experiences, leveraging the potential of e-commerce to connect with customers in innovative ways (Gazzola et.al., 2020).

According to the study by Zou et al. (2019), making appropriate investments in electronic retailing can enhance the business performance of retailers, sustain their competitive advantage, and attract a larger population to the online market. However, to achieve these benefits, it is crucial to understand consumers' purchasing behaviors within these markets. In response to this understanding, the fashion industry has evolved and embraced the online retailing system to capture a wider audience's attention. With society becoming increasingly technology-driven, it is essential for the fashion industry to position itself in alignment with this trend (Bag et al., 2021). The fashion market's rapid proliferation of fast fashion trends has elevated technological investment to a strategic level. Enhancing technology in the production process unlocks various business opportunities, such as accelerated product lifecycles, substantial labor cost reductions, improved profit margins, localization of materials/products through digital inventory, and enhanced process sustainability (Ejsmont, et.al., 2020).

Therefore, as markets and consumer behaviors grow increasingly sophisticated each year, a thriving company must embody an "agile" organizational structure, avoiding delays in decision-making. The fashion market must proactively update its technologies, interpret emerging trends, and identify how these challenges can be translated into marketing opportunities (Gazzola et.al., 2020).

2.3.3 Generation Z in Fashion Industry

Generation Z, commonly known as "digital natives," is the first generation to have been raised in an environment saturated with digital communication (Adeola et al., 2020; Reinikainen et al., 2020). Born between 1995 and the early 2010s, they represent the newest generation (Priporas et al., 2019). This demographic is highly engaged in consuming content, surpassing other age groups by spending approximately 11 hours per day reading, liking, and sharing materials across their various devices. Generation Z, comprising approximately 32% of the global population (Miller and Lu, 2018), holds the distinction of being the largest generation. Given their significant presence, this generation is anticipated to exert a substantial influence on consumer sales worldwide. Consequently, conducting research on this potentially influential cohort is crucial (Wolf, 2020).

In contrast to the previous study, Generation Z is highly knowledgeable and favors utilizing technology (Kalthur et al., 2022). The spending patterns of Generation Z differ from those of older generations, as they prioritize experiential pursuits like travel, entertainment, and technology. Generation Z utilize fashion purchases as a means of self-expression. As such, these purchases typically do not demand extensive problem-solving, often leading to impulsive buying behavior (Djafarova and Bowes, 2021). For Generation Z, speed holds paramount importance in all their undertakings. Additionally, this demographic poses challenges for shopping malls as they are more inclined towards incorporating technology into their shopping experiences. Moreover, Generation Z approaches buying decisions differently than previous generations, seeking a distinctive, stimulating, and personalized shopping experience (Ameen et al., 2022).

Hence, when targeting Generation Z, marketers should take into account their purchase intention and enhance technological innovation to captivate them. For instance, incorporating augmented reality into the fashion industry could be a compelling approach.

2.3.4 Augmented Reality (AR) in Fashion Industry

The emergence of Augmented Reality (AR) innovation has introduced a novel platform for seamlessly viewing virtual and real objects within the same real environment. AR technology is an interactive system that seamlessly integrates virtual objects into the real world. By utilizing mobile devices or similar technologies, AR combines virtual and real information to enhance the visualization of real-world objects through 2D images or 3D objects, providing a more immersive experience (Puspasari et al., 2021).

In their study, Lee (2022) discovered that apparel design incorporating augmented reality (AR) technology has significant implications. One of the key findings is that clothing with AR has the potential to enhance users' multisensory experience with the garments, as exemplified by the Plaid Waltz case. Users' sensory information from a product contributes to their perception, cognition, experience, and behavior toward the product. Lee (2022) further emphasized the importance of adopting a multisensory design approach to establish a strong brand image that consistently stimulates all the senses, ultimately delivering an enhanced experiential benefit to users. Consequently, clothing integrated with AR can serve as a means to reinforce the image and message that designers aim to communicate by amplifying users' multisensory experience with the garments.

AR plays a crucial role in enhancing the tangibility of products by offering enriched product information and aiding in decision-making (Heller et al., 2019). In addition to its interactive nature, AR boosts consumer brand engagement (McLean and Wilson, 2019) and has a positive impact on brand love (Huang, 2019). As a result, numerous brands such as Nike, Gucci, Sephora, and IKEA are incorporating AR into their marketing strategies. The adoption of AR has further accelerated during the COVID-19 pandemic, as it emerged as a suitable alternative to closed physical stores, providing online shoppers with an in-store-like product experience (Papagiannis, 2020). Notably, it is projected that nearly 75% of the global population will become frequent AR users by 2025 (Deloitte digital and Snap Inc, 2021).

2.4 Purchase Intention

Purchase intention is a measure that combines a customer's interest in buying a product and the likelihood of them making a purchase. It is intricately linked to the individual's future purchasing behavior and, as such, is an effective means of predicting customers' behavioral responses (Sengupta and Cao, 2022). Customers' purchase intention can be influenced by a range of factors, which can be broadly categorized as customer characteristics, customer perceptions, technology characteristics, and social context, especially in the case of technology-based products or services. For instance, factors such as perceived risk, service quality, and customer perceptions can impact purchase intention, as can customer characteristics such as age, income, gender, and lifestyle. These characteristics may vary depending on the specific product or service being considered (Bilgili et al., 2019).

The study by Adeola et al. (2021) explored consumers' values and fashion consciousness and their impact on the behavioral intention to patronize online fashion retail organizations. The research revealed that the ability of a product to communicate value to customers effectively plays a crucial role in determining their purchase decision for fashion apparel. The results also highlighted the significant influence of consumers' values on fashion consciousness and their intention to purchase. Furthermore, the study suggests that adopting augmented reality (AR) apps for shopping could transform individuals' shopping habits within supermarkets and hypermarkets (Jajić et al., 2021).

The study defines fashion consciousness as an individual's engagement with fashion trends, which facilitates convenient apparel purchases. Customer value is categorized into two types: terminal value and instrumental value. Terminal value refers to the customer's experience and emotions derived from purchasing while utilizing AR technology. On the other hand, instrumental values represent an individual's core characteristics that they expect to be reflected in the purchased product. Key instrumental values influencing purchase intention include time-saving, price-saving, discounts, service convenience, and merchandise assortment (Chao, 2019).

Recently, marketing efforts to create purchase intentions in technology-based consumer markets have changed. Since the 2010s, AR applications have become a widely used marketing strategy.

2.5 Technology Acceptance in Innovation of Augmented Reality (AR)

The evolution of the internet, technology, and smartphones has significantly changed consumer-brand interactions. Marketers now have access to unprecedented options for engaging with consumers. Augmented Reality (AR) is one such technology that enables consumers to interact with brands innovatively (Chylinski et al., 2020). By overlaying virtual elements, such as information or images, onto the physical environment in real time, AR opens new avenues for delivering content to consumers. Recent advancements in AR technology have generated growing interest in its utilization within marketing strategies (Jayaswal and Parida, 2023).

In the study conducted by Lee (2022), augmented reality (AR) is defined as a technology that enhances the real-world environment by overlaying virtual computer-generated information onto it. AR enables users to experience the virtual world and their actual surroundings simultaneously. Lee (2022) further emphasized that AR technology enhances users' perception of and interaction with the real world. This definition aligns with the broader understanding of AR as a technological advancement that enriches the physical world by incorporating electronic information (Solanki and Nayyar, 2019).

The introduction of augmented reality (AR) technology has sparked significant innovation in the retail industry, providing marketers with new opportunities to transform their interactions with consumers, as Rauschnabel et al. (2022) highlighted. A crucial area of research pertains to examining the impact of AR-based marketing on business performance. Previous studies have demonstrated a positive effect of AR-based product display on consumers' evaluation of products and their intention to make a purchase, as evidenced by the works of Carrozzi et al. (2019).

In the last decade, retailers have increasingly adopted augmented reality (AR) technology to engage and retain customers, as noted by Caboni and Hagberg (2019) and supported by data from Statista (2020). AR technology can enhance the customer service experience within retail environments. Using AR-based services to create immersive shopping experiences can lead to business growth, increased sales, and the acquisition of new customers, as emphasized by Statista (2020) and Wikitude (2020).

2.5.1 Perceived Usefulness

The technology acceptance model (TAM), originally proposed by Davis (1989), highlights the importance of Perceived Usefulness as a crucial factor in technology adoption. Perceived usefulness refers to how users believe a particular technology will enhance performance. The acceptance and success of new technologies in the market heavily rely on consumer perceptions of usefulness. In the context of augmented reality (AR), researchers have frequently applied the TAM model to investigate user intentions and behaviors (Chen et al., 2022). For example, in the travel sector, studies examining consumer adoption of AR for travel have found that perceived usefulness has a greater impact on attitudes toward AR use and future travel compared to perceived ease of use. Similarly, in the realm of e-commerce, virtual fitting experiences using AR technology have been shown to positively influence perceived usefulness, purchase intention, and overall attitude (Plotkina and Saurel, 2019). The earlier study on AR emphasizes the close association between perceived usefulness and key factors such as predicting user purchase intention (Plotkina and Saurel, 2019).

2.5.2 Perceived Enjoyment

Perceived enjoyment refers to the subjective experience of pleasure and enjoyment that users derive from engaging with a task or technology, regardless of its practical outcomes. In the context of augmented reality (AR) services provided by online fashion brands, these experiences can offer users a transient sense of enjoyment. While entertainment is also relevant in traditional physical stores, it is even more strongly associated with virtual stores and AR experiences. Research has shown that perceived enjoyment plays a significant role in the online context, influencing consumers' preferences for various products and services. Therefore, AR services incorporating AI-context-specific variables can enhance consumer satisfaction and encourage continued usage. Previous studies have identified perceived enjoyment as an important predictor of consumers' intention to use technology (Lee et al., 2019).

2.5.3 Perceived Ease of Use

The Technology Acceptance Model (TAM) is a widely accepted framework for comprehending technology adoption. Previous research has employed the TAM model to investigate technology adoption in diverse domains, such as tourism and online shopping, focusing on the perceived benefits of augmented reality (AR) (Ahmad et al., 2020). Perceived benefits highlight the advantages and merits of utilizing technology, while perceived user-friendliness concentrates on the user's perception of the technology's simplicity and ease of use (Jiang et al., 2021). Therefore, this study places significance on the perceived user-friendliness of AR-based services and how consumers perceive the ease of using AR during shopping. By examining the perceived ease of use, the researcher can better understand how users perceive AR technology's functionality and user-friendliness (Butt et al., 2021).



Table 2.1: Chronological Summary of Technology Acceptance Model Dimensions Sources

Items	Zimmerman et al., 2022	Ponzo et al., 2021	Holdack et al., 2020	Shen et al., 2022	Miloloža et al., 2022	Butt et al., 2021	Xue et al., 2022	Peranagari and Chakrabarti et al., 2019	Ghobadi et al., 2022	Wang et al., 2021	Frequency
Purchase Intention	√	√	√	√	√	√	√	√	√	√	9
Enjoyment	√	√	√		√	√	√	√	√		8
Usefulness	√	√	√	√			√	√	√		7
Ease of Use		√	√	√		√	√	√	√		7
Informativeness	√		√					√			3
Trust	√				√						2
Innovativeness					√					√	2
Entertainment	√										1
Usability		√									1
Price Value				√							1
Satisfaction						√					1
Interactivity						√				√	1

2.6 Conceptual Framework

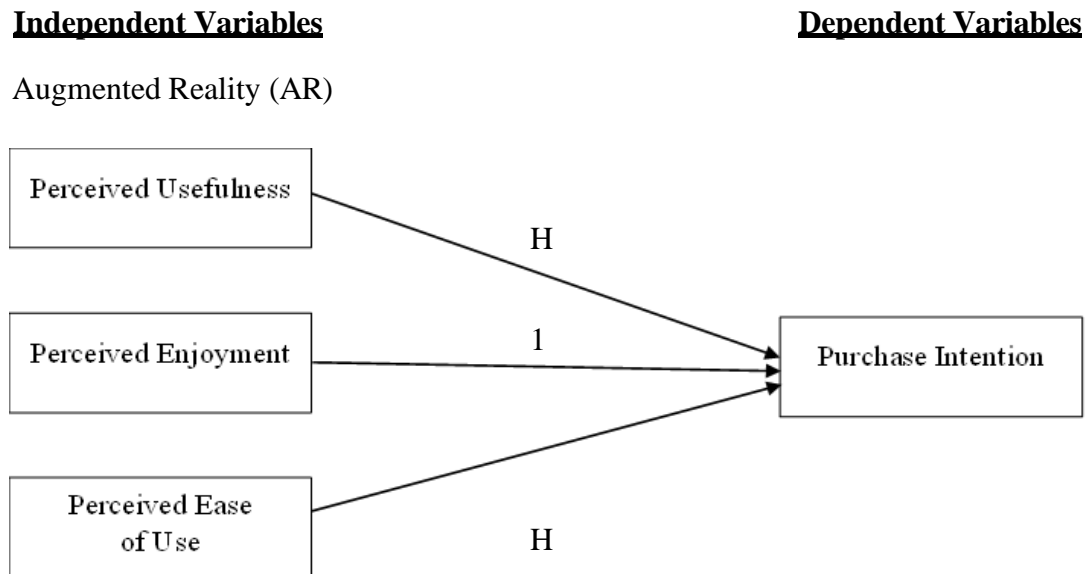


Figure 2.1: Conceptual Framework

2.7 Hypotheses

Perceived usefulness, within the context of the Technology Acceptance Model, refers to the extent to which users believe that utilizing a specific service or product would enhance their job performance. It is the primary determinant influencing users' attitudes and intentions, shaping their behaviors. Drawing from the literature mentioned earlier, and it is reasonable to assert that perceived usefulness plays a vital role in the customer experience, making it pertinent to this study. Hence, this research broadens the scope of perceived usefulness to include customer purchase intention, highlighting its consistently positive and significant impact observed across these studies (Chen et al., 2022).

H1: Perceived usefulness has a positive influence on the purchase intention.

The advent of augmented reality (AR) and the virtual world has revolutionized the conventional shopping experience, infusing it with increased pleasure and wonder (Jang and Park, 2019). By creating an immersive environment, AR services enable consumers to engage deeply while shopping, providing not only utility but also entertainment value. This aspect of entertainment technology plays a significant role in influencing consumers to sustain their usage of AR services, as

they offer an immersive and captivating experience (Alha et al., 2019). Furthermore, the concept of perceived enjoyment is regarded as a crucial factor in studying AR technology (Butt et.al, 2021).

H2: Perceived enjoyment has a positive influence on the purchase intention.

When examining augmented reality (AR), satisfaction encompasses several advantages, such as convenience, time savings, and prompt response (Wang et al., 2021). In online retail platforms and AR technology, perceived ease of use is a relevant metric for comprehending consumer behavior. The concept of perceived ease of use posits that the lesser the effort required to utilize a specific product or service, the higher the satisfaction and the intention to continue using it. Consequently, perceived ease of use is crucial in fostering consumer satisfaction and encouraging their continued adoption of online AR services (Butt et al., 2021).

H3: Perceived ease of use has a positive influence on the purchase intention.



2.8 Summary

The review explores various aspects related to the adoption and acceptance of AR technology in the context of the fashion industry. The literature review concludes by emphasizing the impact of AR on consumer shopping behavior and purchase intention in the fashion industry. Overall, the literature review provides insights into the acceptance and adoption of AR technology in the fashion industry, shedding light on the importance of perceived usefulness, ease of use, satisfaction, and interactivity in shaping consumers' attitudes and behaviors.



CHAPTER 3

METHODOLOGY

3.1 Introduction

The research methodology pertains to the systematic design of a study by a researcher. Its purpose is to guarantee reliable and valid results that effectively address the research objectives and aims. This chapter will delineate the research methodology based on the research design, method of data collection, sampling design, measurement scales, and the data analysis method.

3.2 Research Design

The research design incorporates the comprehensive strategy the researcher chooses to integrate the various elements of the study seamlessly. This ensures the researcher's ability to address the research problem effectively and provides a guide for collecting data, measurement, and analysis (Thakur, 2021). The method of surveys was utilized as the research strategy in this study as a systematic way to gather data in describing, contrasting, or explaining people's attitudes, behaviors, and knowledge. This technique is frequently used for company research since it gives researchers access to quantitative data.

3.2.1 Type of Study

This study is conducted by quantitative methodology. In both natural sciences and social sciences, quantitative research revolves around the aspect of quantity or extent. It focuses on objects or phenomena that can be expressed and measured in quantity or countable elements. This type of research involves the systematic and experimental analysis of observable phenomena, employing statistical, mathematical, or computational techniques to present the findings in numerical forms, such as statistics, percentages, and other related measures (Mishra et.al, 2022).

3.2.2 Unit of Analysis

Individual is the unit of analysis in this research (Sekaran and Bougie, 2016). In this research, the individual customer in the fashion retail industry serves as the unit of analysis. The primary aim is to understand the elements which affect Augmented Reality (AR) technology acceptability and purchase intention when using AR technology. This study focuses primarily on perceived usefulness, perceived ease of use, and perceived enjoyment as drivers of user acceptability. Additionally, these factors will be investigated as antecedents to the user's purchase intention.

3.2.3 Population

The research focuses on Generation Z customers in the fashion industry within the research area of Melaka. Melaka was chosen as the study's location due to its vibrant fashion industry, which encompasses various fashion retailers, boutiques, and brands. This selection allows for an examination of the integration of AR technology across a diverse range of fashion products and brands. According to the Department of Statistics Malaysia (DOSM), Melaka has a population of 1.0 million people (DOSM, 2022).

State	2021		2022*	
	No. of population (Million)	Growth rate (%)	No. of population (Million)	Growth rate (%)
Johor	4.0	0.3	4.0	0.1
Kedah	2.2	0.9	2.2	0.9
Kelantan	1.8	1.1	1.8	0.9
Melaka	1.0	0.6	1.0	0.3
N.Sembilan	1.2	0.3	1.2	0.4
Pahang	1.6	0.6	1.6	0.7
Perak	2.5	0.8	2.5	0.2
Perlis	0.3	0.9	0.3	0.8
Pulau Pinang	1.7	-0.0	1.7	-0.1
Sabah	3.4	-0.2	3.4	-0.6
Sarawak	2.5	0.5	2.5	0.2
Selangor	7.0	0.3	7.0	0.3
Terengganu	1.2	1.8	1.2	1.4
W.P. Kuala Lumpur	2.0	-0.9	1.9	-1.0
W.P. Labuan	0.1	0.9	0.1	0.9
W.P. Putrajaya	0.1	5.4	0.1	4.3

* Estimates

Figure 3.1: Population data from Department of Statistics Malaysia (2022).

3.2.4 Sampling Frame

The sampling frame refers to a comprehensive list of all the units of analysis that are part of the population or a description of how these units are identified. (Sallis et al., 2021). This smaller group is easier to analyze and enables data collecting and generating conclusions about the whole population's features or habits. A sample is chosen using specific sampling approaches to guarantee that it is representative and impartial, correctly representing the population's variety and features (Riffe et al., 2019).

3.2.5 Sampling Method

Sampling methods can be categorized into two types: probability sampling and non-probability sampling. In probability sampling, the probability or chance of selecting each sample from the target population is known and usually equal for all cases. This allows researchers to address research questions and achieve objectives such as statistically estimating the target population's characteristics based on the sample. In contrast, non-probability sampling does not provide information about the probability of selecting each case from the target population. As a result, it becomes challenging to answer research questions or meet objectives that require statistical inferences about the population's characteristics (Saunders et al., 2019).

Probability sampling techniques include various methods such as systematic sampling, stratified random sampling, simple random sampling, and cluster sampling. On the other hand, non-probability sampling techniques encompass snowball sampling, quota sampling, convenience sampling, and judgment sampling (Sallis et al., 2021). For the present research, simple random sampling will be employed. Simple random sampling involves selecting samples from the sampling frame using tools like a spreadsheet's random number generator function or random number tables. This method ensures that each member of the population has an equal and independent chance of being included in the sample, reducing potential biases, and enhancing the sample's representativeness (Saunders et al., 2019).

3.2.6 Sample Size

The sample size for a research study is determined by various factors, including the research objectives, available resources, and statistical considerations (Lakens, 2022). The findings obtained from analyzing the sample are then generalized to draw conclusions about the larger population, assuming that appropriate sampling techniques were utilized. It is crucial to employ suitable sampling techniques and carefully consider the sample size to ensure the reliability and validity of research results (Campbell et al., 2020).

In this study, the sample size will be determined by randomly selecting Generation Z participants from Melaka, Malaysia. The researchers will use G*Power software to calculate the sample size, which involves identifying conventional effect size values as recommended by Cohen. This is done by placing the cursor on the relevant area in the "effect size" section within the "input parameters" field.

By using the G*power 3.1.9.7 analysis programmer, the minimum sample size needed for this study is 77. However, considering the anticipated low response rate, the researchers have made the decision to double the required sample size as suggested by Baruch (Pielsticker and Hiebl, 2019). Increasing the sample size helps to compensate for the lower response rate, as a larger sample is more likely to yield enough responses compared to a smaller sample. According to Kharasch (2019), a response rate of 50 percent is considered acceptable in the context of social science surveys to adequately represent the behavior of the population. Therefore, the number of questionnaires to be distributed will be doubled to approximately 154 respondents.

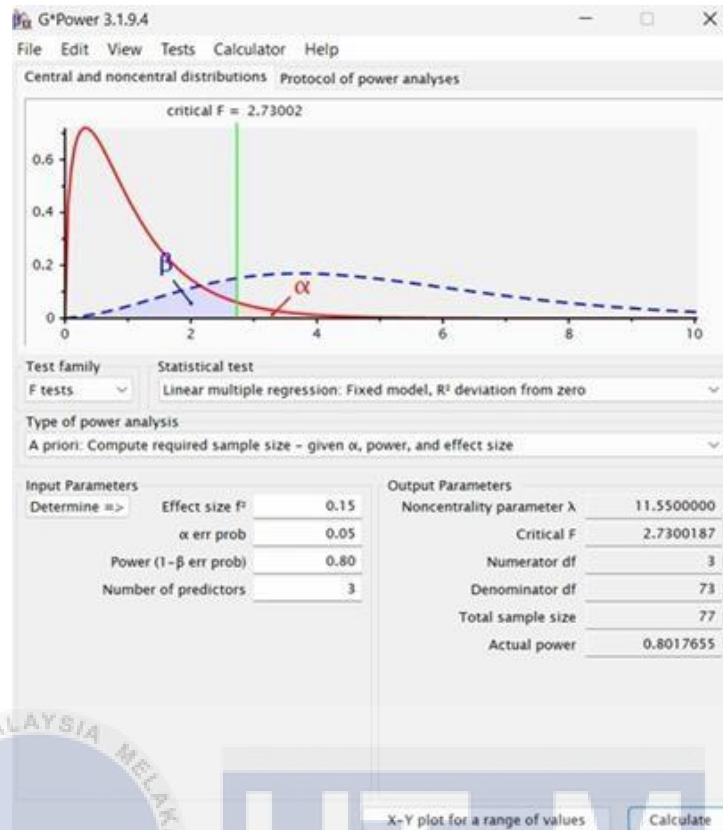


Figure 3.2: Data from G*power Analysis Programme

3.2.7 Data Collection Method

The quantitative research adopted the survey method in this research. The selection of the survey method is suitable for this research since it aims to measure specific variables and test the hypotheses developed within the study. Conducting large-scale surveys that generate substantial amounts of numerical data would be the most appropriate choice for this research.

Questionnaires are valuable tools for descriptive or explanatory research, enabling researchers to obtain survey insights using standardized questions (Saunders et al., 2019). In this study, the questionnaire will be administered through the online survey tool Google Forms. This online survey tool was selected due to its ease of questionnaire creation, enhanced accessibility, and time efficiency. The Google Forms questionnaire will be distributed via various social media platforms such as WhatsApp, Messenger, Instagram, and more.

3.3 Survey Instrument

For this study, the survey instrument is constructed with the reference of several related research journals. The study conducts the survey by using survey questionnaire. The questionnaire stands as one of the most extensively utilized data collection methods within the survey strategy. By administering the same set of questions to each respondent, it offers an efficient means of gathering responses from a sizable sample for subsequent quantitative analysis. The design of the questionnaire plays a crucial role in determining the response rate as well as the reliability and validity of the collected data (Saunders et al., 2019).

3.3.1 Measurement of Variables and Construct

Measurement involves recording the quantity or magnitude of something, such as the characteristics of a person or a business. These characteristics are considered variables and can be measured using different scales, depending on their nature. The four main types of scales used for measurement are nominal, ordinal, interval, and ratio. 5 Likert Scale will be used in this research (Sallis et al., 2021).

5 Likert scales, named after psychologist Rensis Likert, are commonly used for measuring attitudes. Respondents are presented with a series of statements related to the phenomenon being measured and are asked to indicate their level of agreement or disagreement with each statement. The 5 Likert scale consists the range of response options, which are "strongly agree," "agree," "neutral," "disagree," and "strongly disagree," allowing individuals to express their degree of agreement or disagreement on a continuum. This scale is widely used in surveys and research studies to assess people's opinions, perceptions, and attitudes (Sallis et al., 2021).

3.3.3.1 General Question (Demographic Question)

The questionnaire of this research consists of three sections. Section A gathers the respondents' demographic data which includes elements such as the gender, age, education background, monthly income, employment status and location.

Table 3.1: Respondent's demographic data (Section A)

List of items	
Gender	Male
	Female
Age	Fill in by respondents
Education Background	Less than a high school
	High school or equivalent
	Pre-university/Matriculation/Diploma
	Bachelor's degree
	Master's degree
	Doctor of Philosophy (PhD)
Monthly Income	Less than RM1500
	RM1501 – RM2500
	RM2501 – RM4500
	RM4501 or above
Employment Status	Student
	Unemployment
	Employment
	Housewife

3.3.1.2 Independent Variables Construct

Section B gathers the data of the determinants of technology acceptances of augmented reality (AR) by technology acceptance model (TAM) such as perceived usefulness, perceived ease of use, and perceived enjoyment. There are five to six questions provided in each item for respondents to answer.

Table 3.2: Survey Items for Perceived Usefulness (Section B)

Perceived Usefulness	
1. I feel that using AR improves my shopping performance.	Source: Silva et al., 2023
2. I feel that using AR increases my shopping productivity.	
3. I feel that using AR enhances my effectiveness in shopping.	
4. I find AR useful in my daily life.	
5. I feel that using AR enables me to accomplish shopping tasks more quickly.	
6. I feel that using AR would increase my shopping efficiency.	

Table 3.3: Survey Items for Perceived Enjoyment (Section B)

Perceived Enjoyment	
1. I feel that I enjoy shopping with AR.	Source: Ashfaq et al., 2020
2. I feel that it is fun and pleasant to shop with the AR.	
3. I feel that shopping with the AR is exciting.	
4. I feel that I enjoy choosing products more if they are recommended by the AR than if I choose them myself.	
5. I feel that I was absorbed in the shopping with the AR.	

Table 3.4: Survey Items for Perceived Ease of Use (Section B)

Perceived Ease of Use	
1. I feel that my interaction with AR is clear and understandable.	Source: Silva et al., 2023
2. I feel that interacting with AR does not require a lot of mental effort.	
3. I find AR to be easy to use.	
4. I find it easy to get the AR to do what I want them to do.	
5. I feel it is easy for me to become skillful at using AR.	

3.3.1.3 Dependent Variable Construct

Section C gathers the data of the determinants of the impact of the technology acceptances of augmented reality (AR) towards purchase intention. There are four questions provided in each item for respondents to answer.

Table 3.5: Survey Items for Customer Purchase Intention (Section C)

Purchase Intention	
1. I would buy products in AR scenario.	Source: Zimmermann et al., 2022
2. I would intend to purchase products in AR scenario in the near future.	
3. If AR would exist today, it is likely that I would purchase products in this scenario in the near future.	
4. I would expect to purchase products in AR scenario in the near future if it would exist today.	

3.4 Data Analysis

Data analysis refers to the systematic process of collecting, modeling, and analyzing data using various statistical and logical methodologies and procedures (Calzon, 2023). In this research, the collected data will be analyzed using IBM SPSS Statistics software.

3.4.1 Descriptive Analysis

The descriptive analysis enables researchers to numerically explain or compare data values across various variables (Saunder et al., 2019). This type of analysis encompasses central tendency, which provides quantitative information about data values and describes both populations and samples. It offers a descriptive summary of the dataset through a single value reflecting the data distribution's center. There are three measures of central tendency: the mode (the most frequently occurring value), the median (the middle point value), and the mean (the average of the dataset) (Saunders et al., 2019). This allows us to understand the behavior and patterns of the data set, particularly in cases where the demographic profile consists of individuals of different ages, each with their unique perspectives on the research questions.

3.4.2 Reliability Analysis

In this study, the researcher employed internal consistency reliability as a measure of reliability. Internal consistency refers to the degree to which the different components of a measurement tool or scale consistently measure the same construct. To assess internal consistency, statistical techniques such as Cronbach's alpha are commonly used to examine the level of interdependence among the components. In research methodology, reliability relates to the accuracy, precision, and consistency of measurements or data collection procedures used in a study. It ensures the study's findings can be easily replicated or reproduced under similar conditions. Reliability plays a crucial role in ensuring the accuracy and dependability of the data and measurements employed in the study (Saunders et al., 2019).

3.4.3 Inferential Analysis

3.4.3.1 Pearson Correlation Analysis

Pearson Correlation Analysis, as described by M. Chatterjee (2019), is employed to assess the relative strength of the linear relationship between two variables. In this study, this analysis is utilized to examine the relationship between the technology acceptance of augmented reality (AR) and the purchase intention. The coefficient range obtained from the analysis provides an indication of the extent of association between the independent and dependent variables (Sornam et al., 2019).

3.4.3.2 Multiple Linear Regression Analysis

In this study, the researcher utilized multiple linear regression analysis as a statistical method to examine the relationship between a dependent variable and one or more independent variables (CFI, 2022). Linear regression aims to understand how changes in the independent variables are associated with variations in the dependent variable. By estimating the parameters of a linear equation that best fits the observed data, linear regression analysis provides insights into the magnitude and direction of the relationship between the dependent and independent variables. Additionally, it allows for the prediction of the dependent variable's value based on the values of the independent variables. Overall, linear regression analysis is a valuable tool for exploring and understanding the connections between variables in the study (Abhigyan, 2020).

3.5 Pilot Test

A pilot test is undertaken in research to ensure the attainment of validity. This process involves conducting a pre-test using a version of the research instrument before commencing the actual study. Various authors emphasize the significance of conducting a pilot test, as it aids in the early detection of potential flaws by identifying problems and areas that may necessitate adjustments in the instrument. Additionally, it contributes to the added value and credibility of the research (Nurul et al., 2020). The pilot test involved 10 Generation Z respondents, and the pilot questionnaires were

distributed randomly online. To assess the reliability of the measurement instrument, Cronbach's Alpha was tested using SPSS version 29.0. The results of the reliability test for the measurement instrument are presented in Table 3.6.

Table 3.6: Pilot Study's Reliability Test Result of The Measurement Instruments

Dimensions	Code	No. of Items	Pilot Study Cronbach's Alpha Value (>0.70)
Perceived Usefulness	PU	6	0.939
Perceived Enjoyment	PE	5	0.826
Perceived Ease of Use	PEOU	5	0.945
Purchase Intention	PI	4	0.891

3.6 Summary

In conclusion, the data gathered from the distributed questionnaires will be summarized, and the Statistical Package for the Social Sciences (SPSS) outputs will be interpreted. The analysis was divided into various sections, including frequency analysis, validity testing, reliability testing, inferential analysis, and pilot test. The findings from the analysis will be presented in the subsequent chapter to facilitate further discussion.

CHAPTER 4

DATA ANALYSIS

4.1 Chapter Overview

In this chapter, analysis will be conducted on data obtained from 150 questionnaires to elaborate on the study results, utilizing IBM SPSS Statistics version 29.0. The analysis is divided into several subsections, including demographic analysis of respondents, factor analysis, reliability analysis, Pearson Correlation Analysis, and Multiple Regression Analysis. Subsequently, the findings of the study will be summarized in the concluding section.

4.2 General Information of Data Collected

4.2.1 Data Entry – Codebook

Items	Code
Perceived Usefulness	PU
Perceived Enjoyment	PE
Perceived Ease of Use	PEOU
Purchase Intention	PI

4.3 Respondents' Demographic Analysis

In The survey questionnaire mandated that every respondent respond to six questions concerning their demographic profile, encompassing gender, age, race, educational background, employment status, and monthly income. This section scrutinizes the demographic characteristics of respondents through frequency analysis.

Table 4.1 provides a detailed overview of the demographic profiles of the respondents. As each participant belongs to Generation Z, ranging from 11 to 26 years old, the findings reveal that 59 respondents are male (39.3 percent) and 91 are female (60.7 percent). Most participants fall within the age range of 23 to 26 years old (51.4 percent), followed by 19 to 22 years old (41.3 percent), 15 to 18 years old (5.3 percent), and 11 to 14 years old (2.0 percent). Regarding race, the majority identify as Chinese (65.3 percent), followed by Malay (23.3 percent), Indian (9.3 percent), with the remaining 2.0 percent representing other races. The educational background of most respondents is a bachelor's degree (77.3 percent), followed by pre-university/matriculation/diploma (13.3 percent), less than a high school (4.7 percent), high school or equivalent (3.3 percent), and master's degree (1.3 percent). Additionally, the survey sample indicates that most respondents are students (89.3 percent), followed by those employed (8.7 percent) and unemployed (2.0 percent). Given the predominantly student population, the income distribution is skewed toward levels less than RM1500 (90.0 percent), followed by RM2501 – RM4500 (8.0 percent), RM1501 – RM2500 (1.3 percent), and RM4501 or above (0.7 percent).

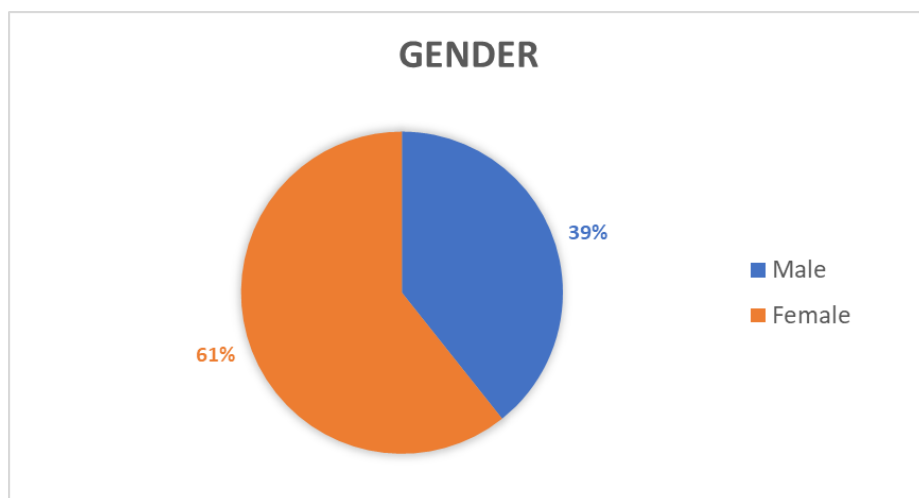


Figure 4.1: Respondent's Gender

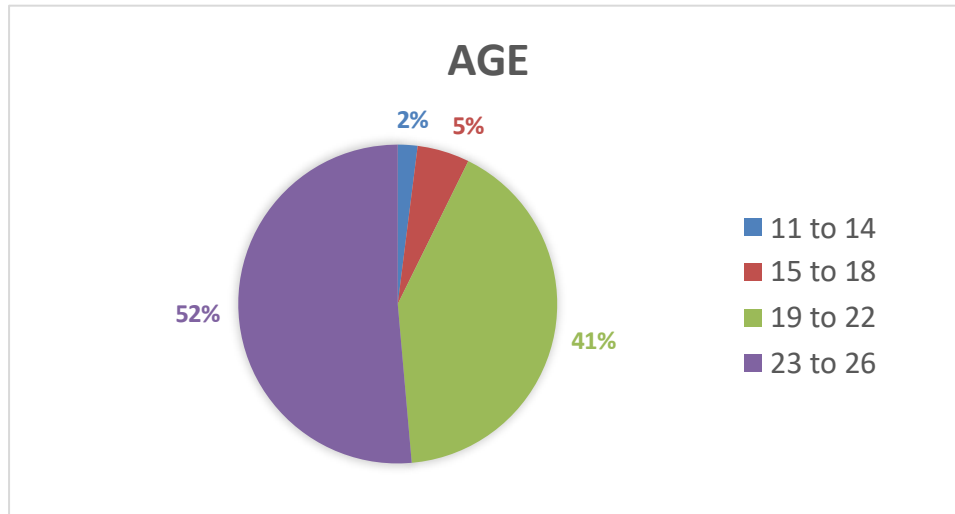


Figure 4.2: Respondent's Age

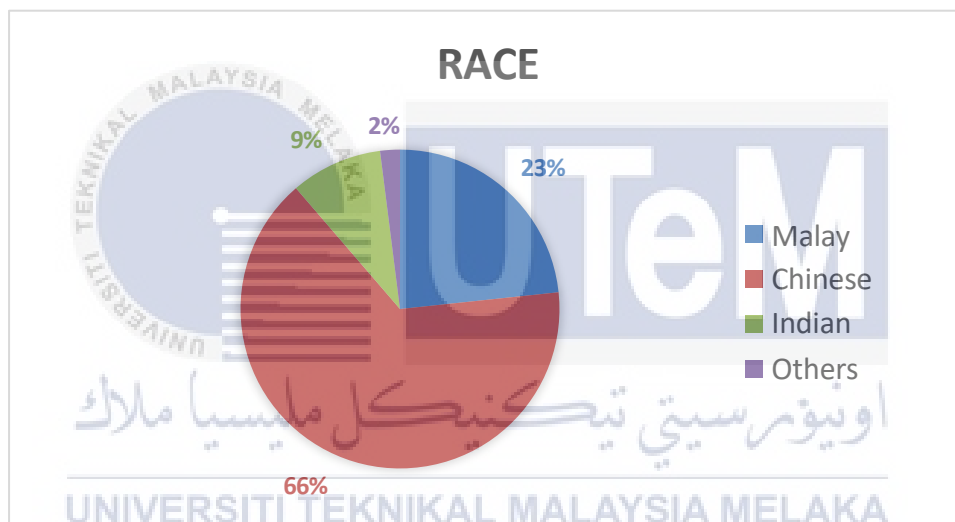


Figure 4.3: Respondent's Race

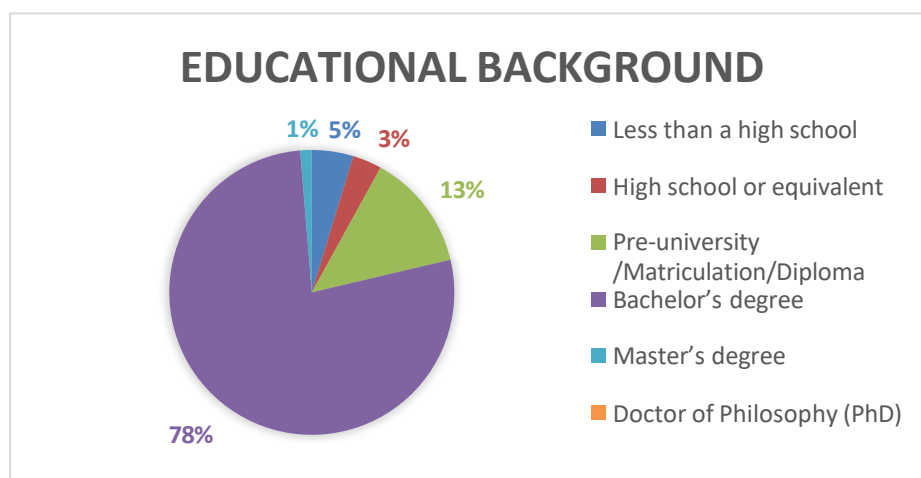


Figure 4.4: Respondent's Educational Background

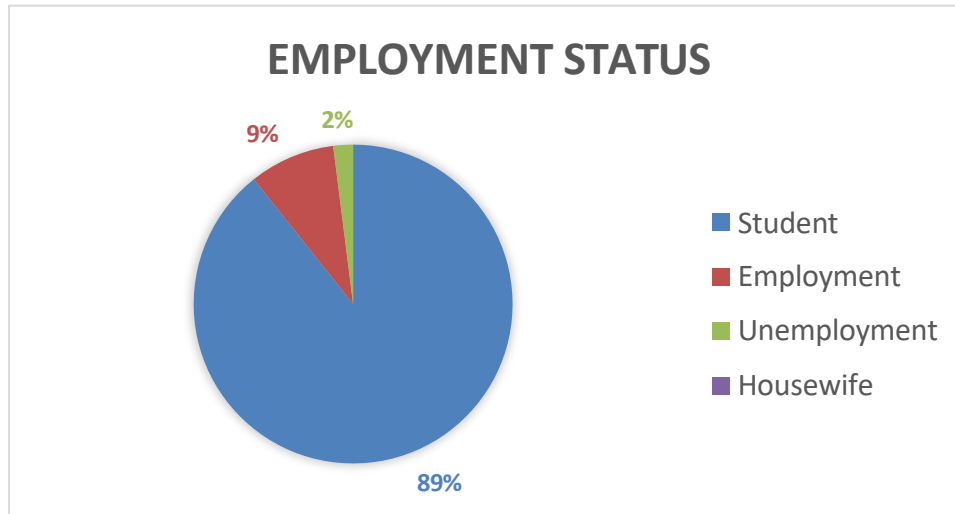


Figure 4.5: Respondent's Employment Status

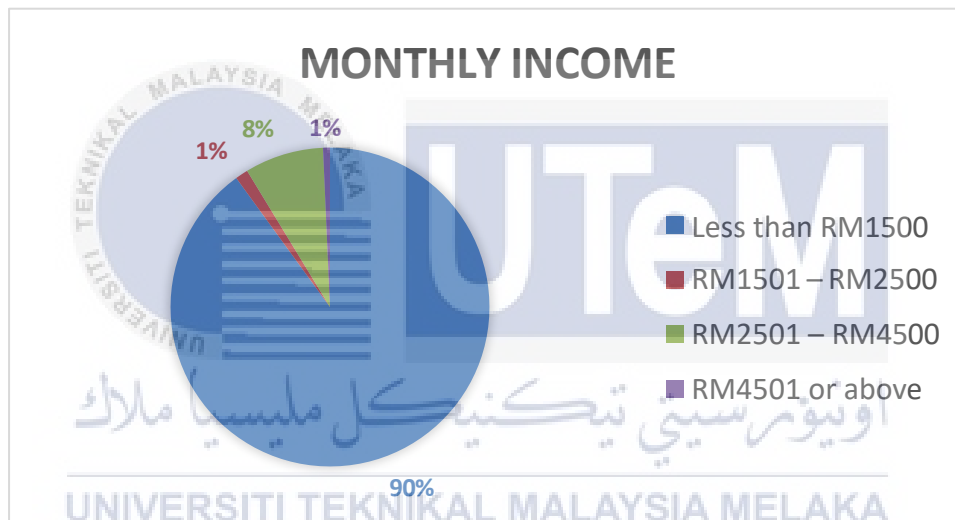


Figure 4.6: Respondent's Monthly Income

Table 4.1: Demographic Profile of The Respondents (n = 150)

Demographics Variables	Categories	Frequency	Percentage (%)
Gender	Male	59	39.3
	Female	91	60.7
Age	11 – 14	3	2.0
	15 – 18	8	5.3
	19 – 22	62	41.3
	23 – 26	77	51.4
Race	Malay	35	23.3
	Chinese	98	65.3
	Indian	14	9.3
	Others	3	2.0
Educational Background	Less than a high school	7	4.7
	High school or equivalent	5	3.3
	Pre-university	20	13.3
	/Matriculation/Diploma		
	Bachelor's degree	116	77.3
	Master's degree	2	1.3
	Doctor of Philosophy (PhD)	0	0
Employment Status	Student	143	89.3
	Employment	13	8.7
	Unemployment	3	2.0
	Housewife	0	0
Monthly Income	Less than RM1500	135	90.0
	RM1501 – RM2500	2	1.3
	RM2501 – RM4500	12	8.0
	RM4501 or above	1	0.7

4.4 Goodness of Measures

To assess the quality of variables, both factor analysis and reliability tests are performed on the independent variables (perceived usefulness, perceived enjoyment, perceived ease of use) as well as on the dependent variable (purchase intention).

4.4.1 Factor Analysis

Factor analysis is undertaken to identify the factors or components of variables in the study. This is essential because factor analysis plays a crucial role in data reduction, enabling researchers to pinpoint and analyze the latent factors that underlie observed correlations among variables.

The examination of independent and dependent variables involved 20 items, revealing four components: perceived usefulness (6 items), perceived enjoyment (5 items), perceived ease of use (5 items), and purchase intention (4 items). Consequently, the results delineated the identification of four distinct factor components.

The results of the factor analysis reveal that both dependent and independent variables can be categorized into four components, each with eigenvalues exceeding 0.5, collectively explaining 83.583 percent of the total variance. The Kaiser-Meyer-Olkin (KMO) statistic, assessing data suitability for factor analysis, yielded a high value of 0.950, indicating a substantial correlation in the sample. Bartlett's Test of Sphericity, employed to assess the presence of correlation, yielded significant results (Chi-square = 3678.775, $p < 0.00$). In Table 4.2, factor loadings for both dependent and independent variables are presented, derived from the rotated component matrix.

Table 4.2: Rotated Factors and Factors Loading for all Variables

Questionnaire Items	Components			
	1	2	3	4
PU 1 I feel that using AR improves my shopping performance.	0.606			
PU 2 I feel that using AR increases my shopping productivity.	0.770			
PU 3 I feel that using AR enhances my	0.678			

	effectiveness in shopping.	
PU 4	I find AR useful in my daily life.	0.653
	I feel that using AR enables me to	
PU 5	accomplish shopping tasks more quickly.	0.665
	I feel that using AR would increase	
PU 6	my shopping efficiency.	0.761
PE 1	I feel that I enjoy shopping with AR.	0.610
PE 2	I feel that it is fun and pleasant to shop with the AR.	0.482
PE 3	I feel that shopping with the AR is exciting.	0.545
	I feel that I enjoy choosing products	
PE 4	more if they are recommended by the AR than if I choose them myself.	0.766
PE 5	I feel that I was absorbed in the shopping with the AR.	0.792
PEOU 1	I feel that my interaction with AR is clear and understandable.	0.501
PEOU 2	I feel that interacting with AR does not require a lot of mental effort.	0.772
PEOU 3	I find AR to be easy to use.	0.824
PEOU 4	I find it easy to get the AR to do what I want them to do.	0.784
PEOU 5	I feel it is easy for me to become skillful at using AR.	0.748
PI 1	I would buy products in AR scenario.	0.689
PI 2	I would intend to purchase products in AR scenario in the near future.	0.748
PI 3	If AR would exist today, it is likely that I would purchase products in this scenario in the near future.	0.803
PI 4	I would expect to purchase products	0.726

in AR scenario in the near future if it would exist today.

Eigenvalues	14.201	1.156	0.768	0.591
Total Variances Explained	23.244	23.226	19.381	17.732
KMO	0.950			
Bartlett's Test of Sphericity Test	3678.7			
	75			

Note: $p^{**} < 0.01$ (one-tailed); PU = Perceived Usefulness, PE = Perceived Enjoyment, PEOU = Perceived Ease of Use, PI = Purchase Intention

In Table 4.2, all items related to perceived usefulness (PU), perceived ease of use (PEOU), and purchase intention (PI) were accepted. However, in the perceived enjoyment variable, all items were accepted except for PE2 (I feel that it is fun and pleasant to shop with AR), which was excluded.

The analysis of dependent and independent variables revealed the extraction of four components with eigenvalues above 0.5, explaining a total variance of 83.583 percent as illustrated in Table 4.2. The Kaiser-Meyer-Olkin (KMO) result of 0.950 suggests suitable intercorrelations. Bartlett's Test of Sphericity was significant (Chi-square = 3678.775, $p < 0.00$). Factor loadings for both dependent and independent variables, derived from the rotated component matrix, are presented in Table 4.2.

4.4.2 Reliability Analysis

Following the selection of items deemed appropriate for the study through factor analysis, a reliability analysis was conducted to assess the consistency of the chosen items within each variable. To gauge reliability, the Cronbach's Alpha test was applied.

4.4.2.1 Cronbach's Alpha Test

Typically, coefficients exceeding 0.6 are considered acceptable (Daud et al., 2018). Table 3 displays the Cronbach's Alpha results obtained after conducting factor analysis for perceived usefulness, perceived enjoyment, perceived ease of use, and purchase intention.

Table 4.3: Reliability Analysis

Variables	Original number of items	Number of items utilized	Cronbach's Alpha
PU	6	6	0.959
PE	5	4	0.921
PEOU	5	5	0.945
PI	4	4	0.943

Note: PU = Perceived Usefulness, PE = Perceived Enjoyment, PEOU = Perceived Ease of Use, PI = Purchase Intention

The coefficient for all variables in this research exceeded 0.6 as illustrated in Table 4.3, indicating that all applied items exhibit sufficient reliability. Consequently, the combination of factor analysis and reliability testing not only establishes the validity and reliability of the items but also forms a robust foundation for the subsequent evaluation of hypotheses.

4.5 Inferential Analysis

4.5.1 Pearson Correlation Analysis

Pearson Correlation Analysis is applied to ascertain the association between independent variables and dependent variables. Generally, correlation is deemed strong when the absolute value of "r" exceeds 0.75. Table 4.4 illustrates the correlation between independent and dependent variables.

Perceived usefulness exhibits the most robust relationship with perceived enjoyment ($r = 0.850$), followed by perceived ease of use ($r = 0.853$) and purchase intention ($r = 0.785$). Moreover, the perceived enjoyment variable demonstrates a moderate relationship with perceived ease of use ($r = 0.781$) and purchase intention ($r = 0.838$). However, perceived ease of use displays the weakest relationship with purchase intention ($r = 0.762$). Consequently, the correlation between all independent variables and operational performance is statistically significant at the 0.01 level.

Table 4.4: Pearson Correlation Analysis

	PU	PE	PEOU	PI
PU	1			
PE	0.850**	1		
PEOU	0.853**	0.781**	1	
PI	0.785**	0.838**	0.762**	1

Note: p ** < 0.01 (one-tailed);

PU = Perceived Usefulness, PE = Perceived Enjoyment, PEOU = Perceived Ease of Use, PI = Purchase Intention

4.5.2 Multiple Regression Analysis

In this study, to examine the relationship between independent and dependent variables, a multiple regression analysis was carried out to estimate the values of dependent variables based on established independent variables (Bevans, 2020). Additionally, the analysis served as a means for hypothesis testing.

4.5.2.1 Augmented Reality Technology (Independent Variables) and Purchase Intention (Dependent Variables)

In this section, it will explain the relationship between the independent variables (perceived usefulness, perceived enjoyment, and perceived ease of use) and the dependent variable (purchase intention).

Table 4.5: Regression of Intention

Hypotheses	Standardizes beta (β)	t value	p value	Decision
H1: PU \rightarrow PI	0.108	1.090	0.1385	Not Supported
H2: PE \rightarrow PI	0.573	6.935	< 0.0005	Supported
H3: PEOU \rightarrow PI	0.223	2.673	0.004	Supported

Note: p ** < 0.01 (one-tailed);

PU = Perceived Usefulness, PE = Perceived Enjoyment, PEOU = Perceived Ease of Use, PI = Purchase Intention

Table 4.5 illustrates two variables displaying a positive association with purchase intention among Generation Z. If the p-value exceeds 0.05, the hypothesis is not supported (Sardanelli and Leo, 2020). Consequently, perceived enjoyment ($\beta = 0.573$, t-value = 6.935, p-value < 0.05) and perceived ease of use ($\beta = 0.223$, t-value = 2.673, p-value < 0.05) resulting H2 and H3 are supported. However, no significant relationships exist between perceived usefulness ($\beta = 0.108$, t-value = 1.090, p-value > 0.05) and purchase intention, thereby not supporting H1 in this study.

Table 4.6: Summary of Hypotheses

Hypothesis	Decision
H1: Perceived usefulness is negatively related to purchase intention.	Not Supported
H2: Perceived enjoyment is positively related to purchase intention.	Supported
H3: Perceived ease of use is positively related to purchase intention.	Supported

4.6 Inferential Analysis

Total of three hypotheses have been tested. Table 6 summarized only two hypotheses were supported and the other one hypothesis these were rejected. The findings from this chapter will be discussed in the next chapter.

CHAPTER 5

DISCUSSION AND CONCLUSION

5.1 Chapter Overview

This chapter summarizes and explores the findings from the previous chapter, which included both descriptive and inferential analysis. It also provides potential explanations and justifications to support the hypotheses. The chapter discusses the implications of the research, acknowledges limitations, and offers recommendations for future studies. Finally, it concludes by summarizing the overall findings of the research.

5.2 Discussion

5.2.1 Relationship Between Perceived Usefulness and Purchase Intention

H1: Perceived usefulness is positively related to purchase intention.

In the hypothesis testing, H1 is not supported, suggesting that the perceived usefulness does not really impact the intention to purchase significantly. This is because some participants prefer trying out fashion products themselves (Xue et al., 2022). This lines up with what Boardman et al. (2020) say, suggesting that customers might not find perceived usefulness important, especially when trying it out is not easy.

In addition, the high cost of these augmented reality technology makes it tough for retailers to afford and install many of them in stores. Therefore, it could be argued that consumers might not see them as very useful since most people cannot try them out easily due to long queues (Boardman et al., 2020).

Based on the findings, it appears that there is a correlation between perceived usefulness and purchase intention, although this relationship does not reach statistical significance.

5.2.2 Relationship Between Perceived Enjoyment and Purchase Intention

H2: Perceived enjoyment is positively related to purchase intention.

In this study, a significant and positive relationship between perceived enjoyment and purchase intention is revealed, supporting the acceptance of H2. This finding aligns with prior research (Butt et al., 2021; Xue et al., 2022).

Augmented Reality (AR) is recognized as a technology capable of enhancing the real-world shopping experience through advanced digital content layouts. Alongside perceived usefulness and perceived ease of use, perceived enjoyment plays a pivotal role in determining technology acceptance (Holdack et al., 2022). By offering end-users interactivity, customization, and enjoyment, AR adds value to the shopping process (Butt et al., 2021). The infusion of enjoyment by AR significantly contributes to making the shopping experience more enjoyable (Xue et al., 2022). Existing literature suggests that AR can create enjoyable, entertaining, playful, and immersive experiences, influencing brand engagement (McLean and Wilson, 2019; Smink et al., 2019), store attractiveness (Bonnin, 2020), and intentions to recommend AR-equipped stores to others (Riar et al., 2022).

In addition, enjoyment is crucial in any technological aspect, as its absence makes it challenging to achieve global adoption scales. A prime example illustrating global app awareness resulting from enjoyment is the "Pokémon Go" Augmented Reality app, which also influenced users' intention to use it (Ghazali et al., 2019). The findings illustrate that performance expectations, enjoyment, and rewards directly determine the adoption of a specific technology in shopping malls. Additionally, the data suggest that flow and nostalgia indirectly affect players' intention to use augmented reality technology, thereby significantly influencing their purchase intention (Miloloža et al., 2022).

Furthermore, as an immersive technology, AR holds the potential to create highly stimulating and enjoyable experiences, resulting in hedonic value for users (Rauschnabel, 2021). The impact of hedonic value stemming from Augmented Reality (AR) significantly shapes behavioral intentions. Perceived enjoyment, linked to the hedonic value of new technology, elucidates the pleasantness a user experiences in its application. Existing studies on augmented reality also indicate that the technology is anticipated to generate hedonic experiences, which positively

influence customers' satisfaction (Holdack et al., 2022). For instance, research by Kumar et al. (2023) stated that interactivity in AR provides hedonic value (enjoyment), influencing users' behavioral intentions.

Moreover, augmented reality is an interactive technology that empowers brands to digitally enhance vision (van Esch et al., 2019), delivering both enjoyment and information to consumers. In the realm of fashion retail, augmented reality technology provides a virtual try-on experience, allowing consumers to visualize how a clothing item might appear on them through digital projection. This AR virtual try-on can be implemented in both physical and online stores. In physical stores, the most prevalent technologies are virtual fitting rooms with smart mirrors, where consumers can see the item projected on a mirror without physically trying it on. Consequently, AR can simulate an experience by seamlessly blending the real and virtual worlds. In this manner, AR enables consumers to view products in a simulated scenario, thereby enhancing the enjoyment of engaging with augmented reality technology (Romano et al., 2022).

From the previous study, summarized that people generally see enjoyment as a significant benefit when using AR during the point of purchase. Interacting with innovative technology, such as augmented reality (AR), not only enhances the shopping experience but also introduces an enjoyable aspect (Kang et al., 2020). Consequently, perceived enjoyment plays a substantial role in influencing the purchase intention, particularly among Generation Z.

5.2.3 Relationship Between Perceived Ease of Use and Purchase Intention

H3: Perceived ease of use is positively related to purchase intention.

The results of the hypothesis testing indicate that H3 is supported, demonstrating a significantly positive relationship between perceived ease of use and purchase intention. This finding aligns with previous studies, such as those conducted by Jajić et al. (2021), Ashfaq et al. (2020), and Boardman et al. (2020).

Effort expectancy emerges as a pivotal factor influencing technology acceptance among respondents, with a focus on the simplicity of using the system. The interface and the process from input to output play crucial roles in users' willingness to embrace new technology, including Augmented Reality technology, a

sentiment echoed in prior research (Jajić et al., 2021). Perceived Ease of Use (PEOU) holds significance in technology studies, representing "the degree to which the prospective user expects the target system to be free of effort." Previous research emphasizes that enhancing user satisfaction involves providing technology services that facilitate task completion with minimal effort, positively correlating with customer purchase intention, as indicated by Ashfaq et al. (2020).

Moreover, individuals generally form perceptions about the ease or difficulty of using technology. When technology is perceived as easy to use, users tend to hold positive attitudes toward its adoption. This inclination holds true in diverse contexts, whether dealing with information technology, utilizing e-wallet services, or engaging with mobile learning technologies. Essentially, customers prefer technology that is user-friendly and easy to comprehend, as noted by Silva et al. (2023). Establishing a connection with customers through technology requires innovations to be easily accessible and user-friendly. As technology and the shopping experience become more intertwined, the potential impact of Augmented Reality technologies on the decision-making process becomes substantial. However, for this influence to materialize, these technologies must be straightforward and user-friendly, as emphasized by Boardman et al. (2020).

5.3 Research Implications

5.3.1 Theoretical Implications

The results of the study carry substantial implications for research communities investigating the effects of augmented reality adoption. This includes examining how perceived usefulness, perceived enjoyment, and perceived ease of use influence purchase intentions.

The theoretical implications of exploring technology acceptance, augmented reality (AR) innovation, and purchase intention among Generation Z in the Melaka fashion industry are manifold. Leveraging established Technology Acceptance Models (TAMs) offers a lens to scrutinize the psychological factors influencing Generation Z's acceptance of AR. For instance, understanding if Generation Z perceives AR as user-friendly and valuable in enhancing their fashion experiences can guide strategies for AR integration.

The unexpected negative correlation between perceived usefulness and purchase intention challenges the traditional TAM assumption that the perceived utility of technology directly influences behavioral intentions. This finding suggests that, in the context of augmented reality in the fashion industry, Generation Z may prioritize other factors over perceived usefulness when forming purchase intentions. This challenges the conventional understanding of how utilitarian aspects impact consumer behavior.

The positive relationship between Perceived Enjoyment and Purchase Intention aligns with the evolving nature of consumer preferences among Generation Z. This highlights the importance of emotional engagement in the adoption of augmented reality technologies within the fashion industry. The study implies that businesses should focus not only on functionality but also on creating enjoyable and immersive experiences to enhance purchase intentions among this demographic.

The positive association between perceived ease of use and purchase intention underscores the significance of user-friendly augmented reality interfaces. In the fashion industry, where aesthetics and ease of interaction matter, the findings suggest that ensuring a seamless and effortless user experience positively influences Generation Z's intention to make a purchase. This contributes to the ongoing discourse on the importance of user interface design in technology adoption.

Furthermore, the study underscores the relevance of augmented reality in the fashion industry in Melaka, Malaysia. The positive relationships identified contribute to the growing discourse on the integration of immersive technologies to enhance the overall consumer experience and drive purchase intentions within this specific market. Besides, the findings provide insights into the nuanced consumer behavior of Generation Z in Melaka. Understanding their unique preferences and values in the context of technology acceptance in fashion sheds light on the evolving landscape of consumerism among younger demographics.

Lastly, the study revealed a consistent correlation between perceived enjoyment and perceived ease of use in relation to purchase intention. Utilizing the Technology Acceptance Model (TAM) in this investigation acts as a framework for gaining a thorough insight into perceived usefulness, perceived enjoyment, and perceived ease of use, aiming to enhance purchase intention through the integration of this approach.

5.3.2 Practical Implications

The study on technology acceptance, augmented reality (AR) innovation, and purchase intention among Generation Z in the Melaka fashion industry has practical implications for various stakeholders, such as businesses, marketers, educators, and policymakers.

Understanding how Generation Z embraces augmented reality (AR) in Melaka's fashion industry is crucial for businesses. With insights into AR adoption, fashion brands can integrate AR features into their products and services, offering innovative experiences that match Generation Z's preferences. For instance, a clothing brand might use AR for virtual fitting rooms, allowing customers to try on clothes digitally and improving the overall shopping experience.

The study's insights also help fashion brands connect with Generation Z consumers. Incorporating AR into retail experiences creates immersive interactions that build a sense of connection and loyalty. For example, a shoe retailer could use AR for in-store shoe-fitting experiences, giving customers a visual idea of how different styles look on their feet and increasing engagement and satisfaction.

Furthermore, educational initiatives can elevate awareness and understanding of AR technology in the Melaka community. Workshops and collaborations between fashion and technology educators empower individuals to embrace AR in the context of fashion. For instance, a local university might organize a seminar series, educating students and professionals about the potential applications and benefits of AR in the fashion industry.

Moreover, policymakers can benefit from the study by creating policies that encourage responsible technology adoption in the fashion industry. Understanding AR acceptance dynamics can help establish an environment that fosters innovation while ensuring consumer privacy. Government policies might incentivize businesses adopting AR to adhere to privacy standards, creating a trustworthy environment for consumers.

Lastly, businesses can consider the environmental and ethical aspects of AR adoption in the fashion industry. Integrating sustainable practices in AR development, minimizing environmental impact, and ensuring ethical sourcing of materials align with consumer preferences for eco-friendly and ethical business practices. A practical example could be a fashion brand using eco-friendly materials

in the production of AR-enhanced products, aligning with sustainability goals and consumer values.

5.4 Limitation of the Study

While this study provides useful insights, it faces several limitations that need acknowledgment. Firstly, the research concentrated on Melaka, Malaysia, potentially constraining the broader relevance of its findings to diverse regional or cultural settings. Variations in cultural norms and regional distinctions in purchasing attitudes could restrict the applicability of the findings beyond the specific study location. Consequently, Melaka may not fully represent the entire Malaysian population.

Additionally, since the study concentrated on the fashion industry, the factors examined may be influenced by industry-specific elements. It is essential to acknowledge that the dynamics of augmented reality adoption could vary in other industries, and care should be taken when extending the findings to diverse business sectors. Variations in business models, marketing strategies, or technological adoption rates among different fashion businesses may not be adequately captured, limiting the depth of industry-specific insights.

Furthermore, using a survey questionnaire can be led to bias, where participants may provide answers, they think are socially desirable. This might affect the accuracy of the feedback. If the sample does not adequately capture the diversity within Generation Z in Melaka, the findings may lack external validity. Variations in attitudes and behaviors among different subgroups within this demographic may not be fully reflected in the study's outcomes. To make the findings more reliable, it could help to include other methods, like interviews or observations, alongside the survey.

Moreover, ethical considerations related to AR, such as privacy concerns or data security, may not be thoroughly examined in the study. Privacy emerges as a significant ethical consideration, as AR technologies often involve the collection and processing of personal data for enhanced user experiences. The failure to address these ethical implications limits the comprehensive understanding of the potential ethical challenges associated with the integration of AR in the fashion industry among Generation Z.

Lastly, the study's reliance on subjective measures of perception, such as perceived usefulness, perceived enjoyment, and perceived ease of use may introduce variability based on individual interpretations. The inclusion of more objective measures could offer a more nuanced understanding of technology acceptance among Generation Z in the fashion industry.

5.5 Recommendation for Future Research

Future research should aim to broaden its scope beyond Melaka, Malaysia, by including a more diverse range of regions and cultural settings. This inclusivity can enhance the applicability of findings, offering a more comprehensive understanding of how augmented reality (AR) is adopted in different contexts.

Furthermore, considering the study's focus on the fashion industry, it is advisable to conduct similar research in other industries. This exploration can help uncover variations in AR adoption dynamics, revealing industry-specific elements that influence acceptance and usage.

To address potential biases associated with survey questionnaires, future studies could use a mixed-methods approach, combining surveys with interviews or observations. This approach can provide a more well-rounded view of participants' experiences and perceptions, thereby improving the reliability and validity of research findings.

Moreover, given the growing importance of ethical considerations in technology adoption, future studies should explicitly examine privacy concerns and data security related to AR in the fashion industry. This may involve assessing participants' attitudes toward privacy and exploring the impact of these concerns on their willingness to adopt AR technologies.

Lastly, to mitigate potential variability in subjective measures, researchers could incorporate more objective indicators of technology acceptance. This might include analyzing actual usage patterns, behavioral data, or performance metrics alongside traditional subjective measures like perceived usefulness and enjoyment, offering a more balanced evaluation of AR technology acceptance.

5.6 Concluding Remark

In summary, this study provides important insights into how augmented reality technology influences customer purchase intention in the fashion industry. The results highlight the importance of adopting augmented reality technology components, specifically perceived enjoyment, and perceived ease of use, as both show a significantly positive association with purchase intention.

The primary goal of this research is to explore the connection between augmented reality technology and customer purchase intention in the Melaka fashion industry. The findings from this study can contribute to a better understanding of how integrating augmented reality technology can enhance customer purchase intention in the fashion industry.



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APPENDICES

APPENDIX A SURVEY QUESTIONNAIRE

SURVEY QUESTIONNAIRE	
INSRUCTIONS:	
<p>This questionnaire consists of two sections. Please read the questions carefully before answering them. Where appropriate, please tick (✓) in the box provided. Your honest and sincere response are highly appreciated.</p>	
SECTION A: DEMOGRAPHIC PROFILES	
1. Gender	<input type="checkbox"/> Male <input type="checkbox"/> Female
2. Age	
3. Education Background	<input type="checkbox"/> Less than a high school <input type="checkbox"/> High school or equivalent <input type="checkbox"/> Pre-university/Matriculation/Diploma <input type="checkbox"/> Bachelor's degree <input type="checkbox"/> Master's degree <input type="checkbox"/> Doctor of Philosophy (PhD)
4. Monthly Income	<input type="checkbox"/> Less than RM1500 <input type="checkbox"/> RM1501 – RM2500 <input type="checkbox"/> RM2501 – RM4500 <input type="checkbox"/> RM4501 or above
5. Employment Status	<input type="checkbox"/> Student <input type="checkbox"/> Unemployment <input type="checkbox"/> Employment <input type="checkbox"/> Housewife

SECTION B: INDEPENDENT VARIABLES

Instructions:

Please indicate your answer by circling the appropriate number. (AR = Augmented Reality)
[1 = Strong Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree]

Perceived Usefulness

1. I feel that using AR improves my shopping performance.	1	2	3	4	5
2. I feel that using AR increases my shopping productivity.	1	2	3	4	5
3. I feel that using AR enhances my effectiveness in shopping.	1	2	3	4	5
4. I find AR useful in my daily life.	1	2	3	4	5
5. I feel that using AR enables me to accomplish shopping tasks more quickly.	1	2	3	4	5
6. I feel that using AR would increase my shopping efficiency.	1	2	3	4	5

Perceived Enjoyment

1. I feel that I enjoy shopping with AR.	1	2	3	4	5
2. I feel that it is fun and pleasant to shop with the AR.	1	2	3	4	5
3. I feel that shopping with the AR is exciting.	1	2	3	4	5
4. I feel that I enjoy choosing products more if they are recommended by the AR than if I choose them myself.	1	2	3	4	5
5. I feel that I was absorbed in the shopping with the AR.	1	2	3	4	5

Perceived Ease of Use

1. I feel that my interaction with AR is clear and understandable.	1	2	3	4	5
2. I feel that interacting with AR does not require a lot of mental effort.	1	2	3	4	5
3. I find AR to be easy to use.	1	2	3	4	5
4. I find it easy to get the AR to do what I want them to do.	1	2	3	4	5
5. I feel it is easy for me to become skillful at using AR.	1	2	3	4	5

SECTION C: DEPENDENT VARIABLES

Instructions:

Please indicate your answer by circling the appropriate number. (AR = Augmented Reality)

[1 = Strong Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree]

Purchase Intention					
1. I would buy products in AR scenario.	1	2	3	4	5
2. I would intend to purchase products in AR scenario in the near future.	1	2	3	4	5
3. If AR would exist today, it is likely that I would purchase products in this scenario in the near future.	1	2	3	4	5
4. I would expect to purchase products in AR scenario in the near future if it would exist today.	1	2	3	4	5



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