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UNDERSTANDING CONSUMER RESISTANCE TOWARDS UNMANNED STORE: A DUAL PERSPECTIVE FROM PERCEIVED RISK THEORY AND USES AND GRATIFICATION THEORY

BY

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Degree Awarded : Bachelor of Marketing

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LIST OF ABBREVIATIONS

AI	Artificial Intelligence
C	Convenience
DV	Dependent Variable
FR	Financial Risk
IUCVS	Intelligent Unmanned Convenience Stores
IV	Independent Variable
PE	Perceived Enjoyment
PR	Psychological Risk
PRT	Perceived Risk Theory
R	Resistance
RFID	Radio Frequency Identification
SI	Social Influence
SR	Security Risk
UGT	Uses and Gratification Theory
UTAUT	Unified Theory of Acceptance and Use of Technology

ABSTRACT

The research's purpose is to examine how perceived benefits and perceived risks affect consumers resistance towards unmanned stores. In this study, perceived benefits and perceived risks are independent variable (IV) and consumers resistance towards unmanned stores is dependent variable (DV). This study will apply Uses and Gratification Theory (UGT) and Perceived Risk Theory (PRT) to examine how different types of gratifications in UGT and risks in PRT influence consumers resistance towards unmanned stores.

This research focuses on mobile users who have visited unmanned stores regardless of whether they have purchased before in Klang Valley as the target respondents. Mobile users are chosen because they use mobile payment to make transactions in unmanned stores. To ensure a broad reach and high level of responsiveness, the survey method is employed to gather respondents' data. The sample size for this study is approximately 200 respondents which allows for a thorough examination of the relationship between IV and DV.

Although there were previous studies that explored either positive factors or negative factors about consumers intention, but there were limited studies that examined both positive and negative factors about consumers resistance. To address this gap, this research intends to offer valuable insights into consumer behavior in unmanned stores.

Keywords: unmanned retail, consumer resistance, retail technology adoption, automation, technology acceptance.

Subject Area: T59.5 Automation

CHAPTER 1 RESEARCH OVERVIEW

1.0 Introduction

This section describes the background of unmanned stores which involves overview and emergence of unmanned stores in Malaysia. Besides, this chapter also includes problem statements, research objectives and questions, and significance and outline of the research.

1.1 Background of Study

1.1.1 Overview of Unmanned Store

The first unmanned store is launched by Robert Ilijason which was an IT specialist in Sweden in 2016 (Simeleviciene, 2017). Unmanned stores can be described as retail stores that do not have staff that provide assistance but using innovative technology such as Artificial Intelligence (AI) that can monitor consumers motions in unmanned store, Radio Frequency Identification (RFID) that can detect products that consumers purchase, and facial recognition to automate the transactions in store and provide excellence customer experience (Ee et al., 2024; Alshehri, 2024). The store aims to introduce unique concepts and alter the common experience that consumers perceived in the traditional retail store (Ee et al., 2024). The smart technology in the store will manage the whole buying process in real time, thus the consumers can just grab what they need and pay at the self-service machines, without queuing long time for manual checkout (Chang & Chen, 2021). Furthermore, the consumers can shop at these unmanned stores at whatever time as it is operating for 24 hours.

1.1.2 Global Trends of Unmanned Stores

Nowadays, unmanned stores are becoming more common in a variety of industries such as merchants and service providers with the rapid emergence of technologies (Nam et al., 2025; Denuwara et al., 2021). In 2023, the worldwide market for unmanned store was worth $81.4 million and is anticipated to achieve $962.6 million by 2033 (Research and Markets, 2024). Following the opening of Amazon Go's first unmanned convenience store in Washington in 2018, many companies got inspired by them and started investing in similar technology and launched their own unmanned convenience store (Lin, 2022). There are around seventy percent of retailers prefer to broader their unmanned store operations (Nam et al., 2025). Based on market research conducted by Axis Communications, over ninety percent of Korean respondents said they encountered unmanned stores. The tendency of a growing number of unmanned stores has steadily risen, emphasizing the favourable perspective of the unmanned stores sector in Korea (Nam et al., 2025). Numerous regions of worldwide, especially Asia, have grown used to unmanned stores that provide convenient and fast purchasing. For example, in 2017, China has an anticipated 200 unmanned stores out of 138 companies. Unmanned technological advances are set to become an emerging pattern in the future, as unmanned stores acquire popularity around the world (Ee et al., 2024).

1.1.3 Emergence of Unmanned Stores in Malaysia

Malaysia's unmanned stores now are in introduction stage. It is indicated by the limited number of unmanned stores and the closure of initial adopters such as Irispay and Aye Smart Store. Irispay established Malaysia's initial entirely cashless unmanned store, that operating 24 hours each day in Subang Jaya, reportedly to encourage the use of its digital wallet. It comprises of automated machines that provide an extensive range of products such as snacks, beverages and the typical items found in a traditional convenience store, consumers may then make payments by using the Irispay mobile app (Fintech News Malaysia, 2018). Following by that,

Aye Smart Store, established by Lim Yee Yun, opened its first store in Malaysia at UOA Glenmarie, Shah Alam, Selangor, at the end of April 2021. The goals of the store are to provide unique ideas and interfere with the ordinary retail experience by allowing consumers to engage with new things or technologies. It required the integration of novel technology developed to fulfil the demands of the local marketplace while also fitting into the Malaysian ecosystem (Ee et al., 2024). However, both stores are closed permanently and there are still limited number of unmanned stores operate in Malaysia. Despite the limited number of unmanned stores, the increasing number of stores such as Panas Express indicates a rising trend as it is currently launching 50 stores around Malaysia (Hedzer, 2024), which illustrating the initial development stages in local market.

1.2 Problem Statement

1.2.1 Research Problems

The emergence of unmanned stores in Malaysia which aimed to use advanced technology to provide superior shopping experience to consumers has marked a dramatic change in retail industry (Ee et al., 2024). However, the development of unmanned store is still in the introduction stage due to the limited number of businesses such as Panas Express, Mondo and KK Mart embracing this cutting-edge technology in their retail stores. This implies that this idea has yet to gain popularity with both consumers and retailers. Moreover, the failure of early adopters such as Aye Smart Store and Irispay demonstrated that Malaysia's unmanned store market is still in introduction stage. It may because there are not many people entering it. As a result, the revenue was unable to cover the costs and had to permanently closed the store.

Apart from that, many consumers think that unmanned stores are not appealing enough to enter as they are concerned about privacy leaking, even there are many benefits (Nam et al., 2025). Consumers may resist entering the unmanned stores.

According to Park and Zhang (2022), the consumers have conflicting attitudes about emerging technologies, such as unmanned stores. For example, such developments may raise concerns about improper identification and lack of transparency when carrying out transactions. In addition, privacy breaches, chaos and vulnerability had a negative impact on attitudes towards unmanned stores (Park & Zhang, 2022). Apart from that, modern technologies like biometric information and financial transactions are also gaining popularity among businesses and consumers. Nevertheless, privacy concerns are developing because of data breaches or leaks. Therefore, consumer resistance to new technologies, particularly in the early stages. Consumers might reject emerging innovations due to perceived risks. Thus, they are resisted towards unmanned stores (Nam et al., 2025).

1.2.2 Past Studies

There are several past studies that looked into unmanned stores context by using different research model (Nam et al., 2025; Alshehri, 2024; Kim et al., 2023; Lin, 2022). Nam et al. (2025) had conducted research to explore the consumer preferences of unmanned stores and characteristics related to technology in both goods and services retail environment. The study's results clearly demonstrate that consumer preferences for unmanned stores are influenced by both technology and store related attributes (Nam et al., 2025).

Moreover, according to Ee et al. (2024), this study attempted to find the main motivators of the unmanned convenience store by combining concerns, developments and obstacles, as well as future possibilities for unmanned convenience store in Malaysia. This study employed a method of exploratory research through a descriptive survey based on STEEPV analysis, which stands for S (Social), T (Technological), E (Economical), E (Environmental), P (Political) and V (Value) (Ee et al., 2024).

Lin (2022) explored the factors that influence consumers' attitudes and intentions about intelligent unmanned convenience stores (IUCVS) in Taiwan by utilizing the

unified theory of acceptance and use of technology (UTAUT). The research findings demonstrated the three characteristics of UTAUT and perceived value have favorable impact on consumers attitudes towards IUCVSs (Lin, 2022). It also concurs with the adverse influence of perceived risk on patronage intentions of consumers toward IUCVSs (Lin, 2022).

1.2.3 Deficiencies of Past Studies

Despite unmanned stores gaining popularity worldwide, research on consumer resistance towards unmanned stores is scarce. Most of the past studies focused on the technological aspects and positive factors that influence consumers' intention towards unmanned stores but have not explored the psychological and social obstacles which led to consumers hesitation (Kim et al., 2023; Park & Zhang, 2022).

Apart from that, there is an insufficient study that considers both uses and gratification factors and perceived risk factors that influence consumer resistance towards unmanned stores. Most of them investigated either positive factors or negative factors that influence consumer intention (Chang & Chen, 2021; Lundin & Paridon, 2022). Thus, due to the scarcity of research in this area, there is a critical demand for an extended examination of how both positive and negative factors affect how consumers perceive unmanned stores.

Moreover, most of the research focus on other countries such as Taiwan (Lin, 2022), Sweden (Lundin & Paridon, 2022), China (Park & Zhang, 2022; Kim et al.,2023), Korea (Nam et al., 2025). There is a lack of study that investigates unmanned stores in Malaysia context.

1.3 Research Objectives & Research Questions

Table 1.1

Research Objectives and Research Questions

Research Objectives	Research Questions
To examine the relationship between uses and gratification factors (e.g. convenience, perceived enjoyment, social influence) and consumer resistance towards unmanned stores.	What is the relationship between uses and gratification factors (e.g. convenience, perceived enjoyment, social influence) and consumer resistance towards unmanned stores?
To examine the relationship between perceived risk factors (e.g. financial risk, security risk, psychological risk) and consumer resistance towards unmanned stores.	What is the relationship between perceived risk factors (e.g. financial risk, security risk, psychological risk) and consumer resistance towards unmanned stores?

Table 1.1 above shows the research objectives and research questions of this study. This study intends to examine the relationship between uses and gratification factors and perceived risk factors with consumer resistance towards unmanned stores.

1.4 Significance of Study

1.4.1 Theoretical Significance

This study has a significance theoretical contribution to the academics and researchers in research area such as consumer behaviour and retail technology adoption. The existing studies are extended in this research by integrating uses and gratification theory (UGT) and perceived risk theory (PRT) to examine the effects of uses and gratification factors and perceived risk factors that affect the consumer

resistance of unmanned store adoption; whereas prior studies have concentrated on technology adoption mainly from benefits viewpoint or risk-based viewpoint, few researches have merged these two theoretical perspectives. Thus, to offer a complete picture of how consumers make decisions, this research combined both viewpoints. This study investigates how uses and gratification factors (e.g., convenience, perceived enjoyment, social influence) and perceived risk factors (e.g., financial risk, security risk, psychological risk) influence the resistance of unmanned stores adoption by consumers.

In addition, it helps to further the theoretical development of both the UGT and PRT throughout this study. By using UGT to unmanned stores, it broadens the theory beyond digital media to investigate how consumers weigh technological gratification (e.g., convenience), hedonic gratification (e.g., perceived enjoyment) and social gratification (e.g., social influence) when choosing whether to visit unmanned stores. It also examines how these major gratifications affecting consumer views towards unmanned stores. Furthermore, PRT is expanded to pinpoint the individual risk aspects (e.g., financial risk, security risk, psychological risk) that contribute to consumers hesitation toward unmanned stores. This study extends its interpretation to unmanned stores environment, providing additional understanding into how perceived risk influence consumer resistance of adoption of unmanned stores.

Apart from that, it fills a significant gap by addressing the scarcity of research in Malaysia setting and offers an essential framework for future study on consumers behaviour in developing technologies throughout this study.

1.4.2 Practical Significance

This study has significance practical contribution to the business owners, managers and decision makers of the unmanned stores that aimed to make improvement to the stores and extend their presence in Malaysia.

By examining the uses and gratification factors (e.g., convenience, perceived enjoyment, social influence) can help the business owners and stakeholders to emphasize the advantages of unmanned stores. Therefore, business owners and stakeholders can use this key benefit as an attraction point to attract more customers and enhance consumers adoption of unmanned stores in Malaysia. By identifying this attraction point, the business owners and stakeholders can differentiate their stores in Malaysia.

At the same time, by investigating the perceived risk factors (e.g., financial risk, security risk and psychological risk) of consumers using unmanned stores in Malaysia, the business owners and stakeholders can have a straightforward understanding on the factors that influencing the consumer resistance for unmanned store adoption and could develop initiatives to solve these negative factors and thus improve the shopping experiences of consumers in unmanned stores.

1.5 Outline of Study

Chapter 1 describes the background of the unmanned stores, problem statement, research objectives and questions, and the importance of this study. Following this, Chapter 2 explains the theories used to develop the relevant positive and negative variables, the research framework and hypothesis. Next, Chapter 3 focuses on research design, population and sampling procedures, data collection method, and data analysis technique. Furthermore, Chapter 4 clarifies data analysis like descriptive analysis, reliability test, normality test and inferential analysis. Lastly, Chapter 5 interprets the summary and discussion of major findings, implication of study, limitation of study and recommendation for future research.

CHAPTER 2 LITERATURE REVIEW

2.0 Introduction

This section explains theories such as UGT and PRT are used to develop the relevant positive and negative variables, review of each independent variable and dependent variable, hypothesis and research framework.

2.1 Underlying Theories

2.1.1 Uses and Gratification Theory

When researchers started examining the reason why individuals decided to use different types of media rather than concentrating on immediate impact of media on them, the term “uses and gratifications” first came into existence in the 1940s by Lazarsfeld and Stanton (Siraj, 2007). The impact of media consumption and the social and psychological demands it fulfilled became the main focus of research in the 1970s. The research of Jay Blumler and Elihu Katz in the year of 1974 is attributed to the development of UGT. The investigation of this theory is knowing why individuals choose particular media and the beneficial effects that experience from it has become increasingly significant because of the quick advancement of media technology (Vinney, 2024). UGT depends on two fundamental concepts concerning the consumers of media. Initially, it recognizes individuals as active participants in choosing the media that they utilize, rather than consumers that are passive. Secondly, individuals understand why they choose various media and utilize knowledge and information of their motivations to satisfy their personal demands and preferences (Vinney, 2024). The steps of the theory involve classifying gratification sought, investigating motivations of consumer and linking media utilization to gratification. Most significantly, UGT acknowledges its constraints and understands the impact of media policy, socio-cultural influences

and meticulously structured choices on different media consumption (Sichach, 2023).

UGT has been used in several research areas such as motivational considerations for young people to participate in TikTok's popular social media competitions (Falgoust et al., 2022), educational apps (Menon, 2022), social media (Bhatiasevi, 2024), e-Tutor utilise Facebook for informal learning (Ali, 2023).

Referring to Table 2.1, UGT consists of three types of gratification such as technology gratification, hedonic gratification and social gratification (Gao, 2023).

Table 2.1

Dimensions of Uses and Gratification Theory

Gratification	**Description**
Technological Gratification	The convenience and rationality of nature with which people use media (Balakrishnan & Griffiths, 2017).
Hedonic Gratification	Represent consumers' overall feelings based on their enjoyment and pleasure that they received from particular products or services (Nny et al., 2024).
Social Gratification	An affiliation desire in which the person wishes to be a member of a group, desires to be recognized by others, and seeks a feeling of belonging (Zolkepli et al., 2018).

Source: Gao (2023).

In our research, we chose to use technology gratification (convenience), hedonic gratification (perceived enjoyment) and social gratification (social influence) (Zolkepli et al., 2018). Unmanned stores employ modern technologies to provide a convenient and comfortable shopping experience (Nam et al., 2025). Thus, consumers do not have to stand in a lengthy line to pay for their items, so this is the reason we choose convenience as the variable. Besides, the reason that we choose perceived enjoyment is it might be an enjoyable experience to shop at an unmanned store. Consumers can look around and check out at their own speed because unmanned stores foster independence, which can increase consumer freedom and minimize their social pressure (Lucas, 2024). According to Gunawan et al. (2023), social influence, like favorable experiences and referrals from friends and family, additionally promotes the visitation of unmanned stores. Videos on social media that highlight unmanned store experiences may stimulate interest of consumers and draw the attention of consumers to visit unmanned stores, so this is the reason we choose social influence as the variable.

2.1.2 Perceived Risk Theory

PRT was initially founded by Raymond Augustine Bauer in 1960. Perceived risk refers to an individual's subjective perception of the likelihood of experiencing losses when employing a certain technology (Sarkar et al., 2020). According to Bauer, perceived risk was entailed in consumer behavior as every action of consumers may lead to an unforeseen effect that was uncertain as consumers cannot predict the results of the choices and may lead to unfavorable outcomes (Bauer,1960). Perceived risk often relates to the stages where consumers collect information of products and services before they purchase. If actual purchasing experiences are different from what the consumers expected, they will conclude that there is a higher risk involved (Li & Huang, 2009). Previous research stated the perceived risk has a detrimental effect on the intention to buy and this also illustrates why the consumers are less inclined to purchase products. Consumers will be less

inclined to purchase a product if they perceive risk in the process of purchasing (Wang et al., 2024).

PRT has been used in various contexts of research such as autonomous delivery robot (Koh et al., 2024), online food delivery services (Pillai et al., 2022), online gambling (Antonio et al., 2024) and cross-border e-commerce (Ma et al., 2024).

The PRT has been refined and expanded by researchers by developing multiple dimensions in different contexts over the years. There are six types of risk, which are physical risk, convenience risk, financial risk, functional risk, social risk and psychological risk (Jacoby & Kaplan, 1972). Table 2.2 illustrates the definitions for PRT.

Table 2.2

Dimensions of Perceived Risk Theory.

Perceived Risk	Description
Physical Risk	Something that could endanger someone's physical health, safety, and welfare (Amirtha et al., 2020).
Convenience Risk	The potential threat that can change the relative values of time, ease, and effort while making a purchase (Hong et al., 2018).
Financial Risk	Potential financial loss in the form of additional fees (Hong et al., 2018).
Functional Risk	The risk related to the product's functionality and specifications (Hong et al., 2018).

Social Risk	"Potential loss of status in one's social group as a result of adopting a product or service, looking foolish or untrendy" (Feartherman & Pavlou, 2003, p. 455)
Psychological Risk	The possibility that self-confidence and self-esteem might be impacted (Hong et al., 2018).

Sources: Hong et al. (2018); Amirtha et al. (2020); Feartherman & Pavlou (2003)

Nonetheless, few studies have established various facets of perceived risks in the area of E-commerce, including security risk, source risk, and after-sale risk (Zheng et al., 2012; Hong et al., 2018). In our research, we focus on three types of perceived risk which are financial risk, security risk and psychological risk. Financial risk is chosen because customers may be resistant to make a transaction or look for alternatives that are more secure and trustworthy if they feel there is a significant financial risk (Park & Zhang, 2022). Besides, the extent to which consumers believe innovations in technology is directly impacted by security risk. Therefore, security risk was chosen as one of the independent variables. Customers may be reluctant to utilise a service if they think that it will be risky (Lin, 2022). Furthermore, psychological risk was chosen as it will affect the intention or reluctance of consumers using unmanned stores. Consumers may choose not to use the services if they are doubtful on their ability to use the services as unmanned stores mostly rely on self-service technologies (Lin, 2022). Apart from that, the reason why functional risk was not chosen was because it is overlapping with financial risk as it includes issues such as system malfunction. Lastly, physical risk was not chosen because most of the unmanned stores are located in monitored environments which the possibility of getting physical harm is less.

2.2 Review of Variables

2.2.1 Resistance

Resistance focusses on rejecting a dominant control produced by specific individuals, actions and devices or technologies (Lee et al., 2011). It also refers to individuals' hesitancy or unwillingness to new ideas and imposed changes (Mani & Chouk, 2019). Thus, in this research, resistance is described as the consumer's unwillingness to enter unmanned stores. Past studies have looked into resistance, such as resistance to use mobile banking in Colombia's rural area (Klyton et al., 2021), new learning management system (Kim & Park, 2023) and e-health services among older adults (Ezeudoka & Fan, 2024).

2.2.2 Technology Gratification: Convenience

The amount of effort and time that consumers invest in the entire procedure of getting products and services is at its core of the service convenience idea. Seller may employ this strategy to help them increase customer satisfaction (Mpinganjira, 2015). Customers can enjoy personalized browsing experiences at their own convenience due to continuing technological advancements (Chowdhury, 2023). Consumers' preferences are also greatly influenced by convenience, since contemporary consumers place a high value on speedy and easy transactions. It can save consumers' time as they do not have to wait in a long line to make purchases at the counter. Nowadays the technology of unmanned stores has gradually developed, including mobile payment methods, RFID sensors and checkout systems driven by artificial intelligence, providing consumers convenience and different shopping experience. Consumers can also avoid the concern of standing in long lines because of manual checkout.

2.2.3 Hedonic Gratification: Perceived Enjoyment

A person feels at ease and pleases when making use of a specific system and views the technology adoption as something that is enjoyable is explained by perceived enjoyment (Maria & Sugiyanto, 2023). When someone "feels good" about making use of a service, they are experiencing intrinsic motivation, which is the desire to do something for its own sake instead of for the sake of getting rewards from outside sources (Khedhaouria & Beldi, 2014). Because it promotes intrinsic motivation, technology adoption and loyalty, perceived enjoyment is essential in unmanned stores. The longevity of the store is unsured by a smooth and interesting experience that increases consumer happiness and continuation. In the context of unmanned stores, consumers want to be free to shop on their own terms rather than depending on store staffs or having their every move monitored and followed around, thus the sense of freedom further boosts their motivation to shop and have a favourable experience by using unmanned store.

2.2.4 Social Gratification: Social Influence

The extent to which a person believes that it is crucial for others to have faith that he or she should utilize the new mechanism is explained by social influence. It was discovered that the adoption intent for an individual was influenced by the viewpoints of significant people of their social network such as family, friends and peers (Gopinath & Narayanamurthy, 2022). Consumer behaviour is greatly influenced by social influence, particularly regarding the adoption and application of new technology such as unmanned stores. This variable describes the degree to which peer and family recommendations and social development such as social media influencer's store visit video that impact people's actions toward unmanned stores. Technological trends and suggestions from significant people can impact younger consumers, particularly Generation Z. Unmanned stores develop popularity on sites like TikTok, Instagram, YouTube and Xiaohongshu, it causes a trend effect by attracting more individuals to experience it firsthand. In the case of

unmanned store, social influence determines how fast and extensively these stores go into effect. If those who begin using it emphasise efficiency and share positive feedback or word-of-mouth, more individuals are going to explore it.

2.2.5 Financial Risk

Financial risk refers to the possibility of unforeseen financial loss that consumers may experience during the purchasing process or due to an unwise buying decision. (Pillai et al., 2022; Kushwaha & Shankar, 2013). This includes problems such as overcharging, unauthorized transactions and issues during refund process (Forsythe & Shi, 2003). It can also happen when customers don't think the goods or services are worth the money they pay. Therefore, when there is a perceived financial risk for the transactions, consumers will choose to avoid it or seek alternatives. In this research, financial risk is illustrated as the potential loss of money during the payment process in unmanned stores. Nowadays, automated payment systems are heavily relied by unmanned stores and the risk of transaction error can occur. This may lead to consumers worrying about problems that may occur during the payment process such as payment errors, overcharging or unauthorize deduction of money. Furthermore, the payment problems are hard for the customers to deal with or request refunds when there are no staff. This may cause the consumers to avoid using the unmanned stores.

2.2.6 Security Risk

Security risk which is also known as privacy risk is the "potential loss of control over personal information" (Featherman & Pavlou, 2003, p. 5). For instance, when your personal data was being used illegally without your permission, unapproved dissemination of confidential information or misuse of biometric information (Phuoc et al., 2025). In this study, security risk is referring to the extent to consumers believe the loss of personal confidential data due to adoption of unmanned stores such as biometric information. In the context of unmanned stores,

biometric information such as facial data was required before entering the unmanned stores. Thus, consumers may be concerned that their facial data may be stolen and misused illegally such as identity fraud and cybercrime. Moreover, consumers may be discouraged from entering unmanned stores because of the possibility of malfunction of technological systems such as the errors in payment system.

2.2.7 Psychological Risk

Psychological risk refers to the discomfort or feeling of stress that occurs in consumer's mind during their purchasing decision process (Leong & Koay, 2023; Ali & Ali, 2021; Pentz et al., 2020). Consumers who experience feelings of insecurity and uncertainty are particularly susceptible to this risk. In this context, there was difference between the purchasing experience of traditional shop and unmanned store as unmanned store lack of human interaction. Due to the inability to inspect things or ask staff for explanation, consumers may experience anxiety when they purchase in unmanned stores, which raises the perceived psychological risk (Pappas, 2016). Apart from that, the purchasing experience in unmanned stores may be less engaging and more impersonal, causing consumers unwillingness to enter due to their preference for the assistance of staff. In addition, resistance towards unmanned stores may result from the uncertainty in operating technology that is unfamiliar. Consumers that are less tech-savvy may feel stressed when entering unmanned stores. Customers may exhibit reluctance actions due to psychological risk when they foresee potential problems or are uncertain about their ability to complete a transaction effectively.

2.3 Hypothesis Development

2.3.1 Convenience Towards Resistance

Convenience is not just an option; it's also a need. Consumers expect convenience and will not tolerate terrible or unpleasant experiences when they are using or experiencing something (Azizul et al., 2019). Convenience is explained as the capability of utilizing something with no trouble. The increasing demand from consumers for convenience has been driven by technological advancements and developments (Rasyidah et al., 2024). According to Prasetyo et al. (2021), it reported that convenience is negatively affecting on consumer resistance to use online food delivery service. In the context of unmanned stores, long waits in queues for checkouts are a significant disadvantage of traditional retail. However, this is eliminated in unmanned stores by utilizing mobile payment methods, Internet of Things, RFID sensors and AI-powered payments, which enable transactions without the need for human scanning. A smooth experience is produced by merchandise being automatically identified and processed to digital payment methods, these encourage consumer to visit unmanned store (Park & Zhang, 2022). Consumers get to visit an unmanned store as the advanced technologies provide convenience to consumers, they can make payments by using digital wallets, which guarantees quick transactions and save time for optimal convenience (Ee et al., 2024).

H_1: There is a negative relationship between convenience and consumer resistance towards unmanned stores.

2.3.2 Perceived Enjoyment Towards Resistance

Perceived enjoyment is described as the happiness and pleasure's level that consumers experience when participating in events. Enjoyment is the sensation a consumer receives after experiencing a good or service (Rasyidah et al., 2024).

According to Maria and Sugiyanto (2023) and Basuki et al. (2022), it can determine that perceived enjoyment is negatively affecting on consumer resistance to use shopeepay and online movies. In the context of unmanned stores, unlike traditional retail stores, unmanned stores offer modern technologies to enhance consumers shopping experience. Consumers who are tech-savvy are particularly excited to enjoy and use the AI-powered checkouts and automated payments in unmanned store (Wong, 2023). Consumers may be attracted to visit due to the unique experience of shopping with no staffs and human interactions in the unmanned stores. Aside from that, discreet-experience consumers are free to explore at their own speed, with no staff following, and finishing their payments on their own (Lucas, 2024). For those who prefer little or no social connection, this sensation of independence makes shopping more pleasurable and enjoyable when experiencing unmanned store.

H_2: There is a negative relationship between perceived enjoyment and consumer resistance towards unmanned stores.

2.3.3 Social Influence Towards Resistance

Social influence can be characterized as purposeful or inadvertent interaction that causes a change in another individual's attitudes, beliefs, behaviours or motives (Gass, 2015). According to Gunawan et al. (2023) and Changalima et al. (2024), it is reported that social influence is also negatively affecting consumer resistance to purchase on e-commerce and use generative AI. In the context of unmanned stores, in choosing whether to attempt an innovative purchasing strategy, people often rely on the opinions of friends, family members or peers. These sources have an important influence in affecting people's usage decision (Shah & Asghar, 2023). People have a greater likelihood to be persuaded to explore unmanned stores when initial adapters communicate about their favourable experiences and opinions, such as quick and easy payment methods, and cutting-edge technologies. Since unmanned stores are modern and high-tech, they grab consumers interest through social media that shared by others with positive word-of-mouth. By sharing their

experiences via blogs or videos will stimulate and raise others' interest and awareness, thus encouraging them to try the technology out for themselves. User-generated content that share experiences on social media can increase exposure and adoption rates, particularly among younger which is Generation Z and tech-savvy consumers (Shah & Asghar, 2023). Consumers will be attracted to visit unmanned stores after influencing by the opinion and experience of significant people in their community.

H_3: There is a negative relationship between social influence and consumer resistance towards unmanned stores.

2.3.4 Financial Risk Towards Resistance

The term "financial risk" refers to the possibility of incurring costs for both the product's initial purchase and its subsequent maintenance (Grewal et al., 1994). Past research that examines the connection between risk and advantages with trust and the use of digital rupee in India showed that financial risk impacts the resistance toward adoption of technology (Gupta et al., 2023). Apart from that, Zhao and Khaliq (2024) and Ma et al. (2024) reported that financial risk positively impacting consumer resistance to use. Financial risk plays an important role in affecting the consumer resistance towards unmanned stores. It was because unmanned store relied heavily on automated payment system which was different with traditional stores that provide staff assistance. Due to this, consumers may afraid that when issues occur during their payment process, no one can assist them and may have the potential of loss of money. For example, when there is errors or malfunction of the systems that lead to overcharging to the consumers (Park & Zhang, 2022), consumers may feel challenging to request for refunds and hence lead to consumers' financial loss. Thus, if consumers believe that there is financial risk associated with the unmanned stores, they may most likely resistance to enter unmanned stores to avoid the possibility of loss of money.

H_4: There is a positive relationship between financial risk and consumer resistance towards unmanned stores.

2.3.5 Security Risk Towards Resistance

Security risk is the "potential loss of control over personal information, such as when information about you is used without your knowledge or permission" (Featherman & Pavlou, 2003, p. 455). There were several past studies claimed that consumer resistance to use is positively impact by security risk (Klaver et al., 2021; Ma et al., 2024). In unmanned store, the consumer's reluctance behaviour towards unmanned store is affected by security risk. It was due to that facial recognition system is required before entering the shop. This caused some consumers afraid that their facial data will be steal or misused in illegal activity such as identity theft (Kim et al., 2023). Furthermore, consumers' concern about data breaches and illegal access to financial information have been brought up because unmanned store dependency on digital payment system (Park & Zhang, 2022). This led to consumers reluctance to enter unmanned stores. Consumers resistance to enter unmanned store may be further enhanced if there are issues occurs as they may not know how to seek assistance or report a problem.

H_5: There is a positive relationship between security risk and consumer resistance towards unmanned stores.

2.3.6 Psychological Risk Towards Resistance

Psychological risk is explained as "The risk that may affect self-esteem and self-confidence" (Hong et al., 2018, p. 5). It is also defined as the "potential loss of self-esteem (ego loss) from the frustration of not achieving a buying goal" (Featherman & Pavlou, 2003, p. 5). Previous study showed that psychological risk is positively affecting consumer's reluctance to use (Leong & Koay, 2023). Apart from that, the past study examined that there is positive correlation between psychological risk

and consumer resistance towards online shopping services (Alrawad et al., 2023). In the context of unmanned stores, consumers may perceive psychological risk due to the lack of staff assistance. Less tech-savvy consumers may concern about the process of operating the self-checkout system as they are afraid that they will face difficulties during the payment process. The lack of staff assistance makes them more resistant to enter unmanned stores as they worried about, they unable to solve the problem if there occurs of technical issues (Lin, 2022). Moreover, they concern that they unable to seek for assistance if there is any confusion or payment errors. Other than that, consumers may be resistant towards unmanned stores due to the lack of human interaction. It was due to some consumers may prefer to go for traditional stores that provide interaction with staffs who can provide suggestions and assistance to consumers.

H_6: There is a positive relationship between psychological risk and consumer resistance towards unmanned stores.

2.4 Research Framework

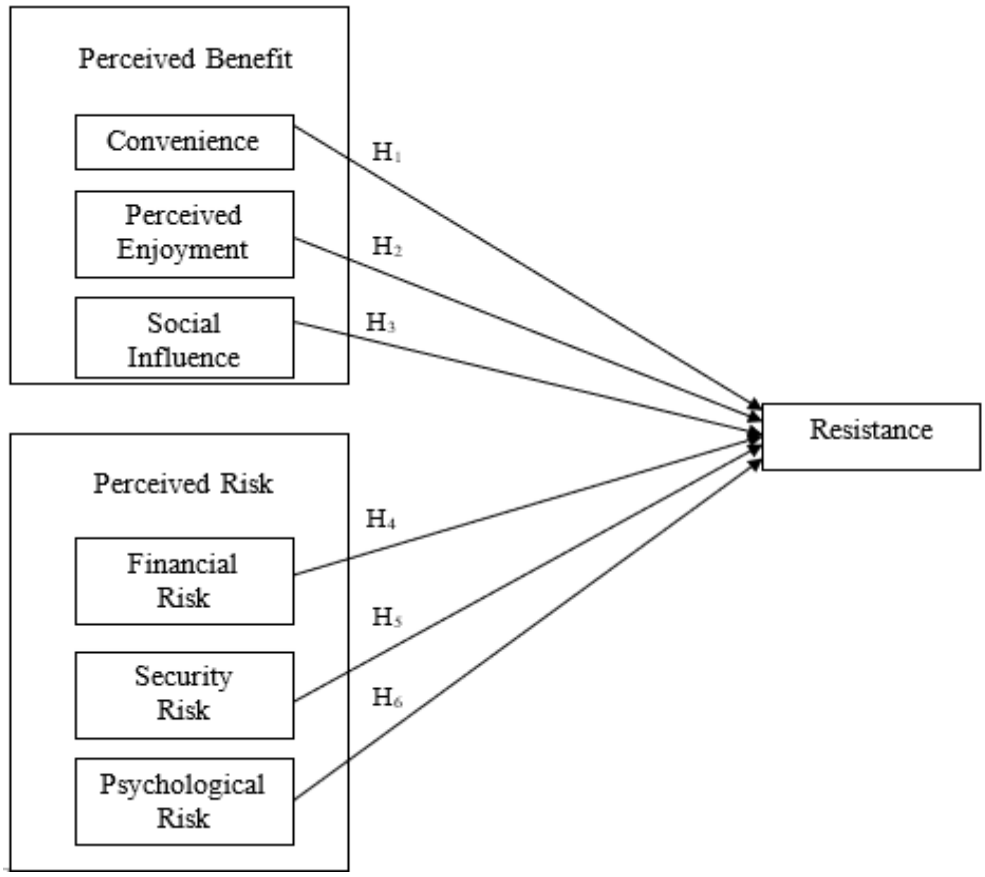

Figure 2.1

Figure 2.1 above shows the research framework used in this research that combining theories which are uses and gratification theory and perceived risk theory. It is to examine the relationship between the six independent variables and consumer resistance towards unmanned stores. It includes six independent variables which are three perceived benefits such as convenience, perceived enjoyment, social influence; and three perceived risks such as financial risk, security risk and psychological risk, that positively and negatively affect the dependent variable which is consumer resistance towards unmanned stores.

CHAPTER 3 METHODOLOGY

3.0 Introduction

This section concentrates on research design, population and sampling procedures, data collection method, variables and measurements, and data analysis technique for the study.

3.1 Research Design

The research's purpose is to investigate the relationship between uses and gratification factors and perceived risk factors with consumer resistance towards unmanned store. Cross-sectional research design is used in this research because it allows data to be gathered from respondents all at once (Wang & Cheng, 2020). Cross-sectional research design can be completed more rapidly and at a lesser expense than longitudinal research (Wang & Cheng, 2020). This enables researchers to take an immediate view of a population, which allows for the examination of factors that affect consumer resistance towards unmanned store easier than longitudinal research. The study's unit of analysis is mobile users who have visited unmanned store regardless of whether they have purchased before.

Survey is chosen as preferred type of data collection method because it allows researchers to distribute and collect from a diverse group of people, yielding more generalized results (Jones et al., 2013). This diversity can allow for a greater spectrum of data to be gathered from a varied group, which can make the research more pertinent and valuable for comprehending consumer resistance towards unmanned stores. Survey is intended to obtain significant quantities of data in an efficient manner. Researchers can acquire information within short periods of time on demographics, behaviours and preferences about unmanned stores by using a well-organized survey (Jones et al., 2013).

3.2 Population and Sampling Procedures

3.2.1 Target Respondents

Table 3.1

Summary of Unmanned Store Locations in Malaysia

Area	Amount	Percentage (%)
Klang Valley	56	87.5
Perak	4	6.25
Negeri Sembilan	2	3.13
Pahang	2	3.13
Total	**64**	**100**

Source: Outlet (2025); Mondo Grocery Sdn Bhd (2023).

According to Table 3.1, there are 87.5% of unmanned stores are located at Klang Valley area which is the highest number of unmanned stores. Therefore, sampling location for this research will focus on Klang Valley. The target population is mobile users who have visited unmanned store regardless of whether they have purchased before in Klang Valley area. The judgements on the positive and negative factors of unmanned stores cannot be formed unless they have entered the unmanned stores previously. Hence, individuals who have visited before, regardless of purchase is requires for the study. This guarantees that the respondents have better knowledge and have gone through unmanned stores. Individuals without such

experiences are unable to provide appropriate opinions about their intention to adopt or resist unmanned stores. Apart from that, mobile users are chosen as unmanned store rely heavily on mobile payment apps to pay for the products purchased such as Touch N Go, GrabPay and WechatPay (Park & Zhang, 2022). Mobile users are more probable to engage with unmanned stores as they tend to have higher technological capability. Hence, to provide more precise and relevant insights based on the respondents' experiences, emphasizing on mobile users ensures that they have direct access to and more familiar with the machines used in unmanned stores.

3.2.2 Sampling

Sampling is used because data collection from whole population is not feasible and it would be highly expensive and lengthy to gather data for research study (Makwana et al., 2023). Methods for sampling are vital in research and analysis of data as it allows researchers to make relevant conclusions and produce insights about huge populations by reviewing and analysing a smaller group of respondents (Makwana et al., 2023). In this context, the method of sampling is essential in examining the consumer resistance towards unmanned stores to assure the result of this research can reflect the opinions of mobile users in Klang Valley appropriately. A well-chosen sample which includes the mobile users in Klang Valley that have visited unmanned stores previously would accurately represent and improve the external credibility and generalisability of the results (Ahmed, 2024).

3.2.3 Sampling Techniques

The target population is mobile users who have visited unmanned store regardless of whether they have purchased before in Klang Valley. Since that there is no data or list that is related to this context, sampling frame is not available, so nonprobability sampling technique is utilized (Galloway, 2005). Nonprobability sampling techniques which is judgemental sampling is used as it allows to gather data that focus on individuals that have specific characteristics (Ahmed, 2024).

Screening questions that based on the respondents' experience of unmanned stores such as "Are you currently residing at Klang Valley?", "Have you visited an unmanned store before?", "Have you purchased at an unmanned store before?" and "Do you use mobile payment?" are used in this research for recruiting respondents. This can assure that the data obtained only from mobile users who have visited unmanned store before in Klang Valley regardless of whether they have purchased since this study aimed to investigate the resistance of consumers towards unmanned stores. The research can produce more precise understandings for factors affecting consumer resistance towards unmanned stores by restricting the populations to mobile users who have visited unmanned store regardless of whether they have purchased before in Klang Valley (Palinkas et al., 2015).

3.2.4 Sample Size

Sample-to-variable ratio is used to determine the sample size for the research. This means that the number of variables determine sample size in research (Memon et al., 2020). According to Hair et al (2018), a minimum ratio of 5:1 is needed for research. However, ratio of 20:1 is preferable for achieving reliable results. Hence, this research is using a ratio of 20:1, which is twenty respondents for one independent variable. Since there are six independent variables in this research, the sample size is calculated as below (Rahman, 2023):

$$Sample\ Size = 6 \times 20 = 120\ respondents$$

Thus, the minimum sample size for this study is 120 respondents.

3.3 Variables and Measurements

The measurement items for this research are shown in Appendices 1. There are two sections for the questionnaire. Section A of the questionnaire includes demographic items like age, gender and educational qualification. There are four screening items which are "Are you currently residing at Klang Valley?", "Have you visited an unmanned store before?", "Have you purchased at an unmanned store before?" and

"Do you use mobile payment?" are asked in the questionnaire to analyze and understand consumers' preferences towards unmanned store.

Section B includes questions that are shown in Appendices 1. 7-point Likert scale is emplyed in the questionnaire. Strongly Disagree = 1, Disagree = 2, Somewhat Disagree = 3, Neutral = 4, Somewhat Agree = 5, Agree = 6, Strongly Agree = 7. Language used in the questionnaire is in English.

3.4 Data Collection Method

3.4.1 Pre-test

Pre-test is an essential and crucial step in ensuring the standard of the questionnaire, particularly once it has been adapted for an initial group of people. Before proceeding to entire study, pre-test can assist in identifying and correcting any issues with the survey's phrasing and execution. It allows researchers to save time and money later on while also ensures that the final version of questionnaire is appropriate for the intended respondents (DuBay & Watson, 2019). In this research, two academic specialists are asked to go through the questionnaire to make sure that all questionnaire items are suitable and easy to understand by respondents. After the pre-test, there are some minor issues regarding the grammar mistake in sentence that we need to correct.

3.4.2 Pilot Test

A pilot test with total of 30 respondents has been conducted before the actual data collection procedures and after getting approval from university. This is to guarantee the accuracy and credibility of the data obtained as previous researchers had emphasized the significance of pilot test (Armutcu et al., 2024; Gani et al., 2020). Following that, reliability test was performed to assess the internal consistency of measurement items that was used in this research. According to

Wells & Wollack, (2003), a reliable level of consistency among the items is shown when the Cronbach's alpha is greater than 0.7. Table 3.2 below demonstrates the reliability test's result. The value ranges from 0.723 to 0.947, therefore it is well concluded that all the variables exhibit high internal consistency, which can be considered trustworthy for further research.

Table 3.2

Result of Reliability

Variable	Cronbach's Alpha	Number of Items
C	0.821	4
PE	0.898	3
SI	0.911	3
FR	0.841	3
SR	0.826	3
PR	0.723	3
R	0.947	4

Notes:

a. C = Convenience; PE = Perceived Enjoyment; SI = Social Influence; FR = Financial Risk; SR = Security Risk; PR = Psychological Risk; R = Resistance

Source: Developed for this research

3.4.3 Data Collection Procedure

Data is collected for around three weeks which are from 12 June 2025 to 1 July 2025 after getting the ethical approval from the university. The survey has been distributed physically in Klang Valley area. Data from respondents through survey method are collected at unmanned stores that locate at Klang Valley areas. A total of 300 set of questionnaires are physically distributed in front of each three unmanned stores that located in Klang Valley areas which are Panas Express Lalaport, Panas Express Low Yat and Panas Express KL Trillion. According to Siaw (2021), these three locations are chosen because they are in high traffic regions and movement of mobile users, which increases the likelihood of obtaining a varied range of respondents who have visited unmanned store in Klang Valley. They draw a diverse range of consumers due to their location in Kuala Lumpur's major shopping and business areas. This includes office workers, travellers, and those who have adapted to use modern technology. Distributing online questionnaires by using person-to-person method provides opportunities for simple explanations and encouragement, which can boost the response rates.

3.5 Data Analysis Technique

3.5.1 Descriptive Analysis

Descriptive statistic is necessary for collecting and describing data in an appropriate method. It is an important initial stage in the process of research because it establishes the groundwork for more sophisticated analyses before conducting inferential analysis (Kaur et al., 2018). Researchers can acquire a better knowledge of respondents' general characteristics like age, gender, race, and the frequency of visiting unmanned stores by conducting descriptive analysis. In this research, descriptive analysis assists to explore the number of respondents had use unmanned stores before and how their perspectives change across demographic categories. In

general, descriptive analysis provides useful insights about consumers preferences and resistance behaviour towards unmanned stores.

3.5.2 Assumption Testing

Many statistical techniques for analyzing data, such as regression, t-test, correlation and variance analysis, presume normality. To make meaningful conclusions, the rule of normality should be followed no matter the size of sample. Various statistical tests require a normality check because normal data is an inherent assumption in parametric testing. Shapiro-Wilk test is better suitable for small sample sizes ($n<50$), while Kolmogorov–Smirnov test is applied for large sample sizes ($n \geqslant 50$). For both tests, the null hypothesis says that the data is extracted from a population with a normal distribution. The null hypothesis is considered valid and the data is characterized as normally distributed when $P>0.05$ (Mishra et al., 2019).

Cronbach's alpha coefficient for reliability test can assess the internal coherency and accuracy of a set of questionnaires. Apply this statistic to determine whether an item's collection consistently evaluates the same attribute. Cronbach's alpha uses a standardized 0 to 1 scale to evaluate the level of agreement. A larger number implies more agreement between items. This statistic allows them to evaluate the tool's functionality during the design phase before completely using it. It is an indicator of dependability. Researchers typically benchmark Cronbach's alpha at 0.7. The items are significantly equivalent at this level and above to imply the measure's reliability (Frost, 2022).

Multicollinearity indicates that the independent variables have linear connections with one another. It occurs when many components in the model of regression exhibit a significant relationship with the dependent variable as well as with one another. It also may cause less reliable probability evaluations for the predictors and a longer confidence interval. To put it another way, multicollinearity model outcomes might not be trustworthy. The collinearity of independent variables can be checked with the use of Pearson correlation coefficient. There may be

collinearity if the linked variables have a greater correlation coefficient value. In short, if the absolute value of the Pearson correlation coefficient is close to 0.9, collinearity is probably present (Shrestha, 2020).

3.5.3 Inferential Analysis

Multiple linear regression model is used for inferential analysis as it is widely used to examine how a dependent variable is impacted by at least two independent variables (Uyanık & Güler, 2013). It is an extension to the simple regression model which uses single-variable. It is employed to investigate the relationship between the positive and negative variables with the dependent variables which is resistance towards unmanned stores.

CHAPTER 4 DATA ANALYSIS

4.0 Introduction

This section provides an in-depth description of the findings from the data analysis, which encompasses descriptive analysis, reliability test, normality test, and inferential analysis.

4.1 Descriptive Analysis

Table 4.1

Demographic

Characteristics	Description	Count	Percentage (%)
Gender	Female	213	71.7
	Male	84	28.3
Age	21-30	274	92.3
	31-40	16	5.4
	41-50	5	1.7
	51-60	2	0.7

	Above 60	0	0
Education	Bachelor or Professional Qualification	193	65.0
	Master or PhD	5	1.7
	Primary School	4	1.3
	SPM/O-Level	20	6.7
	STPM/Matriculation/UEC/A-Level/Foundation/Diploma	75	25.3
Are you currently residing at Klang Valley?	Yes	297	100
	No	0	0
Have you visited an unmanned store before?	Yes	297	100
	No	0	0
Have you purchased at an unmanned store before?	Yes	297	100
	No	0	0

Do you use mobile payment?	Yes	297	100
	No	0	0

Sources: Developed for this research

With a total of 297 respondents, Table 4.1 displays descriptive analysis of the respondents, which includes 213 (71.7%) females and 84 (28.3%) males. There are 274 (92.3%) respondents who are in the age range between 21 to 30, while 16 (5.4%) respondents who are in the age range between 31 to 40. Also, 5 (1.7%) respondents are in the age range between 41 to 50, while 2 (0.7%) respondents are in the 51 to 60 age range.

Majority of the respondents are from Bachelor or Professional qualification, which are 193 (65%) respondents. Moreover, 75 (25.3%) respondents have STPM / Matriculation / UEC / A- Level / Foundation / Diploma, while 20 (6.7%) of them have SPM / O-Level. There are 5 (1.7%) respondents who are Master or PhD, while 4 (1.3%) are primary school.

In summary, the target respondents are mostly young, they have higher levels of knowledge, they are currently residing at Klang Valley, they have been visiting and purchasing at unmanned stores before, and they are tech-savvy as they use mobile payment. Thus, they have experience and knowledge to complete the survey.

4.2 Reliability Test

Table 4.2

Result of Reliability

Variable	Cronbach's Alpha	Number of Items
C	0.868	4
PE	0.911	3
SI	0.923	3
FR	0.860	3
SR	0.920	3
PR	0.839	3
R	0.945	4

Notes:

a. C = Convenience; PE = Perceived Enjoyment; SI = Social Influence; FR = Financial Risk; SR = Security Risk; PR = Psychological Risk; R = Resistance

Source: Developed for this research

According to Frost (2022), Cronbach's alpha more than 0.7 shows the items are adequately parallel to imply that the measure is reliable. Table 4.2 above shows that Cronbach's alpha for variables C, PE, SI, FR, SR, PR and R are reported as 0.868, 0.911, 0.923, 0.860, 0.920, 0.839 and 0.945 respectively. Thus, all the 7 variables are reliable and acceptable as they are more than 0.7.

4.3 Normality Test

Table 4.3

Normality Test

Variable	Skewness	Kurtosis
C1	-0.925	0.729
C2	-0.567	0.279
C3	-0.695	0.427
C4	-0.721	0.437
PE1	-0.874	1.121
PE2	-0.756	0.603
PE3	-0.612	0.073
SI1	-0.469	-0.221
SI2	-0.454	-0.268
SI3	-0.555	-0.247
FR1	-0.414	-0.722
FR2	-0.661	-0.046

FR3	-0.493	-0.490
SR1	-0.388	-0.577
SR2	-0.549	-0.271
SR3	-0.551	-0.284
PR1	-0.623	-0.209
PR2	-0.794	-0.318
PR3	-0.255	-0.885
R1	-0.183	-0.913
R2	-0.044	-0.986
R3	-0.074	-1.096
R4	-0.059	-1.138

Notes:

a. C = Convenience; PE = Perceived Enjoyment; SI = Social Influence; FR = Financial Risk; SR = Security Risk; PR = Psychological Risk; R = Resistance

Source: Developed for this research

The skewness and kurtosis values for the variable items are displayed in Table 4.3. According to Ogan and Üzeyir Yasak (2022), a normally distributed population is one in which the skewness and kurtosis values fall within the range of +2 to -2. Table 4.3 shows that skewness ranges from -0.925 to -0.044 and kurtosis ranges from -1.138 to 1.121. As a result, each variable is considered as normally distributed.

4.4 Inferential Analysis

4.4.1 Pearson Correlation Coefficient

Table 4.4

Pearson Correlation Coefficient Analysis

Variables	C	PE	SI	FR	SR	PR
C	1.000					
PE	0.799**	1.000				
SI	0.674**	0.670**	1.000			
FR	0.443**	0.465**	0.476**	1.000		
SR	0.489**	0.502**	0.442**	0.703**	1.000	
PR	0.451**	0.449**	0.445**	0.706**	0.762**	1.000

**Correlation is significant at the 0.01 level (2-tailed).

Notes:

a. C = Convenience; PE = Perceived Enjoyment; SI = Social Influence; FR = Financial Risk; SR = Security Risk; PR = Psychological Risk; R = Resistance

Source: Developed for this research

The correlation coefficients for each pair of variables falls between 0.442 to 0.799 which are less than 0.9, as shown in Table 4.4 above. Correlation coefficient values larger than 0.9 may indicate the presence of multicollinearity, as stated by El-Fallah & El-Sallam (2011). According to Table 4.4, all of the values are independent of each other and do not surpass 0.9, eliminating the possibility of multicollinearity.

4.4.2 Multiple Linear Regression

Table 4.5

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.704	0.495	0.485	1.20882

Notes:

a. Predictors: (Constant), PR, SI, PE, FR, SR, C

b. Dependent Variable: R

Source: Developed for this research

According to Table 4.5, R Square value is reported as 0.495. Therefore, 49.5% of the IV's were able to explain the DV.

Table 4.6

ANOVA Test

Model		Sum of Squares	df	Mean Square	F	Sig
1	Regression	415.809	6	69.301	47.426	<0.001[b]
	Residual	423.762	291	1.461		
	Total	839.571	297			

a. Dependent Variable: R

b. Predictors: (Constant), PR, SI, PE, FR, SR, C

Source: Developed for this research

The p-value is less than 0.001, and the F-value is 47.426 as shown in Table 4.6. According to Kwak (2023), a p-value below 0.05 is deemed to be statistically significant.Thus, C, PE, SI, FR, SR and PR show variation in the dependent variable.

Table 4.7

Coefficient

Model	Unstandardized Coefficients	Standardized	t	Sig	Collinearity Statistics

				Coefficients				
		B	**Stf. Error**	**Beta**			**Tolerance**	**VIF**
1	(Constant)	0.836	0.377		2.218	0.027		
	C	-0.260	0.112	-0.170	-2.316	0.021	0.321	3.113
	PE	-0.289	0.106	-0.201	-2.722	0.007	0.319	3.131
	SI	0.394	0.077	0.313	5.143	<0.001	0.471	2.124
	FR	0.318	0.078	0.265	4.093	<0.001	0.417	2.400
	SR	-0.045	0.087	-0.037	-0.519	0.604	0.346	2.891
	PR	0.618	0.086	0.499	7.148	<0.001	0.357	2.798

Notes:

a. C = Convenience; PE = Perceived Enjoyment; SI = Social Influence; FR = Financial Risk; SR = Security Risk; PR = Psychological Risk; R = Resistance

Source: Developed for this research

Table 4.7 demonstrates that the multiple regression has the following formula:

R= 0.836 - 0.260 (C) - 0.289 (PE) + 0.394 (SI) + 0.318 (FR) - 0.045 (SR) + 0.618 (PR)

According to Kanda (2025), there is no multicollinearity concern if the VIF is less than 5 and the tolerance value is more than 0.1. Table 4.7 demonstrates that all variables have tolerance values greater than 0.1 and VIF values lower than 5, thus indicating that there is no multicollinearity.

CHAPTER 5 DISCUSSION, CONCLUSIONS AND IMPLICATIONS

5.0 Introduction

This section discussed the key findings from the research and summary of the findings. To aid future research, both the academic and practical implications, and the limitation and suggestions are addressed.

5.1 Summary of Major Findings

Table 5.1

Summary of The Results of the Hypothesis Testing

Hypothesis	Significance	Result
H_1: There is a negative relationship between convenience and consumer resistance towards unmanned stores.	Beta= -0.170 P-value=0.021	Supported
H_2: There is a negative relationship between perceived enjoyment and consumer resistance towards unmanned stores.	Beta= -0.201 P-value=0.007	Supported
H_3: There is a negative relationship between social influence and consumer resistance towards unmanned stores.	Beta= 0.313 P-value=<0.001	Not Supported

H_4: There is a positive relationship between financial risk and consumer resistance towards unmanned stores.	Beta= 0.265 P-value=<0.001	Supported
H_5: There is a positive relationship between security risk and consumer resistance towards unmanned stores.	Beta= -0.037 P-value=0.604	Not Supported
H_6: There is a positive relationship between psychological risk and consumer resistance towards unmanned stores.	Beta= 0.499 P-value=<0.001	Supported

Source: Developed for this research

Table 5.1 above shows the result of hypothesis testing. H_1, H_2, H_4 and H_6 are supported, while H_3 and H_5 are not supported.

5.2 Discussion of Major Findings

5.2.1 Discussion of Relationship between Convenience and Consumer Resistance towards Unmanned Stores.

Based on Table 5.1 above, the result of the H_1 hypothesis testing is supported (negative and significant). This is in accordance with the past study by Prasetyo et al. (2021), it reported that convenience is negatively affecting consumer resistance. As a result, it demonstrates that convenience negatively affects consumer resistance towards unmanned stores. In the context of unmanned stores, the modern technologies like Internet of Things, mobile payments method and RFID sensor which provide convenience to consumers without the need for human scanning

when making their transactions at the checkout counter (Park & Zhang, 2022). Therefore, these technologies encourage consumers to visit unmanned stores.

5.2.2 Discussion of Relationship between Perceived Enjoyment and Consumer Resistance towards Unmanned Stores.

The result of the H_2 hypothesis testing is supported (negative and significant). This is aligned with past studies by Maria and Sugiyanto (2023) and Basuki et al. (2022), which determined that perceived enjoyment is negatively affecting consumer resistance. Thus, it shows that perceived enjoyment is negatively affecting consumer resistance towards unmanned stores. In the context of unmanned stores, tech-savvy consumers are particularly excited to enjoy and try the AI powered checkout in unmanned stores (Wong, 2023). The discreet experience consumers also free to explore unmanned store at their own speed with no staff looking and following, this makes the shopping experience of consumers in unmanned store more enjoyable (Lucas, 2024).

5.2.3 Discussion of Relationship between Social Influence and Consumer Resistance towards Unmanned Stores.

The result of the H_3 hypothesis testing is not supported (positive and significant). This is not aligned with past studies by Gunawan et al. (2023) and Changalima et al. (2024), which reported that social influence is negatively affecting consumer resistance. Thus, social influence does not affect consumer resistance towards unmanned stores. In the context of unmanned stores, consumers have a greater likelihood to be swayed by unfavourable feedback that expressed by significant people. For example, when there is an error of the checkout systems that lead to overcharging to the consumers, they may feel challenging to request for refunds and hence lead to financial loss (Park & Zhang, 2022). Then, the customers might share this bad experience to some of their family members, friends or peers. They may be

deterred from visiting unmanned store after listening about the negative experiences, especially less tech-savvy customers.

5.2.4 Discussion of Relationship between Financial Risk and Consumer Resistance towards Unmanned Stores.

With a significant value of less than 0.001 as shown in Table 5.1, the result of the hypothesis testing for H_4 is supported, demonstrating that financial risk has significant influence the consumer resistance towards unmanned stores. Past studies by Zhao and Khaliq (2024) and Ma et al. (2024) are consistent with this. Zhao and Khaliq (2024) highlighted that financial risk which included potential monetary losses is influencing consumers' intention to adopt fintech. Similarly, Ma et al. (2024) found that risk plays a role in customers' decision-making process when it comes to global online purchases. The perception of financial risk seems particularly relevant in the context of unmanned store. Digital payments are the main payment method used in unmanned stores. These systems may susceptible to malfunctions and mischarges. Customers might worry about receiving an inaccurate charge or inadequate payment confirmation. Furthermore, the absence of prompt staff support might make it challenging to address payment problems, which further worsen consumers' concern. Consequently, consumers might be resistance to enter the store to avoid these concerns.

5.2.5 Discussion of Relationship between Security Risk and Consumer Resistance towards Unmanned Stores.

In contrast to the assumptions, the research findings show that the significant value for this hypothesis is 0.604, which is not supported. This implies that security risk does not significantly influence consumer resistance towards unmanned stores. This contradicts the prior study by Klaver et al. (2021), which identified a negative link between security risk and the intention of employing mHealth. This could be explained by the likelihood that consumers might not completely understand how

security threats, including improper use of face recognition data, appear in unmanned stores. The risk may not significantly impact the consumers' behavior if it is not visible and instantaneous. Moreover, it is likely that other perceived risks, like financial and psychological risks are more obvious and apparent that privacy of their data. Thus, although the consumers might be concerned about data privacy, it will not strongly affect their resistance to use unmanned stores.

5.2.6 Discussion of Relationship between Psychological Risk and Consumer Resistance towards Unmanned Stores.

The hypothesis is supported, as indicated by the results of the hypothesis testing, which show a significant value lower than 0.001. This indicated that psychological risk influence consumer resistance towards unmanned stores significantly. This is consistent with the previous study by Leong and Koay (2023) which reported that psychological risk influences the consumers' attitude and behavior negatively. In the context of unmanned stores, unfamiliar user interface, lack of staff support, or fear of making mistakes during checkout may contribute to psychological risk. In addition, the unmanned store lacks immediate staff assistance, which can evoke the feelings of uncertainty. For less tech-savvy customers or first-time users of the unmanned store, this emotional discomfort will be more noticeable, and this may lead them to resist to enter unmanned store.

5.3 Implication of Study

5.3.1 Theoretical Implication

This study provides critical theoretical implication through the combination use of theories such as UGT (convenience, perceived enjoyment and social influence) and PRT (financial risk, security risk and psychological risk), which broaden the understanding of both positive and negative factors affect consumer resistance

towards unmanned stores. It opposed to other past research incuding the research by Aljarrah et al. (2016), Talwar et al. (2023) and Kaur et al. (2020) that concentrated solely on technology acceptance model or innovation resistance theory towards technology field, which just focus on single factor. The research acknowledges that consumers look for UGT factors, which impact their opinions and behaviours towards unmanned stores. Apart from that, the addition of PRT enables researchers to know why consumers feel worried and unsafe about visiting unmanned stores. As a result, the uniqueness of our study is dual-theory integration, which can offer a meticulous framework for understanding consumer resistance towards unmanned stores.

5.3.2 Practical Implication

From a practical standpoint, the decision makers or stakeholders in the unmanned stores sector could gain an array of useful insights from the outcomes of this research. First, the research findings indicate that financial risk contributes significantly to consumer resistance towards unmanned stores. Thus, the decision makers should address the consumers' concerns proactively by conveying their payment security procedures to their consumers. Customers may be reassured with the support of clear refund or complaint procedures and safe payment pathway. In addition to financial risk, this study also highlights the significance of psychological risk in influencing consumer resistance. Thus, the stakeholders should offer hybrid support in unmanned stores. For instance, displaying basic instructional videos or providing real-time assistance via live chat or video conversations. With this support, the first-time users that run into technical issues or feel unclear on how to operate the system independently will experience less anxiety and confusion. By mitigating these risks, the merchants can gain more trust which ultimately encourages consumer intention to visit unmanned stores (Yadav et al., 2024).

Apart from that, by understanding more about how technological gratification and hedonic gratification affect the consumers, the unmanned store merchants could develop more efficient policies and strategies to approach and gain more customers.

For instance, the decision makers of unmanned stores could develop strategies that maximize the system performance such as minimizing the system errors to attract consumers that are primarily driven by technological gratification (convenience) (Chen, 2022). Other than that, the research findings reveal that hedonic gratification (perceived enjoyment) has significantly influenced consumer resistance. Hence, unmanned stores' decision makers may improve the customers satisfaction that reduces consumers' resistance by adding interactive features such as gamified elements and matching the marketing tactics with the fundamental consumers' motives.

5.4 Limitation of Study and Recommendation for Future Research

The limitation is lack of generalizability which resulting from the sample's demographic makeup in this research. Since most respondents fall between the ages of 21 to 30 years old which was 92.3%, this sample may not fully reflect the levels of resistance of other age groups, especially the older consumers who may have varying levels of technological familiarity and willingness to interact with unmanned store operations. As a result, this may be less generalizable to large segments of populations. Hence, to reflect more varied viewpoints and enhance the study's broad external validity, future research may consider including a more diverse demographic group. With these, the results will be more generalizable as a more comprehensive understanding about the consumer resistance over different age groups will be obtained.

5.5 Conclusion

In a nutshell, based on the result of hypothesis testing, four out of six of the independent variables have achieve the research objectives. Furthermore, both theoretical and managerial implications were looked at to offer a more in-depth

understanding to future researchers. Finally, this research covered the limitations and made recommendations to help future researchers to investigate comparable ideas and to improve their research quality.

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APPENDICES

Appendix 1

Sources of Measurement Items

Variables	Measurement items	Sources
Convenience	The unmanned store I use is open 24 hours and easily accessible to anyone at any time.	(Sin-Bok, 2024)
	I believe the unmanned store I use can gain greater economic benefits compared to other stores.	
	It is more convenient to browse at an unmanned store I use due to the absence of onlookers and it has a larger space compared to other stores.	
	Using the unmanned store seems to shorten my shopping and payment time compared to traditional stores.	
Perceived enjoyment	Shopping at an unmanned store is fun.	(Szabó-Szentgróti et al., 2023)
	Shopping at an unmanned store is enjoyable.	
	Shopping at an unmanned store is entertaining.	

Social influence	People who are important to me think I should use an unmanned store.	(Changalima et al., 2024)
	People who influence my behavior believe that I should use an unmanned store.	
	People whose opinions I value prefer me to use an unmanned store.	
Financial risk	I may lose money due to transaction failures.	(Yadav et al., 2024)
	I may lose money due to careless mistakes.	
	Using unmanned stores would lead me to potential fraud of my payment account.	
Security risk	I am concerned about the privacy of my personal information while purchasing from unmanned store.	(Al-kfairy et.al., 2025)
	I worry about potential data breaches in the unmanned store.	
	I feel insecure about sharing my personal information in unmanned store.	
Psychological risk	Using an unmanned store may cause unnecessary tension, such as worry about operating errors.	(Yang et al., 2015)

	A system breakdown in unmanned store could cause unwanted anxiety and confusion.	
	Using an unmanned store may make me feel uncomfortable.	
Resistance	I am reluctant to use an unmanned store.	(Liu et al., 2021)
	I feel uneasy when I use an unmanned store.	
	I feel dissatisfied when using unmanned store.	
	I will try not to use an unmanned store.	

Source: Developed for this research