

INVESTIGATING THE FACTORS OF ONLINE PAYMENT TECHNOLOGY IN
INFLUENCING CONSUMER PURCHASE BEHAVIOR

INVESTIGATING FACTORS OF ONLINE PAYMENT
TECHNOLOGY IN INFLUENCING CONSUMER
PURCHASE BEHAVIOR

CHUA JUN QUAN

BACHELOR OF INTERNATIONAL BUSINESS
(HONOURS)

UNIVERSITI TUNKU ABDUL RAHMAN

FACULTY OF ACCOUNTANCY AND MANAGEMENT
DEPARTMENT OF INTERNATIONAL BUSINESS

MAY 2024

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BY

CHUA JUN QUAN

A final-year project submitted in partial fulfillment of the
requirements for the degree of

BACHELOR OF INTERNATIONAL BUSINESS
(HONOURS)

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DECLARATION

I hereby declare that:

- (1) This undergraduate FYP is the end result of my own work and that due knowledge has been given in the references to ALL sources of information be they printed, electronic, or personal.
- (2) No portion of this FYP has been submitted in support of any application for any other degree or qualification of this or any other university, or other institutes of learning.
- (3) Sole contribution has been made by me in completing the FYP.
- (4) The word count of this research report is 14493 words.

Name of student:

Student ID:

Signature:

Chua Jun Quan

2002564



Date: 30 April 2024

Acknowledgment

First of all, I would like to convey my sincere gratitude and appreciation to my supervisor, Dr Komathi a/p Munusamy, for her persistent advice, support, and encouragement throughout the process of completing this Final Year Project, despite her busy schedule. Other than that, I would also like to express my gratitude for guiding and providing feedback on my work based on her knowledge and mentorship which also shaped my work's direction and integrity. I would like to express my gratitude for accepting me as your supervisee and also continue to advise and tutor my work throughout the two semesters.

On the other hand, a special acknowledgment goes to my family and friends who supported and motivated me during this research. Specifically, I am indebted to my family members for their inspiration, unwavering encouragement, and understanding during the journey. Their steadfast understanding has shown a continuous source of support for me. Furthermore, I also extend my gratitude to my friends, particularly a few coursemates and seniors, who constantly supported and assisted me throughout the conduct of the research study.

Last but not least, I would like to express my heartfelt gratitude and appreciation for everyone who has participated and contributed their ways and kindly given their time and efforts to my Final Year Project. Their input has been crucial for the breadth and reliability of the study, and thus, making this research study able to be completed in the time frame given.

Dedication

I would like to dedicate this research project to my family members, who have shown their unwavering support and understanding throughout the journey of this project. Your unwavering support has been a continuous source of inspiration, which made me keep going and achieve my goals during this journey of study.

Other than that, I would also like to dedicate this research project to my supervisor, Dr. Komathi a/p Munusamy, who helped me to overcome obstacles and also showed her guidance and expertise. Your feedback and advice are priceless and invaluable, and I am also appreciative of all your time and work in helping and guiding me throughout the two semesters.

Finally, I would also like to dedicate this research project to my coursemates and seniors. Your help and support are valuable to me and your encouragement has helped me to handle and overcome the obstacles. Your presence has made this path to become more richer and more meaningful.

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LIST OF ABBREVIATION

CPB	Consumer Purchase Behavior
FYP	Final Year Project
PSC	Privacy and Security Concerns
PT	Perceived Trustworthiness
PU	Perceived Usefulness
SPSS	Statistical Package for the Social Science
TAM	Technology Acceptance Model
TRA	Theory of Reasoned Action
UED	User Experience Design
UTAR	Universiti Tunku Abdul Rahman

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PREFACE

A research project titled “Investigating the Factors of Online Payment Technology in Influencing Consumer Purchase Behavior” is conducted as a part of my degree journey in Bachelor of International Business (Honours) at Universiti Tunku Abdul Rahman (UTAR). This project will explore the complex relationship among several variables, including perceived trustworthiness, privacy and security concerns, perceived usefulness, and user experience design, which influence consumers’ viewpoint towards their purchase behavior.

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ABSTRACT

The rapid advancement of technology has changed and impacted people's ways of living. In light of the increasingly technologically advanced and networked society, it is critical to comprehend the variables impacting how the consumer behaves when it comes to online payment technologies. In this case, this research project aims to investigate the factors of online payment technology in influencing consumer purchase behavior in terms of perceived trustworthiness, privacy, and security concerns, perceived usefulness, and user experience design of the online payment technology. To ensure the reliability of the research, a total of 400 respondents were collected through convenience sampling methods. The survey questionnaire is designed based on the perspective of perceived trustworthiness, privacy and security concerns, perceived usefulness, and user experience design of online payment technology, which is also sent to the respondents by using social media platforms. After all, Microsoft Excel and SPSS were utilized to perform the data analysis based on the responses from the respondents. Additionally, the findings of the result indicated that all of the independent variables (Perceived Trustworthiness, Privacy, and Security Concerns, Perceived Usefulness, and User Experience Design) significantly predict consumer purchase behavior. As such, the present results of the study also provided additional insights for future researchers and policymakers in developing possible relationships between the independent variables and possible changes in consumer purchase behavior.

Chapter 1 : Research Overview

1.0 Introduction

With the increase in the development of various digital technologies in today's rapidly evolving digital environment, online payment technology has become an important way for consumers to conduct financial transactions and purchases of goods and services in daily life. It has seen a sharp rise in the development and availability of online payment technology all around the world. Other than providing efforts that aimed at expanding financial inclusion in developing nations, the advancement and availability of online payment technology also brought a lot of conveniences and benefits to the consumer's lives. The continuous increase in the number of users of online payment technology has shown that the adoption and development of online payment technology are becoming a new trend in the digital era, which not only results in the growth in the revenues of payment technology companies but also contributes to the growth of the country's economy. From the introduction of credit cards to the widespread use of digital wallets, mobile payment apps, and contactless payment, online payment technology has revolutionized the way individuals conduct financial transactions and make payments. Due to this circumstance, the purchasing habits of consumers have fundamentally changed, which has had significant implications for business and the country's economy. Thus, this Final Year Project (FYP) main objectives will be to explore and understand the factors of the development of online payment technology in influencing consumers purchasing habits in the digital era.

1.1 Research Background

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The research background will give a brief overview of the general outlines of the research study's area and field, highlighting the significance and relevance of the variables for the topic.

1.1.1 Online Payment Technology

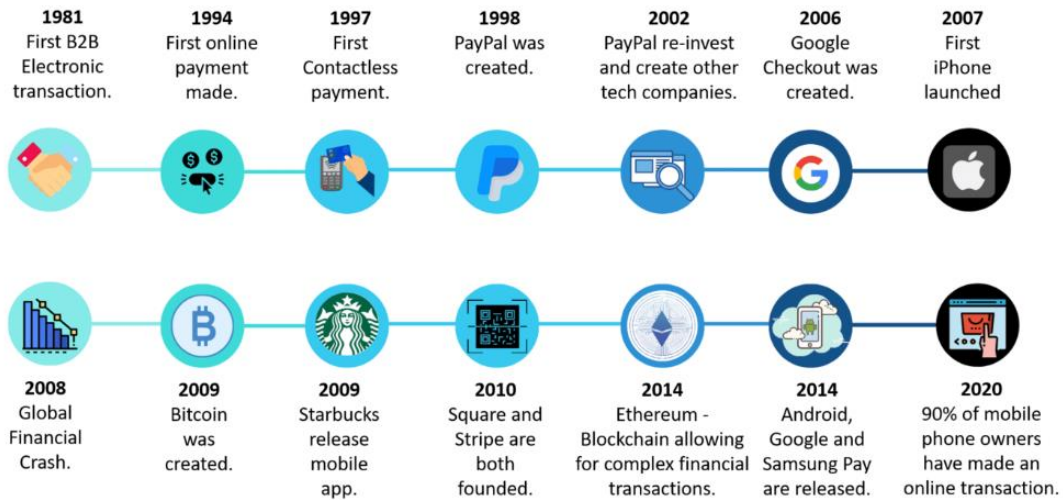
Online payment technology, also known as digital payment, has been a new trend over the past 10 years. Online payment technology is a technology that people use to make financial transactions online or via the Internet. Specifically, online payment technology has become an essential element and tool in people's daily lives. This situation is reasonable in that there is a growing number of smartphones, online retailers, banks, and many other online businesses that allow customers to use online payment technology for their online payments or transactions, which has brought a lot of benefits and made financial transactions simpler and more convenient.

Once the internet and the online business model were developed, payment soon developed its digital technology. The figure below shows the online payment trends from the year 1981 to 2020. The first business-to-business payment technology was completed in the year 1981. After the development and implementation of the Internet in the year 1991, the first online payment using the payment technology was made in the year 1994 by a customer. After that, e-commerce and technology companies such as Amazon, Google, and PayPal were established to make the e-commerce and technology industry considerably more accessible to make online payment technology safer, easier to use, and simpler. When the first smartphone was available in the year 2007, customers could make purchases through online payment and the internet without a PC

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right in their pockets. Starting at that time, trends for online payment technology were about to change.

Figure 1.1: Payment Technology Trend from 1981 to 2020



Adapted from: CashBook. (2020, June 12). *Changes in payment trends over the last 10 years.* Cashbook.

Over the past 10 years, online payment technology has increased all around the world. This is because the true benefits of its convenience have made online payment technology and online payment a routine aspect of our daily and online experience regarding the payment process and financial transactions. As a result, the way consumers make purchases online has also changed recently. It is also impossible to ignore the ongoing rise of smartphone users and mobile usage. According to Statista (2022), the global count of mobile payment transactions has reached over 950 million, and by the year 2023, it is anticipated to rise to a remarkable 1.31 billion users. For example, consumers may now make purchases whenever they only need to bring their smartphones and use digital wallets, and credit or debit cards to pay for products and services.

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1.1.2 Consumer Purchase Behavior

Consumer purchase behavior is a set of customers' habits, attitudes, and decisions about how they behave and decide in the marketplace when purchasing goods and services as well as their behavior, emotions, and reactions. By understanding the purchasing habits of consumers, businesses can create more effective and competitive strategies that impact the decision-making process of the consumers. Through an understanding of consumer purchasing habits, businesses can better target their customers, increase their brand loyalty, change their purchasing habits, and spot new trends. Additionally, by using consumer purchase behaviors as information, businesses can also stay ahead of the competition. Particularly, one of the factors that cause the change and switch in consumer purchase behavior is the technology factor. As technology become more advanced nowadays, it has changed consumer purchase behavior in the way of providing a variety of convenient technologies.

One of the advanced technologies that has a significant change in consumer purchase behavior is the development of online payment technology. When comes to the purchase process, the last step during the purchase process is the payment process. The appearance of online payment technology has made it easier and more convenient for consumers to make any financial transactions and payments anywhere and anytime. They can make the transactions physically or online, 24/7, from their comfort at home. Consumers no longer need to bring their cash just to discover their payments or any financial transactions. This is because, with the development of online payment technology, they were able to make any payments and transactions online, by using their mobile phones or credit cards. The development of online payment technology has also influenced convenience. Today, a lot of businesses and merchandise provide on-the-spot or credit payments to further satisfy the customers' needs. Additionally, it opens up the marketplace between different

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channels and methods. For example, a customer does not bring their mobile phone to complete the digital payment. In such instances, the customer can still use online payment or credit cards to complete the payment even though he does not have a digital wallet with him.

1.1.3 Technological Advancement

The development of online payment technology has caused a digital transformation in the payment method from traditional payments to digital payments, as the world is moving further into the technological age. Specifically, with the advent of payment technology, it is now possible to make quick and easy purchases using a range of various payment options, including credit cards, online banking, and digital wallets. According to (GoGardless, 2021), traditional payment is only a payment process carried out with the exchange of real cash or other goods throughout human history. However, these payments have undergone a significant modification in the form that is known as “payment transformation” throughout the time. In light of this, many businesses or merchandise already adopted and implemented some payment technologies to stay up with these evolving trends, as the consumers’ access to financial services empowers them to participate in financial services more and more. Through the use of software and other payment technologies, it has allowed both businesses and consumers to make payments and businesses more quickly and more conveniently. For this instance, it has changed the purchasing behavior of consumers in a manner that reduces the time and effort required when making any financial transactions.

1.2 Research Problem

The research problems give a general understanding of the specific issues and research gaps in the research study. In the research problems, the gaps in the literature and possible emerging trends and phenomena will be discussed in this section to clarify the direction and hypotheses for the research study.

1.2.1 Concerns of Features and Functionality

The volume of online payment technology users has significantly increased as same as the increase in the volume of the technology industry in the past 15 years. In addition, the demand of consumers towards online payment technology has increased in terms of features and functionality. Many online payment technology providers have seen the users' experience as an opportunity when using payment technology. Therefore, they have kept going in upgrading the features and functionality of the online payment technology to make the online payment technology systems customized based on the consumer's profile, behavior, and circumstances. In such cases, online payment technology has become another tool that can help to increase consumers' retention, satisfaction, and loyalty, and it also ensures that online payment technology is always accessible and inclusive to consumers in different segments.

As the features of online payment technology systems become much more user-friendly, the purchasing behaviors of consumers are about to change. This is because the convenience of online payment technology has reduced the time for consumers to complete their purchases. When the purchasing process

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becomes faster, consumers can save a lot of time with one-click purchasing on the payment technology which may cause the consumers to make more unplanned and unforeseen purchases and result in impulse purchases. In addition, as the purchase process becomes faster, consumers are pressed for time as they consider their options. They might act on impulse without thinking about the pros and cons of the purchases and without considering their options, finances, or requirements carefully. Hence, this study will also focus on the buying behaviors of consumers regarding the use of payment technology becoming impacted by the features and functionality of the payment technology systems.

1.2.2 Privacy and Convenience Trade-off

The recent advancements in the Internet and other areas of technology such as mobile devices, and several online payment services have made it possible for users to be able to utilize their mobile devices for any online or electronic financial transactions at any time and from any location. Due to their simplicity and security, online payment technology such as digital wallets and mobile payment options have had a significant growth in usage and popularity which has also surpassed traditional payment methods. Besides, the advancement in technology in providing a better payment service has also been gaining a lot of popularity in today's world which is also showing there is a technological innovation trend towards the future and resulted in the switching of consumer lifestyles and purchasing behavior at the same time.

Online payment technology has facilitated online transactions between consumers and merchandise. There are multiple procedures involved during the

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transaction in transmitting the consumers' finances and merchandise offers when using online payment technology. To effectively execute these financial transactions, both consumers and merchandise will need to use a few mobile payment apps or online payment apps when carrying out online financial transactions (Pine Labs, 2022). However, some mobile or online payment apps will require consumers to register with their personal information, and required apps will be required with different personal information. In such cases, there has been doubt about the security of the payment technology including data privacy. Thus, this research will give a deeper understanding of how the consumers will be compromising the data privacy of the payment technology and its convenience and how this affects their purchasing behaviors.

1.2.3 Demographic Variation in Online Payment Behavior

The way of conducting financial transactions has changed a lot due to the development of online payment technology when compared to traditional methods. These days, online payment technology has become an essential component of finance. Many people from different demographic segments have started to apply online payment technology in their daily lives. However, not all the segments are doing so, such as the older generations. This is because the older generations prefer traditional payment methods such as cash and checks. Additionally, they might favor in-person transactions over online payment technology tools. Besides, the level of income can also be the impact of the development of online payment technology. In this case, individuals with higher incomes may tend to use credit cards more frequently compared to individuals with lower incomes. On the contrary, payment methods such as cash or debit cards may be frequently used by lower-income individuals because they might be more frugal and look for safe and inexpensive ways when making payments

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or doing financial transactions. Hence, there will be a significant effect on the businesses and markets from this research as none of the earlier research examined how demographics impact the adoption of online payment technology. Although some studies have been reviewed before, online payment technology has evolved significantly, and this has made the studies invalid as the studies were released in the year 2012. Therefore, this research will be focused on how demographic factors will affect the adoption of payment technology and in turn, on consumer purchasing behaviors.

In summary, online payment technology has played an important role in supporting the growth of businesses. According to (Finli Team, 2023), the online payment technology system has promoted healthy consumer growth for businesses in addition to being effective and decreasing the processing time in completing the transaction process. With the implementation of online payment technology, geographical boundaries are no longer an obstacle to businesses because businesses can receive any financial transaction at any time, which greatly increases consumer satisfaction. Additionally, these online payment technologies also give business operators a chance to understand their customers with important data so that they can make more strategic decisions. Business operators will be better equipped to anticipate the revenue, have access to more insightful cash flow data, and comprehend their customers' purchase behaviors and payment habits.

1.3 Research Objectives and Research Questions

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1.3.1 General Objectives

The major objective of this research study is to investigate the factors of online payment technology in influencing consumer purchase behavior.

1.3.2 Specific Objectives

1. To determine the relationship between the perceived trustworthiness of online payment technology and consumer purchase behavior.
2. To determine the relationship between privacy and security concerns of online payment technology and consumer purchase behavior.
3. To determine the relationship between the perceived usefulness of online payment technology and consumer purchase behavior.
4. To determine the relationship between user experience design of online payment technology and consumer purchase behavior.

1.3.3 Research Questions

The purpose of this research study is to study various factors of online payment technology that influence consumer purchase behavior. To be more specific, the research questions are thus stated as below:

1. How does the perceived trustworthiness of online payment technology influence consumer purchase behavior?
2. How does the privacy and security concerns of online payment technology influence consumer purchase behavior?

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3. How does the perceived usefulness of online payment technology influence consumer purchase behavior?
4. How does the user experience design of online payment technology influence consumer purchase behavior?

1.3.4 Hypotheses of the study

Hypotheses 1

H0: There is no relationship between the perceived trustworthiness of online payment technology and consumer purchase behavior.

H1: There is a relationship between the perceived trustworthiness of online payment technology and consumer purchase behavior.

Hypotheses 2

H0: There is no relationship between the privacy and security concerns of online payment technology and consumer purchase behavior.

H1: There is a relationship between the privacy and security concerns of online payment technology and consumer purchase behavior.

Hypotheses 3

H0: There is no relationship between the perceived usefulness of online payment technology and consumer purchase behavior.

H1: There is a relationship between the perceived usefulness of online payment technology and consumer purchase behavior.

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Hypotheses 4

H0: There is no relationship between the user experience design of online payment technology and consumer purchase behavior.

H1: There is a relationship between the user experience design of online payment technology and consumer purchase behavior.

1.4 Research Significance

The importance of this research study is to provide businesses and organizations with insight into the factors of online payment technology influencing consumer purchasing behaviors among online payment technology users. As online payment technology becomes more advanced nowadays, it has shown a rise in the development of online payment technology, which has also switched to the emerging technology trend in another direction. Thus, by conducting this research study, businesses and organizations can have a better understanding of the consumers' purchasing behaviors which were affected by the appearance of online payment technology and changed by the factors of online payment technology such as debit or credit cards and digital wallets. In addition, this research study also aimed to provide a better understanding for businesses and organizations to enhance their knowledge of possible markets and future trends and also assist them in planning and adapting possible actions and strategies to stay competitive among their competitors. Specifically, this research study also provides recommendations for businesses and organizations where they can be able to take possible actions to capture consumers' purchasing behaviors and satisfy their needs and wants. Lastly, by conducting the findings and research on the factors of online payment technology influencing consumer purchasing behaviors, businesses and organizations should be able to have a deeper understanding of the emerging technology trend and changes in consumer purchasing behaviors so that they can develop better strategies to maintain their competitiveness with rivals.

1.5 Conclusion

In a nutshell, the overview of the research includes the following research topic, and the research background has been discussed in this study. The problem statement of the research, objectives, hypotheses, research questions, and research significance of the study have also been discussed in this chapter. By providing a comprehensive overview of the research background, problem statement, research, objectives, and hypotheses, the readers can have a better understanding of the main idea of the topic. Moving forward, established journal articles that are related to this study will be studied in Chapter 2, which includes the theoretical framework and other literature and framework to support the ensuing analysis of the study. Thus, this study attempts to solve the problem which includes letting businesses understand future technology trends and changes in consumer purchase behavior and it paves the way for additional investigation in the following chapters.

Chapter 2 : Literature Review

2.0 Introduction

In this chapter, the study will discuss the relevant underlying theories, literature reviews from past and earlier studies, and the proposed conceptual framework. Information applied in this chapter is mostly based on previous studies, journals, and articles that are relevant to the topic of this study.

2.1 Underlying Theories

This study aims to investigate the factors of online payment technology in influencing consumer purchase behavior. Therefore, the Technology Acceptance Model (TAM) is applied to this study to give a brief explanation of consumer attitudes toward online payment technology. In addition, the theory of reasoned action (TRA) is also applied to this study to briefly explain the changes in consumer purchase behavior after the acceptance of online payment technology.

2.1.1 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) is a model that is designed to measure new technology adoption based on the customer's attitude. In the field of information systems and technology management, the Technology

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Acceptance Model is the popular theoretical framework. The technology Acceptance Model (TAM), created by Fred Davis in the late 1980s, aims to forecast and explain users' acceptance of information systems and technologies (Allen, 2020). Based on the users' attitudes toward usage, the Technology Acceptance Model claims that users' behavioral intentions determine the actual system use. Additionally, attitudes towards use have been influenced by the perceived ease of use and perceived usefulness. Thus, the Technology Acceptance Model is a powerful theory that can be used to predict user acceptance of information systems and technologies.

Specifically, the acceptance or rejection of online payment technology continues to be up for debate despite its rapid advancement and integration into people's personal and professional lives. According to Marangunić & Granić, (2014), the Technology Acceptance Model (TAM) has been the subject of a considerable amount of research since its introduction over 25 years ago, which attests to the model's widespread use in the field of technology acceptance. Moreover, the Technology Acceptance Model (TAM), which has its roots in the psychology theories of planned behavior and reasoned action, has developed into a crucial model for predicting how people would behave when faced with a choice between embracing and rejecting technologies. According to Li et al. (2019), two main components are presented in the Technology Acceptance Model (TAM) which are the perceived ease of use and perceived usefulness. Perceived usefulness measures how much people feel utilizing a certain technical system would help them perform better at work, whereas perceived ease of use measures how much people think using particular technologies will require little effort. However, other than these two components, additional investigation was also necessary as the outcome of the connection changed depending on the cultural and industrial setting and the advancement of technologies (Najib & Fahma, 2020).

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2.1.2 Theory of Reasoned Action (TRA)

According to Silverman et al. (2016), the Theory of Reasoned Action (TRA) which is proposed by Fishbein & Ajzen, states that an individual's behavior is dictated by their intention to carry out the behavior, which is influenced by their attitude towards the behavior and subjective norms. Theory of Reasoned Action (TRA) is the most widely used theory that focuses on a single component that influences an individual's attitudes toward a certain activity and their behavioral purpose. Fishbein & Azjen (1975) defined "behavior" as an outcome or aim, whereas "belief" is a connection between an item and some attributes, and "attitudes" is a person's assessment of an object (Lai, 2017). As per the Theory of Reasoned Action (TRA), an individual's intention to embrace, use, or adopt one or more information systems and technology fields determines their behavioral intention. Based on previous research on online banking, the research has demonstrated a substantial and positive association between intention and actual usage, which is likely because the component is one of the most important factors that determine the final usage of users and their behaviors (Majali, 2011).

With the occurrence of advanced technology, some researchers have combined the ideas of the Theory of Reasoned Action (TRA) with other theories regarding the attitudes and perceptions toward using technology. This is because the Theory of Reasoned Action may be utilized as a core theoretical framework in technology adoption (Otieno et al., 2015). It has been discovered that people's intention to adopt and use the new technology will be significantly influenced by their attitudes and subjective norms. Additionally, this theory can also be applied to the conceptualization of human behavior patterns in decision-making strategies for the adoption of new innovations and pieces of advanced technology. This theory can explain whether or not an individual's behavior,

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such as using an innovation, is motivated by behavioral intentions. Behavioral intentions are influenced by an individual's attitude toward a behavior, the subjective norms that surround its performance, and the ease with which the behavior is perceived to be performed which is called behavioral control (Otieno et al., 2015). Thus, for this study, the Theory of Reasoned Action (TRA) is adequate in determining and directing the consumers' use of innovations and technologies, resulting in the adoption of technologies and behavior changes after the adoption of technology.

2.2 Review of Variables

2.2.1 Consumer Purchase Behavior

The development of advanced online payment technology has shown an easy solution for all payment methods in today's life. Specifically, the increase in online payment technology is alarming and more efficient, as individuals can utilize digital devices instead of visiting stores to make any purchases and online finance transactions (Tiewul, 2020a). However, the development of online payment technology also switched and changed consumer purchase behavior. Consumer purchase behavior can be defined as the acts and decisions that people make while purchasing certain goods or services for personal use. In other words, it can refer to the actions that people do before purchasing a product or service, which will also be influenced by many external factors and behaviors. According to Hanaysha et al. (2021), consumer purchase behavior contains the decision-making process that depicts the stages that customers go through when making purchasing decisions. Consumer purchase behavior is multinational because various factors influence the choice to make a purchase.

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Additionally, consumer purchase behavior is a different kind of behavior that directly represents people's wants, desires, and physical and spiritual pursuits. Social, cultural, demographic, and situational factors all have an impact on changes in purchasing behaviors. Thus, factors such as acceptance and usage would greatly influence consumer purchasing behaviors. Moreover, according to Rahman et al. (2018), consumer attitudes and acceptance would be determined by other factors such as trust and perceived usefulness. Also, demographic variables such as age, gender, and level of income have a part in facilitating online payment technology as there are also influence consumer purchase behaviors.

2.2.2 Perceived Trustworthiness

As more advanced online payment technology has been developed in this digital era, it is becoming increasingly vital to have expertise in specific user experience design and the main user experience design can be the perceived trustworthiness of the online payment technology from consumers' viewpoint. According to Alarcon et al. (2017), trustworthiness can be defined as a trustor's assessment of the trustee's competence, compassion, and integrity. Here, competence means that the trustee's skills can fulfill its duties. Moreover, compassion can be referred to as the perception of a trustee's positive disposition towards doing good for the trustors whereas integrity can be defined as a set of acceptable trustee ideals (Ma, 2021). These three criteria are thought to explain a large percentage of the variation in trustworthiness. Hence, perceived trustworthiness can be defined as the trust of consumers toward the usage and acceptance of online payment technology based on the tasks and protections provided by online payment technology in terms of the safety of data collection and online transactions and payment.

2.2.3 Privacy and Security Concerns

The development of online payment technology is revolutionizing people's lives by transforming traditional payment methods into more convenient and easier ways which can be accessed anytime from any location. As more payment methods are being transformed and developed, the security and privacy of the personal information of users are collected, processed, and may be also stored in the database of the online payment service providers becoming more complicated to manage (Mogamedi & Jabu Mtsweni, 2017a). Specifically, the development of online payment technology is offering more convenience in people's lives. However, a large amount of consumer data is collected, stored, analyzed, and transferred. One of the most significant effects of this sector is the generation of an unprecedented volume of data, making data storage, ownership, and expiry critical problems (Mogamedi & Jabu Mtsweni, 2017b). If the security of personal privacy is not secured, consumer data could be utilized by unauthorized people at any time. Thus, this situation also has a significant effect on the acceptance and adoption of consumers toward online payment technology.

2.2.4 Perceived Usefulness

The perceived usefulness variable has been identified as important in the information system and online payment technology adoption process by the Technology Acceptance Model (TAM). Perceived usefulness can be defined as a person's belief that using a system will improve his or her performance (Karahanna & Straub, 1999). According to Davis (1989), a system with a high

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perceived usefulness is one in which the users believe there is a favorable use-performance relationship. From the online payment technology's viewpoint, the perceived usefulness can be defined as the meaning which how the online payment technology will be useful in enhancing online financial transactions and online payment and how the online payment technology will enhance the attitudes of users toward their transactions experience and so on encourage them to accept and adopt the online payment services. Additionally, the amount to which someone believes that using online payment technology can make payment processing more efficient and effective can be explained by the perceived usefulness of online payment technology (Denaputri & Usman, 2019).

2.2.5 User Experience Design

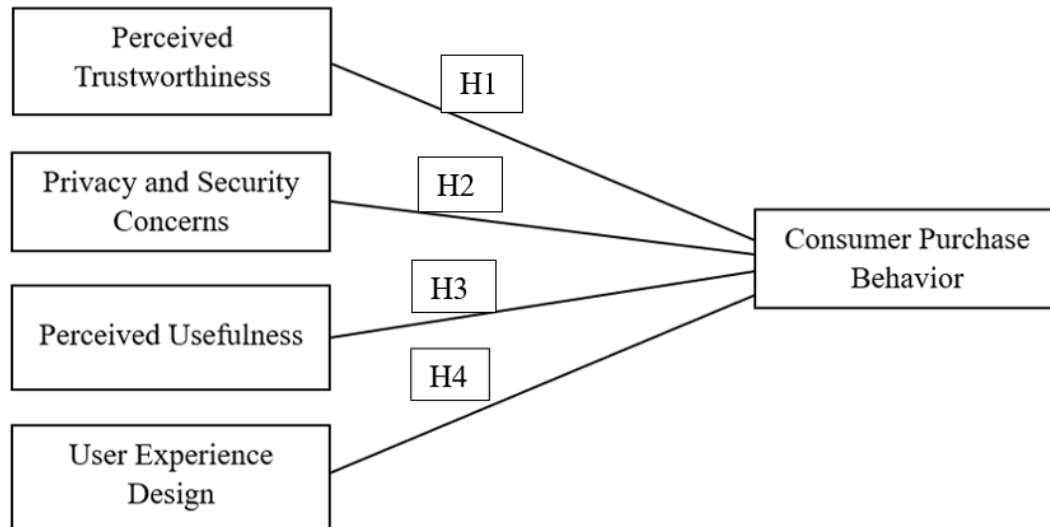
With the advent of technology, the use of online payment technology has been introduced to provide convenience in completing online transactions, paying bills online, and other online finance activities. However, some users are unfamiliar with this type of technology, which has shown a critical situation in determining whether the design of the online payment technology is appropriate for them. Thus, the user experience design has become one of the factors to determine the value of online payment technology. The user experience design can be described as the broader context of usage as a person's perceptions and responses as a result of using and anticipating when using a product, system, or service (Earnshaw & Schmidt, 2017). According to Polancos et al. (2020a), online payment technology providers should focus on and assess the user experience design of their online payment technology by evaluating three aspects which are efficiency, effectiveness, and satisfaction. Therefore, online payment technology providers need to understand and design better structures and interfaces that enable the inclusion of users from the most inexperienced to

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the most experienced thereby encouraging the people in the acceptance and adoption of online payment technologies (Polancos et al., 2020b).

2.3 Proposed Conceptual Framework

Figure 2.1: Proposed Conceptual Framework



2.4 Hypotheses Development

2.4.1 Perceived Trustworthiness of Online Payment Technology and Consumer Purchase Behavior

According to Hallikainen et al. (2019), perceived trustworthiness plays a critical role for consumers to consider whether they are willing to use digital channels and online payment technology during their purchasing journey. Besides, Rouibah et al. (2016) defined perceived trustworthiness as the consumers' assumption that online payment technology will be performed following their expectations. Moreover, Rouibah et al., (2016) claimed that perceived trustworthiness increases people's willingness to engage and accept online payment technology. On the other hand, Yang et al (2015) claimed that perceived trustworthiness is enhanced by perceived usefulness and perceived ease of use which also will influence the consumers' trust belief in the acceptance of online payment technology. Additionally, Tiewul (2020b) found that there is a relationship between the acceptance of online payment technology and the changes in consumer purchase behavior where consumers would be more preferred to purchase more products using online payment technology. Therefore, there is a significant relationship between the perceived trustworthiness of online payment technology and consumer purchase behavior.

2.4.2 Privacy and Security Concerns of Online Payment Technology and Consumer Purchase Behavior

According to (Karim et al., 2020), one of the variables that affect the adoption and acceptance of online payment technology is the privacy and security concerns of consumers. This is because one of the concerns that prevent consumers from using online payment technology is the lack of privacy and security concerns (Karim et al., 2020). Gurung & Raja (2016) stated that

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privacy and security concerns of online payment technology among consumers will have a favorable impact on their risk perception which affects their acceptance of the online payment technology. Besides that, Kim et al. (2010a) found that the privacy and security concerns of online payment technology among consumers would positively affect their attitudes toward online payment technology because the privacy and security concerns refer to consumers' subjective assessment of online payment technology. Furthermore, Kim et al. (2010b) claimed that consumers' privacy and security concerns about online payment technology influence their acceptance and usage of online payment technology which the privacy and security concerns can be the primary issue for online payment technology users. In addition, the consumers' acceptance of online payment technology from their privacy and security concerns would be positively associated with the changes in consumers' purchase behavior (Kim et al., 2010c). In this case, there is a significant relationship between privacy and security concerns of online payment and consumer purchase behavior.

2.4.3 Perceived Usefulness of Online Payment Technology and Consumer Purchase Behavior

Patrick et al. (2017) stated that the perceived usefulness of online payment technology is positively connected to its adoption and the perceived usefulness of online payment technology is the most crucial determinant for technology adoption. Furthermore, TAHAR et al. (2020) claimed that the perceived usefulness of online payment technology influences the intention to accept and adopt online payment technology services, which also makes the consumers more desire to use it due to its improved usefulness. In addition, Alshurideh et al. (2021) claimed that Perceived usefulness has a strong and favorable impact on consumer's intention to adopt and accept online payment technology which the consumers may be driven to make online purchases due to the benefits from

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monetary savings and reduced time consumption which would also change their purchase behavior. Hence, there is a relationship between the perceived usefulness of online payment technology and consumer purchase behavior.

2.4.4 User Experience Design of Online Payment Technology and Consumer Purchase Behavior

First of all, Comline (2008) claimed that the design of the website and information system had the largest impact on influencing consumers' perceptions of the systems. Furthermore, Rahardja et al. (2023a) stated that the design and features of online payment technology and mobile applications can influence consumers' engagement, which leads to ongoing use of applications and results in better engagement, which further directs consumers to utilize the applications consistently. In addition, Rahardja et al. (2023b) also stated that user intention to use online payment technology and mobile payment may be affected by the value of the service, which can rise as the number of users increases. Moreover, Jaw et al. (2011) claimed that the user experience design and innovation characteristics of online payment technology based on an understanding of consumers' demand have traditionally been recognized as the most essential factors in the acceptance and adoption of innovations and online payment technology. Besides, according to Park & Kim (2003), a well-designed user experience design of online payment technology that lowers the cost of searching for information and the time necessary for information processing for consumers may affect consumer purchase behavior. Therefore, there is a relationship between the user experience design of online payment technology and consumer purchase behavior.

2.5 Conclusion

In conclusion, Chapter 2 has conducted a thorough review of the literature on the factors of online payment technology in influencing consumer purchase behavior. This work's synthesis has revealed critical insights into factors of online payment technology in influencing consumer purchase behavior. In addition, the literature's different perspectives have contributed to a more nuanced picture of the current condition of the factors of online payment technology in influencing consumer purchase behavior, giving light to both established principles and emergent tendencies. Moving forward, Chapter 3 will expand on the insights gathered from the literature review by discussing the research methodology and approach used in this study. The literature synthesis in this chapter acts as a springboard for the empirical inquiry, directing the course of this research toward relevant conclusions and prospective contributions to the field.

Chapter 3 : Methodology

3.0 Introduction

This chapter will discuss the research methodology that will be used in the overall research proposal to make the reader understand the core of the research process. Thus, the research methodology such as research design, sampling design, data collection methods, and proposed data analysis tool plays a crucial role in guaranteeing the validity and trustworthiness of the research results.

3.1 Research Design

A research design is the framework of research methodologies and techniques that the researcher selected and used to carry out the research. The research design has enabled researchers to focus on the most effective research techniques to organize the successful direction and investigation for the topic selected. Additionally, a carefully thought-out research design can help guarantee that the researcher's techniques are always aligned with their goals and that the appropriate type of analysis that applied to the research (McCombes, 2021). Therefore, the research design of this study was quantitative research as it was conducted to collect data from the participants through an online questionnaire survey. The purpose of using quantitative research is because quantitative research is typically used for observation of the circumstances that have an impact on people such as the changes in consumer purchase behavior (Williams, 2021). Besides, quantitative research design can help demonstrate a clearer relationship between the data since quantitative research can generate unbiased data that can be presented clearly through the data and statistics collected. Typically, this research also encompasses both

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causal research and descriptive research to present numerical data to understand the findings more effectively.

3.1.1 Causal Research

Causal research can be classified as a research design that determines the kind of strength of cause-and-effect correlations between two or more variables. Sometimes, causal research also referred to as explanatory research or causal-comparative research is typically used by many businesses to assess how changes to features, goods, or services affect business indicators (Qualtrics, n.d.). Through the use of causal research, the business can establish and indicate the cause-and-effect relationship by observing the relationships and patterns between online payment technology and the changes in consumer purchase behavior. Other than that, causal research also offers the researchers and businesses predictive analysis where it also provides the researchers with the ability to forecast outcomes that are useful in terms of areas such as public policy, economics, marketing, and others that can be used in determining the factors in influencing the decision-making process. Thus, the business can know the underlying reasons and causes of the changes in consumer purchase behavior in terms of the acceptance and adaptation of the online payment technology so that they can create better and more effective strategies and policies to overcome the problems. In this case, causal research will be proposed for this research to provide insights into the relationships between the various variables and guide the decision-making process.

3.1.2 Descriptive Research

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A descriptive research design is a research design that the researchers use to describe the particular characteristics of the population or phenomenon. Descriptive research is the research design that mostly concentrates on characterizing a group of demographic characteristics rather than the reasons that cause certain phenomena to happen (McCombes, 2019a). Thus, descriptive research entails investigating correlations between two or more events or identifying characteristics of a specific occurrence based on observations. Additionally, descriptive research is usually defined as fundamental research techniques that include some methods such as surveys, case studies, and observations so that the results can always be ensured to a more valid and reliable (Williams, 2007). Typically, the survey of descriptive research design is a significant method as it focuses on the characteristics of the entire sample, not just the quantities of the individual. Other than that, it also offers data that helps resolve neighborhood problems as it offers useful information since the survey can be quantitative or qualitative or even verbal or nonverbally. Through critical analysis and examination of the source materials, data analysis and interpretation, and generalization and prediction from the descriptive research design, the survey method could apply the application of the scientific method for the research conducted (Salaria, 2012). In this case, descriptive research will be used for this research to provide insights into the relationships between the changes in consumer purchase behavior affected by the acceptance and adaptation of online payment technology and the possible decisions made by businesses and marketers.

3.2 Sampling Design

Sampling design can be referred to as a method or strategy used in selecting a sample from a specific group of populations to draw conclusions or make generalizations about the entire group of populations (Types of Sampling Design, n.d.). Typically, it pertains

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to the method or approach that the researcher would use to choose the objects for the sample. The sample size, sampling techniques, sampling frame used, or the number of objects to be included in the sample, may also be determined by the sample design (McCombes, 2019b). To enable researchers to reach trustworthy and legitimate conclusions, sampling design aims to guarantee that the sample chosen is representative of the population.

3.2.1 Sampling techniques

The sampling technique employed for this research is non-probability sampling. More specifically, the non-probability sampling that is utilized in this study is convenience sampling. When conducting research, sampling techniques are very crucial as it is the method that researchers use to choose a subset of people or items from a broader population to conclude the population from the sample's characteristics as the vast sample size can be considered as the foundation of the data (BYJU'S, n.d.). Therefore, when selecting sampling techniques that best suit the research, it is very important to take into account the number of variables, including the population size, research settings, and the research target populations. In this case, convenience sampling is used in research where a sample must be gathered according to certain characteristics of the population, and the selection of the sample is conducted under predetermined guidelines (Mukherjee, 2019). Additionally, convenience sampling is also suitable for studies seeking the preliminary understanding of a small or understudied community rather than testing a hypothesis about a large population. Thus, convenience sampling was chosen because of its easy access to the public to get the responses.

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3.2.2 Population size

In this study, the population size represents the individual who is using online payment technology to make purchases or conduct transactions. To make it clear, the population would include individuals of different ages, genders, education level, and income status, as well as their frequency of using online payment technology. When conducting research, population size is important because it is defined as a collection of people who have similar characteristics and thus, it makes sense that research results because they are expected to contribute clearly and concisely when recording the research (Asiamah et al., 2017). Besides, as the population size of the study is online payment technology users, they are expected to respond to the survey questionnaire relatively more quickly because they are expected to bear a lower risk of losing preferred traits due to the generic drifts and have a high concentration of traits that have been selected for, and thus, produce a comparatively unique alteration (Hoffmann et al., 2017). In this case, according to Statista Research Department (2023), the population size of individuals who use online payment technology in Malaysia is 15.7 million and it is expected to have a total increase of 8.1 million by the year 2028. Thus, it can be said that the larger population size of online payment technology users can help reduce the sampling error which can also increase the confidence level for the study.

3.2.3 Sample Size

The sample size in the research is the amount of completed responses that were received from the survey. Because it merely reflects a portion of the target population which is the set of people whose opinions or actions that the researchers are doing research for (SurveyMonkey, n.d.-a). Thus, when considering the sample size for the research, it is imperative to calculate the

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survey's margin of error and confidence level. The margin of error is a percentage that indicates the extent to which the opinions of the general public are likely to be reflected in the survey result. Besides, the margin of error also reflects the confidence level as the lower margin of error will represent that the result received will be closer to the exact result (SurveyMonkey, n.d.-b). Therefore, it is very important to have a large sample size give the same population to have a smaller margin of error. Based on the previous section of this chapter, the population size for online payment technology users is 15.7 million, which is also expected to reach a huge number of 23.8 million by the year 2028. In this case, in order to consider an appropriate sample size for the research study, the Cochran Sample Size Formula will be used to determine the ideal sample size for the study (Statistics How To, n.d.-b). In this case, after the calculation with a margin of error equal to 5%, and a confidence level of 95 %, the sample size for this research will be 385 respondents (see appendix 3.1).

3.3 Data Collection Methods

The data collection method is the technique and process used in gathering and analyzing information or data from various sources for the research purpose to explore the answer that matches the research questions, evaluate the research results, and also forecast the trends and probabilities when conducting the research. Therefore, the data collection method is an important part when conducting research as the data collection can help to guarantee quality control, maintain the research integrity, and help businesses make well-performed business decisions (Simplilearn, 2023). Typically, there are two types of data collection methods which are primary data collection methods and secondary data collection methods. Thus, before the selection of the data collection method, the researchers need to understand what kind of data is required, kind of the research questions, and also availability of time and resources as the choices of the data collection methods will be influenced by these factors (Cleave, 2023). In

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this case, to find the answers that are best suited to the research questions and to test the constructed hypotheses for this research, the primary data collection method from the questionnaire survey will be used for this research to investigate the factors of online payment technology in influencing consumer purchase behavior.

3.3.1 Primary Data

In this research, primary data will be collected using the survey questionnaire generated by using Google Forms. Through the survey questionnaire, firsthand data which is the responses of the survey participants will be collected. In this case, the kind of data collected is unique and has not been gathered or examined before, which can also help the researchers answer specific research questions. However, it is also very important to design the survey questionnaire to collect reliable and relevant data that match the requirements of the research and the hypotheses, objectives, problems, and questions of the research. Therefore, when designing the survey questionnaire, it is very necessary to refer to many internet resources, journals, and books to identify the questions with the research objectives and also define the target populations and sample size so that this study can obtain reliable and relevant answers and opinions from the respondents. Additionally, it is also very important to make sure that the flow of the survey questionnaire is always sequenced to make the questionnaire clear and concise. Moreover, to make sure that this research can collect and receive the right amount of sample size, the questionnaire will be publicized on social media and sent by email to the intended respondents. Besides, before sending the survey questionnaire to the target respondents, the survey questionnaire was submitted to seek approval from the UTAR Scientific and Ethical Review Committee (SERC) to obtain ethical clearance approval for the survey questionnaire.

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3.3.2 Questionnaire Design

To ensure that the questions of the survey are always reliable and relevant to the research objectives, a well-designed questionnaire design has played an important role. First of all, the purpose and the instructions of the research were given at the beginning of the survey questionnaire, which gave the respondents and participants a clearer understanding of the goals and expectations of the survey. In this case, the purposes of the research have given the participants the directions and guidelines that can set brighter expectations for the respondents in answering the survey questionnaire. Additionally, through the instructions given, respondents can have a better investigation in completing the survey questionnaire which allows this study to gather more reliable and credible information from the respondents in order to enhance the transparency and consistency of the research.

On the other hand, to describe and understand the characteristics of the survey respondents, the demographic questionnaire was also included in the survey which consists of gender, age, occupation, employee status, education level, and income level, which allows the study to further understand the characteristics of the target populations (see appendix 3.3). Additionally, the issues stated in the previous chapter claimed that demographic variables would significantly impact consumer purchase behavior. In this case, the survey questionnaire consists of demographic variables that can also help the study in segmentation and clarification based on the responses collected (QuestionPro Collaborator, 2023).

Furthermore, another section that related to the usage of respondents toward online payment technology was designed to understand the patterns and habits

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of the respondents in using online payment technology (see Appendix 3.4). In order to have a deeper understanding of the respondents' habits and behaviors, the questionnaire design of this section consists of questions that relate to the type of online payment technology used, platforms and devices used, motivations, usage frequency, and type of transactions conducted. In this case, the study can have an enhanced comprehension of the respondents' behavior, which can also help future researchers and businesses to identify possible trends and at the same time predict future trends.

Moreover, a survey questionnaire consisting of 1 dependent variable and 4 independent variables was developed to assess the factors of online payment technology in influencing consumer purchase behavior from the respondents' viewpoint (see Appendix 3.5). In order to ensure that the questionnaire design is always relevant and consistent with the research objectives and research questions, various sources and references were adopted when designing the questionnaire. Additionally, a 5-point Likert scale ranging from (1 = *Strongly Disagree*) to (5 = *Strongly Agree*) was developed for the questions to assess the opinions and behaviors of respondents more accurately. Specifically, the adoption of a 5-point Likert scale has helped the study to ensure the responses provided by the respondents for each question are combined to produce a deeper comprehensive measurement of the relevant variables (TASO, n.d.).

Table 3.1: Questionnaire Design for Each Variable

Variables	Items	Construct	References
Dependent variables	Consumer Purchase Behavior	Purchase intention through online payment technology	Kusnawan, A., Andy, A., Silaswara, D., & Sefung, T. (2020). The Effect of Digital Payment to Millennial Consumer Purchase Decisions. <i>The Effect of Digital Payment to</i>

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			<i>Millennial Consumer Purchase Decisions</i> , 82, 5116-5129.
Independent variables	Perceived Trustworthiness	Consumers' trust in online payment technology	Almarashdeh, I. B. R. A. H. I. M., Bouzkraoui, H. I. C. H. A. M., Azouaoui, A. H. M. E. D., Youssef, H. A. D. I., Niharmine, L. A. H. C. E. N., Rahman, A. A., ... & MURIMO, B. M. (2018). An overview of technology evolution: Investigating the factors influencing non-bitcoins users to adopt bitcoins as online payment transaction method. <i>Journal of Theoretical and Applied Information Technology</i> , 96(13), 3984-3993.
	Privacy and Security Concerns	Data protection provided by online payment technology	Schierz, P. G., Schilke, O., & Wirtz, B. W. (2010). Understanding consumer acceptance of mobile payment services: An empirical analysis. <i>Electronic commerce research and applications</i> , 9(3), 209-216.
	Perceived Usefulness	Usability of online payment technology	Zmijewska, A., Lawrence, E., & Steele, R. (2004). Towards Understanding of Factors Influencing User Acceptance of Mobile Payment Systems. <i>Icwi</i> , 2004, 270-277.
	User Experience Design	User satisfaction and experience	Schierz, P. G., Schilke, O., & Wirtz, B. W. (2010). Understanding consumer acceptance of mobile payment services: An empirical analysis. <i>Electronic commerce research and applications</i> , 9(3), 209-216.

Source: Developed for the research

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3.3.3 Reliability Test

Table 3.2: Reliability Test

Constructs	Cronbach's Alpha
Consumer Purchase Behavior	0.761
Perceived Trustworthiness	0.773
Privacy and Security Concerns	0.859
Perceived Usefulness	0.700
User Experience Design	0.758

Source: Developed for the research

Before sending the survey questionnaire to the participants, a pilot test for the questionnaire was conducted to test and examine the reliability and consistency of each construct. In this case, responses from 30 respondents were collected to test and present the reliability of the questionnaire for each construct. Table 3.2 above shows the results of the pilot test. In this circumstance, Cronbach's Alpha was utilized using SPSS for the reliability test as Cronbach's Alpha can be used to evaluate the reliability of the construct by comparing the shared variance between the items when making up the construct (Collins, 2007). Additionally, to ensure the reliability of the construct, the general acceptance range of Cronbach's Alpha for each construct is 0.7 and above (Statistics Solution, 2019). Therefore, based on table 3.2, it has shown that all of the constructs for the research are reliable and consistent as there have a Cronbach's Alpha which is more than 0.7, which is 0.761 for Consumer Purchase Behavior, 0.773 for Perceived Trustworthiness, 0.859 for Privacy and Security Concerns, 0.700 for Perceived Usefulness and lastly, 0.758 for User Experience Design.

3.4 Proposed Data Analysis Tool

After data collection, the tool that will be utilized to conduct the data analysis is Statistical Product and Service Solutions (SPSS), which was also named Statistical Package for the Social Sciences before. Before analyzing the data collected, data screening was conducted to remove any invalid data that could affect the result of the data analysis. After that, Microsoft Excel will be utilized to analyze the basic data collected such as the use and habits of users in using the online payment technology. Other than that, descriptive analysis is used to describe and summarize the demographic data of the participants such as gender, age, education level, and income level to segment and understand the characteristics of the respondents for the measurements of the present sample. On the other hand, the assumption for statistical testing was also used for the hypothesis testing to confirm or invalidate the hypotheses stated above and yet ensure that it is essential to minimize the risk. Additionally, several normality indicators that will be adopted are histogram, P-P plot, scatterplot, skewness, and kurtosis. Following this, Multiple Linear Regression will be carried out to explore and examine the predictive role of the independent variables (perceived trustworthiness, privacy, security concerns, perceived usefulness, and user experience design) and dependent variables (consumer purchase behavior).

3.5 Conclusion

In conclusion, Chapter 3 has provided an extensive synopsis of the research method used in this study. The implementation of quantitative methodology has facilitated an encompassed examination of the research goals. Other than that, the main technique used in acquiring data, which is the survey, is crucial to collecting data and responses from the participants. Besides, the sample size of this study was also chosen to

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guarantee the significance of the statistics. Throughout the data analysis process, SPSS was used to extract and analyze data from the data collected from Google Forms. As a whole, this chapter has established a strong framework that carries out the ideas and reasons behind the research techniques and methods selected. After all, chapter 4 will include a detailed interpretation of the data analysis result, which also along with more findings and a discussion of the study.

Chapter 4 : Data Analysis

4.0 Introduction

In this chapter, the study will discuss and present the data analysis of this research study through the data collected from the survey questionnaire. In this chapter, the data analysis will be conducted through SPSS to ensure consistency and correctness of the outcome of the data analysis. Additionally, this chapter aims to analyze and provide detailed and comprehensive results to address the research questions, objectives, and hypotheses stated in the previous chapters. Therefore, the chapter will be descriptive statistics based on the frequency and percentage and inferential statistics will be included to provide a generation of conclusion based on the data.

4.1 Descriptive Analysis

Table 4.1: Demographic Profile

Variables	Frequency	Percent	Valid percent	Cumulative percent
What is your gender?				
Male	181	45.3	45.3	45.3
Female	219	54.8	54.8	100.0
Total	400	100.0	100.0	
What categories best describe your age?				
18 – 24 years old	153	38.3	38.3	38.3
25 – 34 years old	118	29.5	29.5	67.8
35 – 44 years old	56	14.0	14.0	81.8
45 – 54 years old	42	10.5	10.5	92.3
55 – 64 years old	31	7.8	7.8	100.0

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Total	400	100.0	100.0	
What is your occupation or employee status?				
Students	136	34.0	34.0	34.0
Employed	204	51.0	51.0	85.0
Unemployed	7	1.7	1.7	86.7
Self-employed	34	8.5	8.5	95.2
Retired	19	4.7	4.7	100.0
Total	400	100.0	100.0	
What is your education level?				
High school	50	12.5	12.5	12.5
Foundation	19	4.7	4.7	17.2
Diploma	44	11.0	11.0	28.2
Bachelor's degree	249	62.3	62.3	90.5
Master's degree	38	9.5	9.5	100.0
Total	400	100.0	100.0	
What categories best describe your income level?				
RM1,500 and below	142	35.5	35.5	35.5
RM1,501 to RM2,500	8	2.0	2.0	37.5
RM2,501 to RM3,500	58	14.5	14.5	52.0
RM3,501 and above	192	48.0	48.0	100.0
Total	400	100.0	100.0	
How frequently do you use online payment technology?				
Daily	344	86.0	86.0	86.0
Weekly	47	11.8	11.8	97.8
Monthly	9	2.2	2.2	100.0
Total	400	100.0	100.0	

Source: Developed for the research

Based on Table 4.1, the total number of survey respondents is 400, including 181 males (45.3%) and 219 females (54.8%). In this case, these 400 respondents were separated into a few groups based on their age category where 18 to 24 years old (38.3%), 25 to 34 years old (29.5%), 35 to 44 years old (14%), 45 to 54 years old (10.5%), and 55 to 64 years old (7.8%). For the occupation or employee status, more than half of the

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respondents are employed which is 204 (51.0%) while the rest of the respondents are students with 34.0% ($N=136$), unemployed individuals with 1.7% ($N=7$), self-employed individuals with 8.5% ($N=34$), and retired individuals with 4.7% ($N=19$). For the education level, 12.5% ($N=50$) of the respondents have the education in high school level, 4.7% ($N=19$) of them are at the foundation level, and 11% ($N=44$) of them are at a diploma level. Whereas the bachelor's degree level obtains most of the respondents which is 62.3% ($N=249$), and last is the master's degree level with only 9.5% (38).

Table 4.2: The Use of Online Payment Technology

Variables	Options	Frequency	Percent
What types of online payment technology services do you use regularly?	Debit and Credit Cards	338	84.5%
	Bank Transfer	163	40.8%
	Online Banking	266	66.5%
	Touch n Go E-Wallet	388	97%
	Apple Pay	90	22.5%
	Others	3	0.9%
Which devices or platforms are you most likely to use for online payment technology?	Desktop or Laptops	209	52.3%
	Smartphone	396	99%
	Tablets	31	7.8%
What drives your motivation to use online payment technology?	Convenient	337	84.3%
	Accessibility	345	86.3%
	Trust and Security	223	55.8%
	Rewards and Incentives	223	55.8%
	Contactless Transactions	101	25.3%
How frequently do you use online payment technology?	Daily	344	86.0%
	Weekly	47	11.8%
	Monthly	9	2.2%
	Rarely	0	0.0%
	Never	0	0.0%
What type of transaction do you usually conduct through online payment technology?	Shopping	386	96.5%
	Bill Payment	276	69.0%
	Money Transfer	161	40.3%
	Others	13	3.25%

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Source: Developed for the research

On the other hand, to understand the online payment technology usage and habits of each respondent, a questionnaire regarding the use of online payment technology is designed in the survey questionnaire (See appendix). Based on Table 4.2, the table has shown that the method that is commonly used by the users is the Touch n Go E-wallet, which showed results for 97% of the 400 respondents, and then followed by the Debits and Credits Card for 84.5% of the 400 respondents. In this case, it can be explained that most of the users are using smartphones to conduct online payments and transactions, which showed 99% of 400 respondents since the Touch n Go E-Wallet is the most commonly used method among the 400 respondents. Besides, table 4.2 states that convenience (84.3% of 400 respondents) and accessibility (86.3% of 400 respondents) have critically driven the users' motivation to use online payment technology in their daily lives. After all, table 4.2 also indicates that there has been a circumstance where a frequency of 344 respondents (86.0%) are using online payment technology daily, 47 respondents (11.8%) using online payment technology weekly, only 9 respondents (2.2%) using it monthly and none of them rarely or never using the online payment technology before. Lastly, respondents have responded that most of them are using online payment technology for shopping (96.5% of 400 respondents), which may be using the online payment technology to conduct purchases in their daily routine such as buying food, buying daily used products, and others.

4.2 Inferential Analyses

4.2.1 Hypotheses Testing

Hypothesis 1

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H0: There is no relationship between the perceived trustworthiness of online payment technology and consumer purchase behavior.

H1: There is a relationship between the perceived trustworthiness of online payment technology and consumer purchase behavior.

Hypothesis 2

H0: There is no relationship between the privacy and security concerns of online payment technology and consumer purchase behavior.

H1: There is a relationship between the privacy and security concerns of online payment technology and consumer purchase behavior.

Hypothesis 3

H0: There is no relationship between the perceived usefulness of online payment technology and consumer purchase behavior.

H1: There is a relationship between the perceived usefulness of online payment technology and consumer purchase behavior.

Hypothesis 4

H0: There is no relationship between the user experience design of online payment technology and consumer purchase behavior.

H1: There is a relationship between the user experience design of online payment technology and consumer purchase behavior.

Table 4.3: Hypotheses Testing

		PT	PSC	PU	UED	CPB
PT	Pearson Correlation	1	.674**	.420**	.424**	.481**
	Sig (2 tailed)		< .001	< .001	< .001	< .001
	N	400	400	400	400	400

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PSC	Pearson Correlation	.674**	1	.429**	.482**	.549**
	Sig (2 tailed)	< .001		< .001	< .001	< .001
	N	400	400	400	400	400
PU	Pearson Correlation	.420**	.429**	1	.443**	.497**
	Sig (2 tailed)	< .001	< .001		< .001	< .001
	N	400	400	400	400	400
UE D	Pearson Correlation	.424**	.482**	.433**	1	.424**
	Sig (2 tailed)	< .001	< .001	< .001		< .001
	N	400	400	400	400	400
CPB	Pearson Correlation	.481**	.549**	.497**	.424**	1
	Sig (2 tailed)	< .001	< .001	< .001	< .001	
	N	400	400	400	400	400

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

Source: Developed for the research

Bivariate correlation in SPSS was run to examine and test if there is a relationship between the perceived trustworthiness, the privacy and security concerns, the perceived usefulness, and the user experience design of online payment technology and consumer purchase behavior. Based on table 4.3, it indicates that there is a relationship between the perceived trustworthiness of online payment technology and consumer purchase behavior ($r = 0.481, p < .001, N = 400$), so did as privacy and security concerns of online payment technology and consumer purchase behavior ($r = 0.591, p < .001, N = 400$), the perceived usefulness of online payment technology and consumer purchase behavior ($r = 0.497, p < .001, N = 400$), and user experience design of online payment technology and consumer purchase behavior ($r = 0.424, p < .001, N = 400$).

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4.2.2 Normality Assumption Testing for Each Variable

Table 4.4: Normality Assumption Testing

Variables	Minimum statistic	Maximum statistics	Mean statistics	Std. Deviation Statistics	Skewness		Kurtosis	
					Statistic	Std. Error	Statistic	Std. Error
Perceived trustworthiness	3.25	13.00	5.6794	1.36845	1.399	.122	3.965	.243
Privacy and security concerns	3.25	15.25	6.0925	1.88498	1.963	.122	4.866	.243
Perceived usefulness	3.25	13.60	7.4720	1.49345	.649	.122	1.643	.243
User experience design	3.25	16.25	5.7638	1.47221	1.645	.122	8.230	.243
Consumer purchase behavior	3.25	12.00	5.6269	1.40320	1.437	.122	3.145	.243

Source: Developed for the research

According to Table 4.4, the normality assumption of the variables was tested by kurtosis and skewness, histogram, normal P-P Plot of Regression Standardized Residual, and scatterplot. According to (NeuroImage, 2018), the acceptable value for skewness falls between -3 and 3, while the acceptable value for kurtosis falls between -10 and 10. In this case, the result from Table 4.3 shows that the skewness and kurtosis for each variable fell within the acceptable range (See Appendix 4.4). Other than that, each histogram for each variable also shows an acceptable curve that signifies a good normality for each of the variables. Besides, the result of the P-P Plot also showed that all of the scatters for each variable were tight closely and fell on the diagonal lines. Additionally, the scatterplot for each variable has shown an acceptable normality except for the scatterplot of the User Experience Design variable (UED).

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4.2.3 Independence Errors Testing

Table 4.5: Independent Errors Testing

Variables	R	R Squared	Adjusted R Squared	Std. Error of the Estimate	Durbin-Watson
1	.635 ^a	.403	.397	1.08992	1.823

a. Predictors: (Constant), PT, PSC, PU, UED

b. Dependent Variable: CPB

Source: Developed for the research

In order to ensure the errors or residuals of each variable will not affect the other variables, the Durbin-Watson Test was performed to detect autocorrelation in the regression analysis residuals. In this case, Durbin Watson indicated that a value of 2.0 in the Durbin Watson statistic indicated that there is 0% of the autocorrelation, and positive autocorrelation can be detected when the value is less than 2.0, and negative autocorrelation will be detected if the value is more than 2.0. As a result, the value of Durbin-Watson shown in Table 4.5 indicates there is a positive autocorrelation among the variables which also indicates the consistency with the assumption and not violate the independence of error since the Durbin-Watson value is 1.823.

4.2.4 Testing on Multicollinearity

Table 4.6: Multicollinearity Testing

Variable	Collinearity Tolerance	Statistics VIF
(Constant)		

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Perceived trustworthiness	.519	1.926
Privacy and security concerns	.489	2.045
Perceived usefulness	.724	1.381
User experience design	.692	1.445

Source: Developed for the research

According to Adeboye et al. (2014), the VIF is a multicollinearity indicator for multiple regression. Typically, a higher level of VIF is known to have a negative impact on the multiple regression analysis result, and therefore a lower level of VIF is always preferred by the researchers. This is because the VIF is useful in indicating the amount of multicollinearity-related inflation in the standard of errors associated with a given beta weight. Thus, a VIF that is greater than 2.5 begins to suggest a comparatively high degree of multicollinearity. Refers to Table 4.6, all VIF values of each of the variables are not bigger than 2.5 which is 1.926 for the Perceived Trustworthiness variable, 2.045 for the Privacy and Security Concerns variable, 1.381 for the Perceived Usefulness variable and 1.445 for the User Experience Design variable. Therefore, it can be concluded that the assumption of multicollinearity for each variable was not violated.

4.2.5 Multivariate Outlier Testing

Table 4.7: Multivariate Outlier Testing

Case number	Std. Residual	CPB	Predicted Value	Residual
3	-3.256	5.25	8.80	-3.549
17	-3.198	4.25	7.74	-3.486
31	3.987	11.00	6.65	4.346
63	4.166	12.00	7.46	4.541
67	3.317	9.25	5.64	3.615

a. Dependent Variable: CPB

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Source: Developed for the research

The data set's outlier was tested by using casewise diagnostics. Through casewise diagnostics in SPSS, it helps to determine any possible residuals or outliers in the data (IBM SPSS Statistics, 2023). Based on Table 4.7, 5 possible outliers were found from the dataset of 400 cases. The 5 possible outliers are Case 3, case 17, case 31, case 63, and case 67. To further examine if each possible outlier is an influential case, Cook Distance was performed to evaluate the outliers. Generally, any outlier with a Cook-distance value that is greater than 1 can be regarded as significantly influential and needs to be further considered (Taneja, 2023). From Table 4.7, it shows that the mean of the Cook-Distance value for the outliers is .005. In fact, the outliers shown do not violate the assumptions and do not require further consideration.

4.2.6 Analysis of Variance (ANOVA)

Table 4.8: ANOVA

Model		Sum of Squares	df	Mean square	F	Sig
1	Regression	316.396	4	79.099	66.586	< .001
	Residual	469.227	395	1.188		
	Total	785.624	399			

- a. Dependent Variable: CPB
- b. Predictors: (Constant), PT, PSC, PU, UED

Source: Developed for the research

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According to Kenton (2021), Analysis of Variance (ANOVA) is a statistical technique that divides the observed variance data into distinct components for the use of further testing. In this case, one-way ANOVA was utilized in this study to analyze the data from four groups to determine the correlation between the independent variables (Perceived Trustworthiness, Privacy and Security Concerns, Perceived Usefulness, and User Experience Design) and the dependent variable (Consumer Purchase Behavior). Based on Table 4.8, it has showed a p-value of the predictors is $< .001^b$. Thus, it can indicate that the independent variables for the study are relatively significant. Besides, Table 4.7 also shows the F-value for the predictors which is 66.586. Hence, it can be concluded that the null hypothesis should be rejected since there is a substantial difference between at least two groups of means. Overall, it can be concluded and indicated that the independent variables (Perceived Trustworthiness, Privacy and Security Concerns, Perceived Usefulness, and User Experience Design) can be considered statistically significant.

4.2.7 Multiple Linear Regression Analysis

Table 4.9: Multiple Linear Regression Model

Variables	Unstandardized β	Coefficients Std. Error	Standardized Coefficients β	Sig	Hypothesis
(Constant)	1.079	.314		$< .001$	
Perceived Trustworthiness	.121	.055	.118	.030	H1 supported
Privacy and Security Concerns	.225	.041	.302	$< .001$	H1 supported
Perceived Usefulness	.254	.043	.270	$< .001$	H1 supported

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User Experience Design	.104	.045	.109	.021	H1 supported
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Source: Developed for the research

Multiple Linear Regression Analysis was performed to examine if the perceived trustworthiness, privacy and security concerns, perceived usefulness, and the user experience design of online payment technology can predict consumer purchase behavior. Multiple Linear Regression was built based on basic linear regression when there is more than one independent variable (Tranmer et al., 2020). From Table 4.9, the combination of the variables (the perceived trustworthiness, the privacy and security concerns, the perceived usefulness, and user experience design) significantly predicts the changes in consumer purchase behavior, $F(4, 395) = 66.586, p < .001^b$. Additionally, the R square and adjusted R square values were 40.3% and 39.7% respectively. Thus, this indicates that 40.3% of the variance in the changes in consumer purchase behavior was explained by the model. Other than that, Table 4.8 also indicates that all four independent variables were statistically significant, with the privacy and security concerns with the highest beta value (Beta = 0.302, $p < .001$), followed by perceived usefulness (Beta = 0.270, $p < .001$), perceived trustworthiness (Beta = 0.118, $p = .030$) and user experience design has come last with the lowest beta value (Beta = 0.109, $p = .021$).

4.3 Conclusion

In conclusion, this chapter has concluded and provided insights into descriptive analysis and inferential analysis through the outcome of the data analysis for this study, which aimed to investigate the factors of online payment technology in influencing consumer purchase behavior. In fact, this chapter has included the descriptive analysis

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of demographic variables including gender, age, employment status, education level, income level, and frequency of using online payment technology as it is crucial in enhancing the respondents' efficacy. Additionally, this chapter also focused on the data analysis result that indicates a relationship between the independent variables (Perceived Trustworthiness, Privacy and Security Concerns, Perceived Usefulness, and User Experience Design) and the dependent variables (Consumer Purchase Behavior). Overall, this chapter can conduct data analysis that provides a comprehensive understanding of factors of online payment technology in influencing consumer purchase behavior, which has also assisted in achieving the study's goals. Moving forward, the next chapter will discuss the implications and limitations of this study and also give recommendations for future research.

Chapter 5 : Discussion, Conclusion, and Implications

5.0 Introduction

In this chapter, the study will present a comprehensive discussion of major findings in validating the research objectives and hypotheses stated, together with the conclusion based on these findings and the implications and limitations of the study. Subsequently, the implications and limitations discussed in this chapter will be recognized openly and then followed by recommendations to emphasize the necessity of the result interpretation which also offer several suggestions for future research directions. In the end, this chapter serves as a conclusion for the thorough study and investigations in providing a comprehensive direction and roadmap for future research attempts.

5.1 Discussion of Major Findings

The discussion will be focused on the findings of the previous chapter to examine the relationship between the independent variables, which are the perceived trustworthiness of online payment technology, the privacy and security concerns of online payment technology, the perceived usefulness of online payment technology and the user experience design of online payment technology and the dependent variable which is consumer purchase behavior.

Table 5.1: Multiple Linear Regression Results

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Variables	β	Sig	Hypothesis
Perceived Trustworthiness	.118	.030	H1 supported
Privacy and Security Concerns	.302	< .001	H1 supported
Perceived Usefulness	.270	< .001	H1 supported
User Experience Design	.109	.021	H1 supported

Source: Developed for the research

5.1.1 Perceived Trustworthiness

The finding reported that there is a relationship between the perceived trustworthiness of online payment technology and consumer purchase behavior, and thus the null hypothesis is rejected. According to Faqih (2022), potential customers' behavioral intention to adopt online payment technology and use web-based buying is determined by their perceived trustworthiness toward online payment technology, which has shown a positive relationship between the perceived trustworthiness of online payment technology and consumer purchase behavior. Additionally, consumers will be more likely to have a higher level of trust, lower level of risk, and greater inclination to make impulsive purchases if there is a highly trusted online payment technology (Min Chung Han, 2023). Therefore, if the online payment technology has trustful service providers, a consumer will have a higher level of trust toward the adoption of online payment technology, which also encourages the consumer to make impulsive purchases. Perceived trustworthiness of online payment technology, can be defined as a behavior in which consumers feel that online payment technology used is dependable, credible, and safe to use and conduct

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transactions, it has a positive impact on consumer purchase behavior, which the more consumer trust have on the online payment technology, the higher the willingness for them to use the online payment technology to conduct transaction through online payment technology.

5.1.2 Privacy and Security Concerns

Based on the result above, it shows that there is a relationship between privacy and security concerns of online payment technology and consumer purchase behavior, and hence rejects the null hypothesis. According to past studies (Wang & Huang, 2023), online payment technology that offers a variety of privacy and security methods that can lower the risk of fraud and identity theft is more likely to be adopted by the consumer which can also affect their purchase behavior in the same way. There is also a study conducted stating that there is a positive correlation between the privacy and security concerns of online payment technology and consumer purchase behavior, in which the consumer purchase intention is positively affected by the privacy and security of the online payment technology (Wahad et al., 2023). Based on this circumstance, if the customer feels the online payment technology is secure, they will be more inclined to conduct transactions through it, and they will become more likely to purchase if they feel the online payment technology is safe enough. However, the increased advancement in technology, on the other hand, has caused the cases and risk of identity theft and fraud to increase from time to time. In fact, the cases of identity theft and fraud are continuously increasing based on the cases when consumers are using online payment technology methods such as credit cards to make online payments or provide their personal and financial information to merchants. In this case, the concerns about the privacy and security of online payment technology will affect the customer's intention to use and conduct online transactions as the customers

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may fear the security of using credit cards when shopping online. Additionally, Hille et al. (2015) stated that customers will also be anxious about losing authority over their private data when they transfer their personal and financial data through online payment technology to carry out certain transactions.

5.1.3 Perceived Usefulness

According to the result, it shows that there is a relationship between the perceived usefulness of online payment technology and consumer purchase behavior. Thus, the null hypothesis is rejected. Convenience has been a critical factor in positively affecting consumers' attitudes toward the perceived usefulness of one online payment technology, in which consumer intention to use certain online payment technology is assessed and judged by the conveniences and benefits that the online payment technology brings for the consumer (Agustian Wardana et al., 2024). In this case, the convenience and benefits that an online payment technology brings for the consumer in terms of the user interface, system quality, and service quality, have played an important role and have a significant impact on the consumers' willingness to use online payment technology to conduct any financial transactions and make any online purchase. Other than that, the findings reported that the degree to which individuals believe that utilizing a specific piece of technology in terms of perceived usefulness will improve their job performance. Similarly, certain people believe that their shopping task performance and decision-making can be enhanced by the perceived usefulness of online payment technology when making payments through online payment technology (Sohn, 2017). To make it clear, the perceived usefulness of online payment technology has encouraged consumer intention to use online payment technology toward making online transaction, it is because the conveniences and benefits brought to the

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consumers are significant, which also changes consumer purchase behavior by affecting their shopping habits and decision-making (Yang et al., 2022).

5.1.4 User Experience Design

The findings indicated that there is a relationship between user experience design of online payment technology and consumer purchase behavior. As a result, the null hypothesis is rejected. Based on the findings, a visually and useful appealing user interface can enhance the individuals' task performance and have a beneficial impact on its usability and so on increase consumer impulsiveness (Pelet & Taieb, 2022). In relations, the user experience design elements such as user interface, visual appearance, and usability of features have significantly affected the shaping of consumer purchase behavior when making online purchases or conducting transactions using online payment technology. Therefore, many consumers are wary and rely on the satisfaction that certain products can bring them in terms of convenience, safety, trustworthiness, and ease of performance. In the context of customers, when they are satisfied with their experience, they become more likely to make purchases (Bilal et al., 2024). Therefore, when online payment technology can provide them with a better experience and help them make better purchase decisions, their purchase behavior will be switched and changed by it. Despite this, driving into the psychological, user experience design has greatly impacted consumer attitude and behavior changes and addresses the emotional dimensions of user-system interactions. Based on the findings, the user experience design of online payment technology has been linked with consumer purchase behavior, as it was found that improvement in the user experience design is a critical factor in enhancing the consumers' overall performance and purchase decision-making process (Ma et al., 2023).

5.2 Implications of the Study

The findings of the study will include both practical and theoretical implications for the changes in consumer purchase behavior in terms of the online payment technology sectors. Through the implications of the study, policymakers and practitioners should be able to understand the importance and theories drawn from the results and conclusions of this study.

5.2.1 Practical Implications

Overall, the study has presented a comprehensive understanding of the relationship between perceived trustworthiness, privacy and security concerns, perceived usefulness, user experience design, and changes in consumer purchase behavior. Based on the current findings, several practical implications were provided for future policymakers and practitioners for future studies. The results have shown that there is a relationship between perceived trustworthiness, privacy and security concerns, perceived usefulness, user experience design, and consumer purchase behavior. In this case, policymakers or practitioners for future studies can pay more attention to these four variables, which can influence consumer purchase behavior in terms of risk and personal satisfaction when using online payment technology. Therefore, future studies can explore and come out with certain related research and information regarding the observation of how consumer purchase behavior is being changed by features of online payment technology. For instance, features that online payment technology is equipped with have brought convenience and service quality to customers and consequently changed their purchase behavior. Based

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on the findings from previous studies, consumer satisfaction with certain online payment technologies can result in changes in their purchase behavior. Thus, with better insight into the current studies, policymakers or practitioners can conduct research based on the features of online payment technology in providing convenience and user satisfaction. As customer user satisfaction increases, their purchase behavior and decisions will further be affected by online payment technology.

5.2.2 Theoretical Implications

Based on the current findings of the study, it may be possible to contribute to future academic perspectives regarding the consumer purchase behavior change process. In this case, the study has further explored and advanced the understanding of the underlying relationship between perceived trustworthiness, privacy and security concerns, perceived usefulness, user experience design, and changes in consumer purchase behavior. As a result, the findings of the study have contributed to the existing theories and literature on technology adoption and consumer behavior, which also enhanced the understanding regarding the potential factors for the variables in changing consumer purchase behavior as reported in the result of the study. Additionally, throughout the study, it also highlighted the importance of the variables in affecting and shaping consumer purchase behavior, which have been related critically to the theories stated in previous chapters. This study also provided a beneficial framework that provides a reference for future studies because there are only a few previous studies that focused on consumer purchase behavior changes in terms of online payment technology. Other than that, the present study has found that the variables stated are positively affecting consumer purchase behavior. In this case, it has supported the study framework by demonstrating the online payment technology that is equipped with certain features in terms of perceived

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trustworthiness, privacy and security, perceived usefulness, and user experience design can truly contribute to the factors in shaping and changing consumer purchase behavior.

5.3 Limitations of the Study

First and foremost, this study has used a survey questionnaire as a data collection tool, which is an instrument that consists of self-report measures, which can impose a limitation on the study. In this case, this instrument can pose a limitation for the research which is the response bias. In terms of this, some of the respondents may provide inaccurate and misleading information, which the respondents may just answer the survey question casually due to the bias in answering the survey question. That is, the respondents may feel that the researcher is seeking some respondents to respond to the survey, and they will just say “yes” or “agree” when answering the survey questions. On the other hand, a situation named “social desirability bias” can occur when using the survey questionnaire. In this case, the respondents may be inclined to manipulate answers to the questionnaire and try to make their answers to be consistent with others.

Other than that, another limitation of the study is the time and resource constraints. The duration of the study has posed a limitation as the research was only given with a limited duration. In this case, it can be said that completing all aspects can be challenging. When the time is limited, it restricts the breadth of the study, which forces the study to be only focused on particular facets of the subjects, and hence, it will be less chance of carrying out a more thorough investigation of the changes in consumer purchase behavior. Additionally, due the time constraints, it has also affected the data collection process, which may impact the reliability of the data analysis since there is not enough time for the data collection and data analysis and interpretations. Other than that, resource constraints also posed another limitation for the study in which, it has

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proven difficult when recruiting a sufficient number of journal and article sources for the study.

Furthermore, external factors such as technological changes and economic and regulation changes also pose a limitation for the study. As the study is investigating factors of online payment technology in influencing consumer purchase behavior and the technology has kept changing all the time. In terms of this, the evolution and advancement of technology have shown a rapid change. As a result, changes in online payment technology brought about by technological advancements may have an impact on consumer perceptions as the changes may offer new payment options or the development of advancement features that enhance user satisfaction. Furthermore, the implementation of new online payment techniques and enhancements to the user interface also has the potential to modify online payment patterns and impact consumer purchase decision-making. Other than that, economic and regulatory changes will also limit the study in several ways. For instance, if the economy keeps changing and fluctuating all the time, the purchasing power of consumers can be affected, which has shown a negative relationship to their purchase behavior. Besides, if the government imposes certain regulations related the online payment technology, consumer adoption of online payment technology will also be changed, and their purchasing behavior will also be influenced in terms of the online payment technology. Overall, there are several limitations to the study, however, these limitations will not detract from the significance of the findings since the study is conducted in a sufficient period with the latest possible trends.

5.4 Recommendations for Future Research

First of all, there are several recommendations to handle the limitations of the study. To encounter the limitations of data collection tools, it is recommended that a survey

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questionnaire with self-report measures can be replaced or added with other types of collection tools to ensure the data validity and reliability. In this case, the future study can utilize behavioral observation methods by directly observing the behavior of the participants when using the online payment technology. In fact, this may help to avoid the limitation of self-reporting and at the same time also offer insightful real-time information of the participants to ensure the data's credibility and reliability. Moreover, to encounter the data collection tool limitation, future study is also encouraged to include validation checks for the respondents' answers by evaluating the correctness of answers to ensure the participants are answering the questions correctly.

Other than that, there is also a possibility that the design of the questionnaire would affect the research findings. Therefore, it is recommended to implement a more concise and simple formatting questionnaire and several alternatives questionnaire. By using simple language and formatting, it increases the chances of handling problems which makes the questionnaire more suitable for participants of all ages, which can affect the results' validity and accuracy. Additionally, implementing a more concise and simpler questionnaire can also help to ensure that the respondents will not get bored or impatient when answering the questionnaire. Besides, several survey questionnaire alternatives can be considered to ensure the survey questionnaire can be suitable for target populations. At the same time, it could reduce the probability of misunderstanding the questionnaire and so on increase the validity, and provide more flexibility for respondents that may come from different demographic segments.

On the other hand, it is a possibility that economic and regulatory changes can affect the result of the research. As the economy and regulations have kept changing from time to time, it is recommended to adopt and conduct a longitudinal design for the research. If the funding and time permits, future research can take into consideration a longitudinal research design that can observe and monitor consumer purchase behavior from time to time during the changes in the economy and regulations. In this case, this method can assist in seeing the patterns and comprehending the relationship between

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the changes in the economy and regulations and the alterations of the consumer in making and shaping the purchase behavior process through online payment technology.

Lastly, as the results of the current study stated, there is a relationship between perceived trustworthiness, privacy and security concerns, perceived usefulness, user experience design of online payment technology, and consumer purchase behavior. However, based on the findings from the previous chapter, there are 40.3% of the variance in the changes in consumer purchase behavior was explained by the model. Thus, it is also suggested that future research can focus on the area of these variables to get a deeper and more in-depth detailed understanding of the potential relationship with the changes in consumer purchase behavior, thereby, contributing more theoretical knowledge and information to the public readers and researchers. Other than that, future researchers can also expand the research by exploring other predictors and independent variables for the dependent variable. Additionally, future research can also focus on conducting qualitative research method for the study, which allow the researchers to understand and improve insights on the underlying factors and the variance unexplained.

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APPENDICES

Appendix A: Personal Data Protection Notice

PERSONAL DATA PROTECTION NOTICE

Please be informed that in accordance with Personal Data Protection Act 2010 (“PDPA”)

which came into force on 15 November 2013, Universiti Tunku Abdul Rahman (“UTAR”)

is hereby bound to make notice and require consent in relation to collection, recording,

storage, usage and retention of personal information.

1. Personal data refers to any information which may directly or indirectly identify a person which could include sensitive personal data and expression of opinion. Among others it includes:

- a) Name
- b) Identity card
- c) Place of Birth
- d) Address
- e) Education History
- f) Employment History
- g) Medical History
- h) Blood type
- i) Race
- j) Religion
- k) Photo
- l) Personal Information and Associated Research Data

2. The purposes for which your personal data may be used are inclusive but not limited

to:

- a) For assessment of any application to UTAR

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- b) For processing any benefits and services
- c) For communication purposes
- d) For advertorial and news
- e) For general administration and record purposes
- f) For enhancing the value of education
- g) For educational and related purposes consequential to UTAR
- h) For replying any responds to complaints and enquiries
- i) For the purpose of our corporate governance
- j) For the purposes of conducting research/ collaboration

3. Your personal data may be transferred and/or disclosed to third party and/or UTAR collaborative partners including but not limited to the respective and appointed outsourcing agents for purpose of fulfilling our obligations to you in respect of the purposes and all such other purposes that are related to the purposes and also in providing integrated services, maintaining and storing records. Your data may be shared when required by laws and when disclosure is necessary to comply with applicable laws.

4. Any personal information retained by UTAR shall be destroyed and/or deleted in accordance with our retention policy applicable for us in the event such information is no longer required.

5. UTAR is committed in ensuring the confidentiality, protection, security and accuracy of your personal information made available to us and it has been our ongoing strict policy to ensure that your personal information is accurate, complete, not misleading and updated. UTAR would also ensure that your personal data shall not be used for political and commercial purposes.

Consent:

6. By submitting or providing your personal data to UTAR, you had consented and agreed for your personal data to be used in accordance to the terms and conditions in the Notice and our relevant policy.

7. If you do not consent or subsequently withdraw your consent to the processing and disclosure of your personal data, UTAR will not be able to fulfill our obligations or to

INVESTIGATING THE FACTORS OF ONLINE PAYMENT TECHNOLOGY
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contact you or to assist you in respect of the purposes and/or for any other purposes related to the purpose.

8. You may access and update your personal data by writing to us at .

Acknowledgment of Notice

I have been notified and that I hereby understood, consented and agreed per UTAR above notice.

I disagree, my personal data will not be processed.

.....

Name:

Date:

Appendix 3. 1: Cochran Formula Sample Size Table

Population size	Confidence level = 95%			Confidence level = 99%		
	Margin of error			Margin of error		
	5%	2,5%	1%	5%	2,5%	1%
100	80	94	99	87	96	99
500	217	377	475	285	421	485
1.000	278	606	906	399	727	943
10.000	370	1.332	4.899	622	2.098	6.239
100.000	383	1.513	8.762	659	2.585	14.227
500.000	384	1.532	9.423	663	2.640	16.055
1.000.000	384	1.534	9.512	663	2.647	16.317

Adapted from: Checkmarket (2017, November 23). Cochran Formula Sample Size Table

Appendix 3. 2: Reliability Testing Results

Consumer Purchase Behavior

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Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.761	.752	4

Perceived Trustworthiness

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.773	.777	4

Privacy and Security Concerns

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.859	.857	4

Perceived Usefulness

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.700	.718	5

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User Experience Design

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.758	.765	4

Appendix 3. 3: Instruction of Survey Questionnaire

Dear respondent,

Goodday, I am Chua Jun Quan, a final year undergraduate student, currently pursuing a degree in Bachelor of International Business (HONS) under the Faculty of Management and Accountancy (FAM) from Universiti Tunku Abdul Rahman (UTAR) Sungai Long Campus. I am currently conducting my Final Year Project (FYP) entitled "**Investigating Factors of Online Payment Technology in Influencing Consumer Purchase Behavior**".

This survey consists of 3 parts. Section A (Demographic Question) will require you to choose the most appropriate answer that best describes yourself relevant to the situation. Additionally, Section B (The Use of Online Payment Technology) will require you to choose which online payment technology you are frequently using, and whether are you using online payment technology to make most purchases in your daily life. Moreover, Section C (Dependent Variable and Independent Variable) will require you to choose from the Likert Scale, where 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree.

Please answer ALL questions and provide accurate answers in this survey. It will take approximately 10 - 15 minutes to answer this survey. All data and information collected will be used solely for academic research and will be kept confidential.

I would be very grateful for your participation and help in this research project.

For any inquiries, please do not hesitate to contact me at 012-7512501, or email junquanchua0@gmail.com/junquanchua0@1utar.my. Thank you.

Appendix 3. 4: Initial Enquiry

1. Do you have any experience in using online payment technology? *

- Yes
- No (Thank you for your participation)

INVESTIGATING THE FACTORS OF ONLINE PAYMENT TECHNOLOGY IN INFLUENCING CONSUMER PURCHASE BEHAVIOR

Appendix 3. 5: Demographic Profile

1. What is your gender? *

- Male
- Female

2. What categories best describe your age? *

- 18 - 24 years old
- 25 - 34 years old
- 35 - 44 years old
- 45 - 54 years old
- 55 - 64 years old

3. What is your occupation or employee status? *

- Students
- Employed
- Unemployed
- Self-employed
- Retired

4. What is your education level? *

- High School
- Foundation
- Diploma
- Bachelor's Degree
- Master's Degree

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5. What categories best describe your income level? *

- RM1,500 and below
- RM1,501 to RM2,500
- RM2,501 to RM3,500
- RM3,501 and above

Appendix 3. 6: The Use of Online Payment Technology

1. What types of online payment technology service do you use regularly? *

- Debit or Credit Cards
- Bank Transfer
- Online Banking
- Touch n Go E-wallet
- Apple Pay
- Other...

2. Which devices or platforms are you most likely to use for online payment technology? *

- Desktop or Laptops
- Smartphone
- Tablets
- Other...

**INVESTIGATING THE FACTORS OF ONLINE PAYMENT TECHNOLOGY
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3. What drives your motivation to use online payment technology?

- Convenient
- Accessibility
- Trust and Security
- Rewards and Incentives
- Contactless Transaction

4. How frequently do yo use online payment technology? *

- Daily
- Weekly
- Monthly
- Rarely
- Never

5. What type of transaction do you usually conduct through online payment technology? *

- Shopping
- Bill Payment
- Money Transfer
- Other...

Appendix 3. 7: Questionnaire

Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Consumer Purchase Behavior (DV)					

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1. The use of online payment technology positively influences my purchasing decisions, making me more likely to buy items more frequently.					
2. My shopping behavior changes when I use discount promotions offered through online payment technologies.					
3. I regularly seek out and take advantage of discount promotions offered for using online payment technologies.					
4. I tend to engage in spontaneous shopping when online payment technologies offer discount promotions.					
Perceived Trustworthiness (IV)					
1. I believe that the online payment technology I used operates with high integrity.					
2. I trust the online payment technology I used completely.					
3. I believe that the service providers of the online payment technology I used are trustworthy.					
4. I feel that the online payment technology I used is more secure than other payment methods.					
Privacy and Security Concerns (IV)					

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1. My financial transactions would be secure when using online payment technology services.					
2. I feel safe providing personal and private information over online payment technology because I believe the risk of information abuse is lower in this system.					
3. I feel secure sending sensitive information across online payment technology systems.					
4. My transactions and personal information will not be monitored by any unauthorized third party or the service providers.					
Perceived Usefulness (IV)					
1. There are a variety of online payment technologies available for conducting transactions and making purchases.					
2. Using online payment technology that offers rewards based on my loyalty encourages me to change my purchasing behavior.					
3. Online payment technology enables me to make purchases conveniently at any time.					
4. Transaction time of online payment technology are faster than other payment methods.					

INVESTIGATING THE FACTORS OF ONLINE PAYMENT TECHNOLOGY
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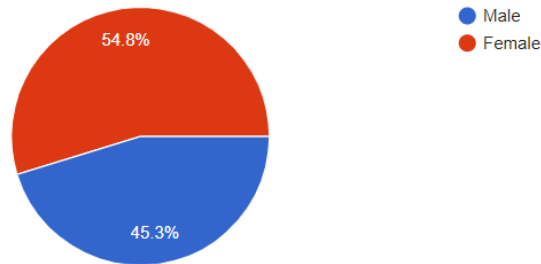
5. I find it convenient to use online payment technologies for international purchases.					
User Experience Design (IV)					
1. Interacting with online payment technology during payment processing is straightforward for me.					
2. Using online payment technology has improved my skills in handling online transactions.					
3. The online payment technology system is user-friendly and easy to understand.					
4. Performing tasks like accessing menus and using other functions in the online payment technology is effortless.					

Appendix 4. 1: Survey Responses

1. What is your gender?

400 responses

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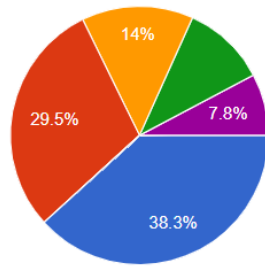


INVESTIGATING THE FACTORS OF ONLINE PAYMENT TECHNOLOGY IN INFLUENCING CONSUMER PURCHASE BEHAVIOR

2. What categories best describe your age?

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400 responses

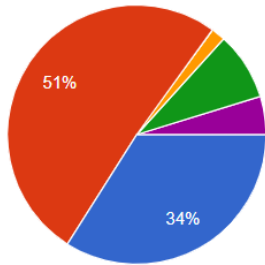


- 18 - 24 years old
- 25 - 34 years old
- 35 - 44 years old
- 45 - 54 years old
- 55 - 64 years old

3. What is your occupation or employee status?

 Copy

400 responses

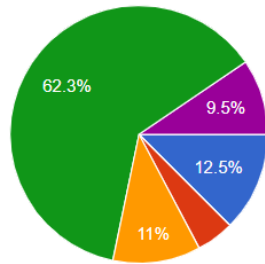


- Students
- Employed
- Unemployed
- Self-employed
- Retired

4. What is your education level?

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400 responses

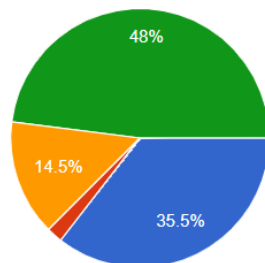


- High School
- Foundation
- Diploma
- Bachelor's Degree
- Master's Degree

5. What categories best describe your income level?

 Copy

400 responses

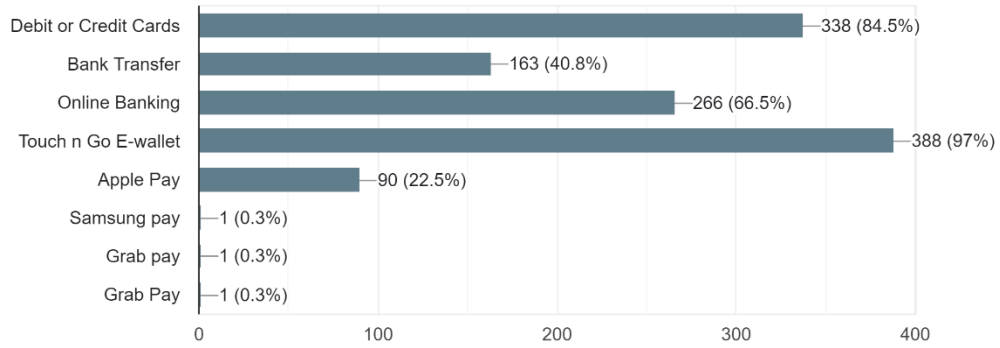


- RM1,500 and below
- RM1,501 to RM2,500
- RM2,501 to RM3,500
- RM3,501 and above

INVESTIGATING THE FACTORS OF ONLINE PAYMENT TECHNOLOGY IN INFLUENCING CONSUMER PURCHASE BEHAVIOR

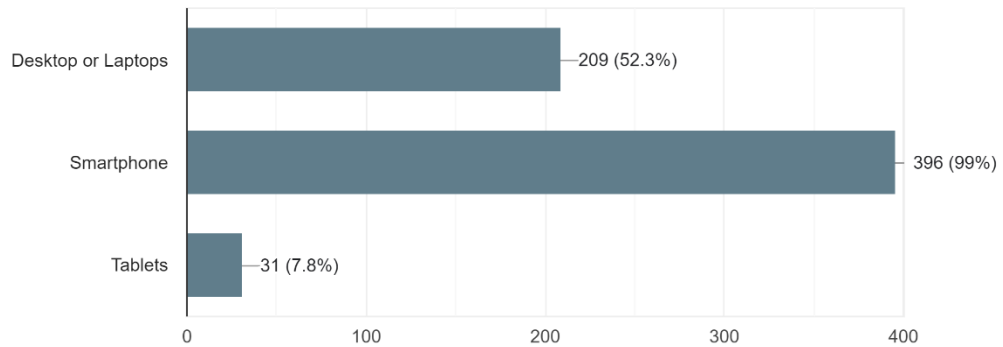
1. What types of online payment technology service do you use regularly?

400 responses



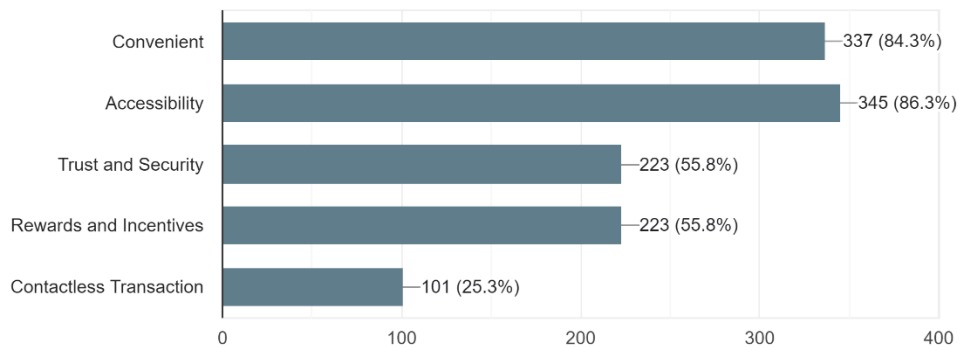
2. Which devices or platforms are you most likely to use for online payment technology?

400 responses



3. What drives your motivation to use online payment technology?

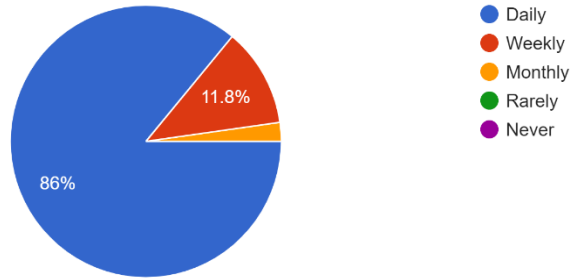
400 responses



INVESTIGATING THE FACTORS OF ONLINE PAYMENT TECHNOLOGY IN INFLUENCING CONSUMER PURCHASE BEHAVIOR

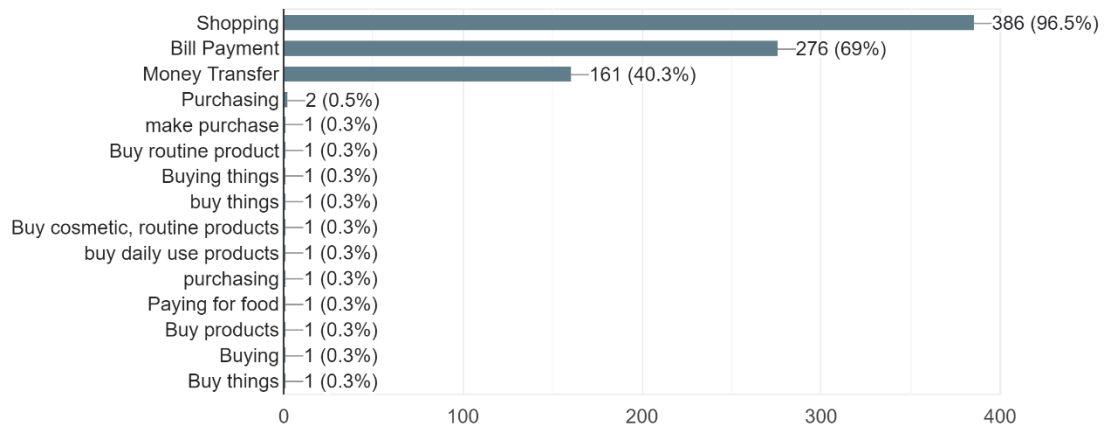
4. How frequently do you use online payment technology?

400 responses



5. What type of transaction do you usually conduct through online payment technology?

400 responses



Appendix 4. 2: Hypotheses Testing

INVESTIGATING THE FACTORS OF ONLINE PAYMENT TECHNOLOGY
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Correlations

		PT	PSC	PU	UED	CPB
PT	Pearson Correlation	1	.674**	.420**	.424**	.481**
	Sig. (2-tailed)		<.001	<.001	<.001	<.001
	N	400	400	400	400	400
PSC	Pearson Correlation	.674**	1	.429**	.482**	.549**
	Sig. (2-tailed)	<.001		<.001	<.001	<.001
	N	400	400	400	400	400
PU	Pearson Correlation	.420**	.429**	1	.443**	.497**
	Sig. (2-tailed)	<.001	<.001		<.001	<.001
	N	400	400	400	400	400
UED	Pearson Correlation	.424**	.482**	.443**	1	.424**
	Sig. (2-tailed)	<.001	<.001	<.001		<.001
	N	400	400	400	400	400
CPB	Pearson Correlation	.481**	.549**	.497**	.424**	1
	Sig. (2-tailed)	<.001	<.001	<.001	<.001	
	N	400	400	400	400	400

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

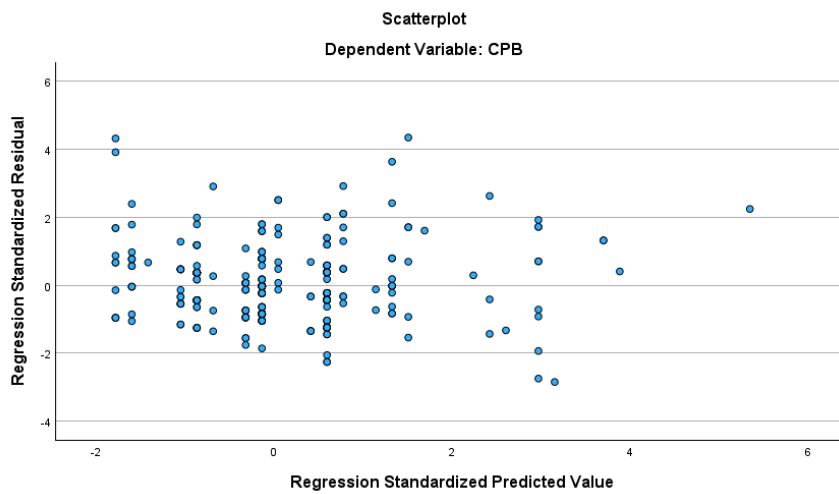
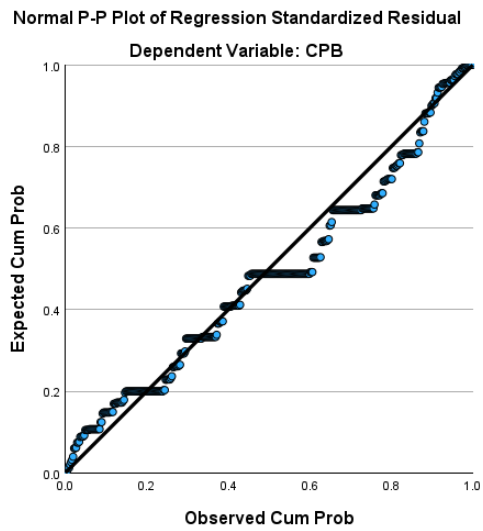
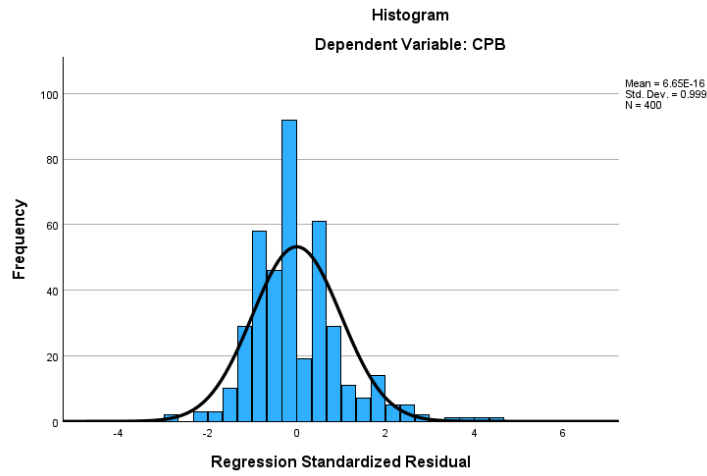
Appendix 4. 3: Normality Assumptions Testing

Descriptive Statistics

	N Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Deviation Statistic	Skewness		Kurtosis	
						Statistic	Std. Error	Statistic	Std. Error
PT	400	3	13	5.68	1.368	1.399	.122	3.965	.243
PSC	400	3	15	6.09	1.885	1.963	.122	4.866	.243
PU	400	4	14	7.47	1.493	.649	.122	1.643	.243
UED	400	3	16	5.76	1.472	1.645	.122	8.230	.243
CPB	400	3	12	5.63	1.403	1.437	.122	3.145	.243
Valid N (listwise)	400								

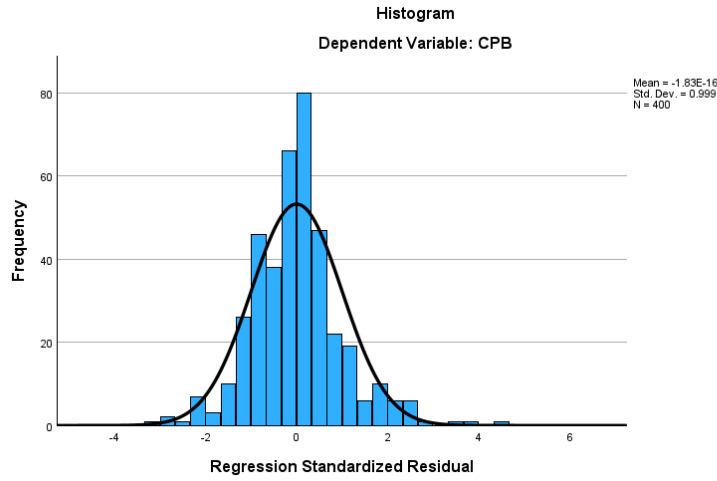
Perceived Trustworthiness

INVESTIGATING THE FACTORS OF ONLINE PAYMENT TECHNOLOGY IN INFLUENCING CONSUMER PURCHASE BEHAVIOR

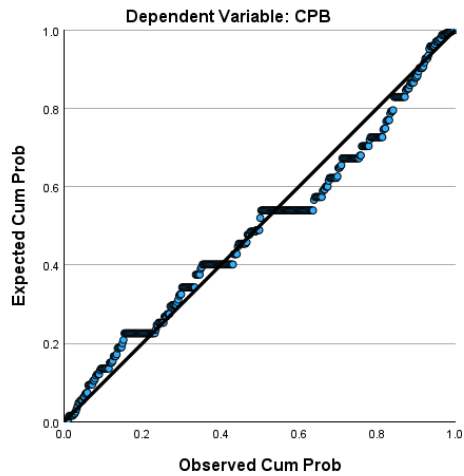


INVESTIGATING THE FACTORS OF ONLINE PAYMENT TECHNOLOGY IN INFLUENCING CONSUMER PURCHASE BEHAVIOR

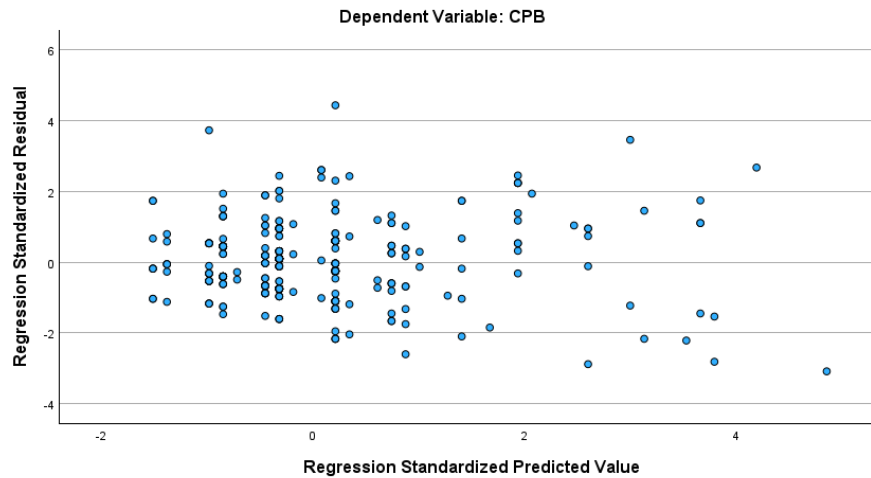
Privacy and Security Concerns



Normal P-P Plot of Regression Standardized Residual

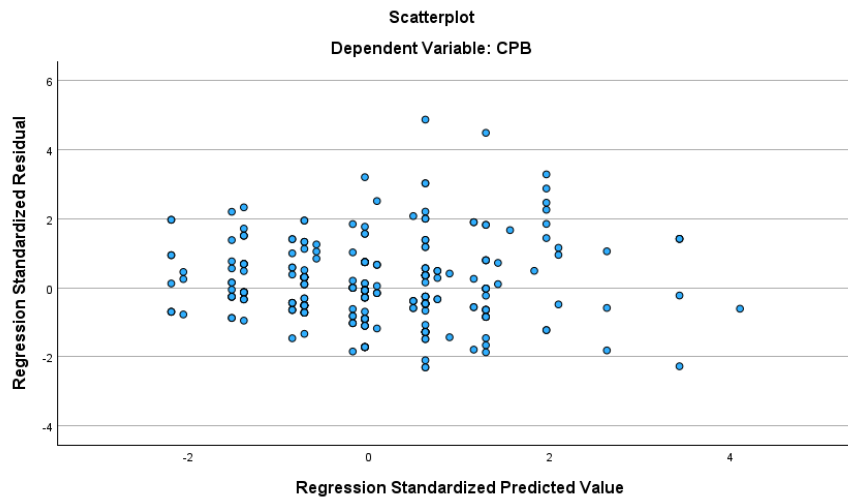
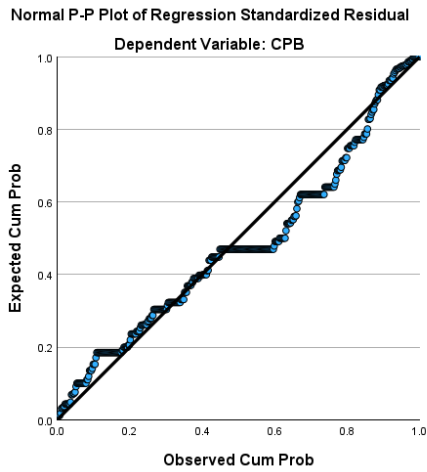
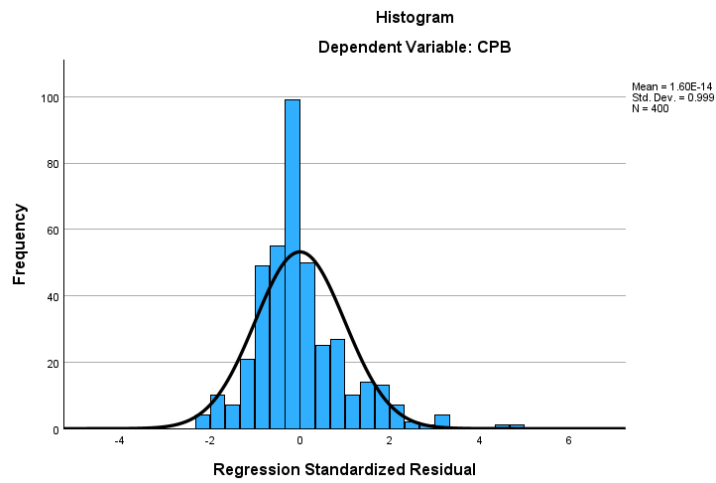


Scatterplot



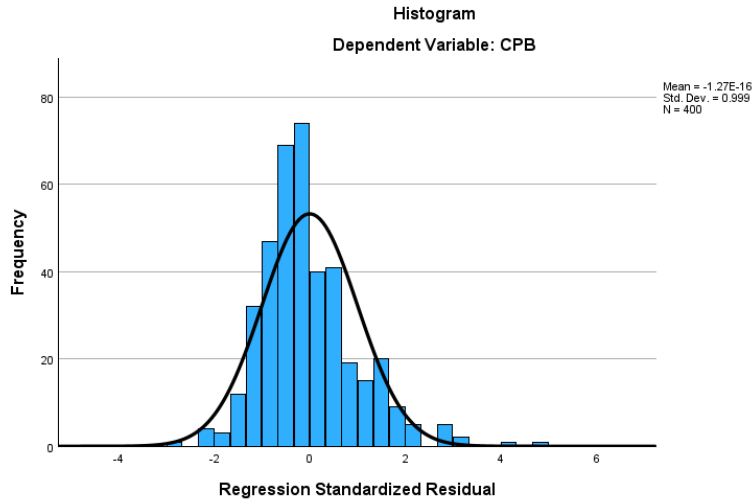
INVESTIGATING THE FACTORS OF ONLINE PAYMENT TECHNOLOGY IN INFLUENCING CONSUMER PURCHASE BEHAVIOR

Perceived Usefulness

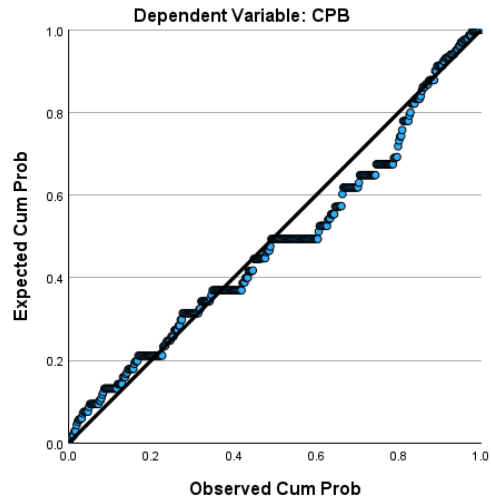


INVESTIGATING THE FACTORS OF ONLINE PAYMENT TECHNOLOGY IN INFLUENCING CONSUMER PURCHASE BEHAVIOR

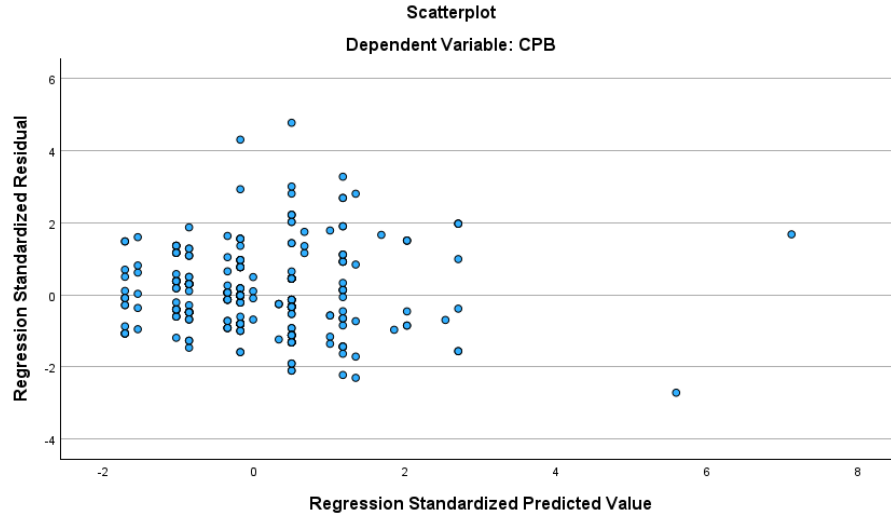
User Experience Design



Normal P-P Plot of Regression Standardized Residual



INVESTIGATING THE FACTORS OF ONLINE PAYMENT TECHNOLOGY
IN INFLUENCING CONSUMER PURCHASE BEHAVIOR



Appendix 4. 4: Independent Error Testing

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.635 ^a	.403	.397	1.090	1.823

a. Predictors: (Constant), UED, PT, PU, PSC

b. Dependent Variable: CPB

Appendix 4. 5: Multicollinearity Testing

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.079	.314		3.439	<.001		
	PT	.121	.055	.118	2.185	.030	.519	1.926
	PSC	.225	.041	.302	5.424	<.001	.489	2.045
	PU	.254	.043	.270	5.911	<.001	.724	1.381
	UED	.104	.045	.109	2.326	.021	.692	1.445

a. Dependent Variable: CPB

INVESTIGATING THE FACTORS OF ONLINE PAYMENT TECHNOLOGY
IN INFLUENCING CONSUMER PURCHASE BEHAVIOR

Appendix 4. 6: Multivariate Outlier Testing

Casewise Diagnostics^a

Case Number	Std. Residual	CPB	Predicted Value	Residual
3	-3.256	5	8.80	-3.549
17	-3.198	4	7.74	-3.486
31	3.987	11	6.65	4.346
63	4.166	12	7.46	4.541
67	3.317	9	5.64	3.615

a. Dependent Variable: CPB

Appendix 4. 7: Analysis of Variance (ANOVA)

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	316.396	4	79.099	66.586	<.001 ^b
	Residual	469.227	395	1.188		
	Total	785.624	399			

a. Dependent Variable: CPB

b. Predictors: (Constant), UED, PT, PU, PSC

Appendix 4. 8: Multiple Linear Regression

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.079	.314		3.439	<.001
	PT	.121	.055	.118	2.185	.030
	PSC	.225	.041	.302	5.424	<.001
	PU	.254	.043	.270	5.911	<.001
	UED	.104	.045	.109	2.326	.021

a. Dependent Variable: CPB