FACULTY OF TECHNOLOGY MANAGEMENT AND TECHNOPRENEURSHIP

(FPTT)

"UNDERSTANDING THE BARRIERS IN ADOPTING DIGITAL PAYMENT"

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BACHELOR OF TECHNOLOGY MANAGEMENT (HIGH TECHNOLOGY

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I hereby declare that all the work of this thesis entitled "**UNDERSTANDING THE BARRIERS IN ADOPTING DIGITAL PAYMENT**" is original done by myself and no portion of the work encompassed in this research project proposal has been submitted in support of any application for any other degree or qualification of this or any other institute or university of learning.

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“UNDERSTANDING THE BARRIERS IN ADOPTING DIGITAL PAYMENT”

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This thesis is submitted in partial fulfilment of the requirements for the award of

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FACULTY OF TECHNOLOGY MANAGEMENT AND TECHNOPRENEURSHIP (FPTT)

UNIVERSITI TEKNIKAL MALAYSIA MELAKA (UTeM)

DEDICATION

I would like to dedicate this research to my ***family and friends*** who have given the most support and love to study until this education level. Also, I like to express a deep sense of gratitude to ***all my lecturers*** who have taught me so much in the whole degree class. Last but not least, I could not have done this without the help from my supervisor for my final year project, ***Miss Atikah Saadah Binti Selamat***. Each person mentioned above has provided me with different kinds of support and advice throughout this whole research. Without their support and motivation, this research is hard to complete within a short period of time.

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ABSTRACT

Digital payment can also be said to be a combination of mobile payment systems that allows users to pay their purchase using just their smartphones. Bank Negara Malaysia has adopted more than 30 e-wallet licenses in Malaysia. They believe that digital payment have big potential in changing Malaysia into a cashless society. Research shows that the adoption of the cashless payment is still very low among consumers in Malaysia. Past studies in digital payment usually focus more on the factors that successfully adopted the usage of cashless payment but not much research was on the barriers that affect the adoption of digital payment. Further studies of these issues need to be investigated to help improve the adoption of digital payment to lead Malaysia to a more technological world. Hence, the study used Innovation Resistance Theory such as usage barrier, value barrier, risk barrier and tradition barrier. The target respondent of this research is Generation Z. The sampling that is used is purposive sampling and voluntarily response sampling. This research used the survey questionnaires to let the respondent answer through google form for the respondent to answer anytime and anywhere with their smartphones. The Krejcie and Morgan Formula was used and the result shows that 384 respondents will be needed in this research. Hence, the researcher used 4 weeks to collect the data and use the SPSS output source to analyze the data. The research showed that all hypothesis testing of the independent variable is accepted and the most significant barrier is the risk barrier. In conclusion, the Innovation Resistance Theory has been applied in the research and all objectives of the research: **"*To identify the barriers that affect the adoption of digital payment*"**; **"*To determine how the barriers are affecting the adoption of digital payment*"** and **"*To investigate the most significant barrier that affects the adoption of digital payment*"** are successfully conducted.

Keyword: Digital Payment, Innovation Resistance Theory, Barriers

ABSTRACT

MALAY VERSION

Pembayaran digital juga boleh dikatakan sebagai gabungan sistem pembayaran mudah alih yang membolehkan pengguna membayar pembelian mereka hanya menggunakan telefon pintar mereka. Bank Negara Malaysia telah mengguna pakai lebih daripada 30 lesen e-dompet di Malaysia. Mereka percaya bahawa pembayaran digital mempunyai potensi besar dalam mengubah Malaysia menjadi masyarakat tanpa tunai. Penyelidikan menunjukkan bahawa penggunaan pembayaran tanpa tunai masih sangat rendah dalam kalangan pengguna di Malaysia. Kajian lepas dalam pembayaran digital biasanya lebih menumpukan kepada faktor-faktor yang berjaya menerima pakai pembayaran digtial tetapi tidak banyak kajian mengenai halangan yang mempengaruhi penggunaan pembayaran digital. Kajian lanjut mengenai isu ini perlu disiasat untuk membantu menambah baik penggunaan pembayaran digital untuk membawa Malaysia ke dunia yang lebih berteknologi. Oleh itu, kajian menggunakan "Innovation Resistance Theory" seperti halangan penggunaan, halangan nilai, halangan risiko dan halangan tradisi. Sasaran responden kajian ini ialah Generasi Z. Persampelan yang digunakan ialah persampelan bertujuan dan persampelan tindak balas secara sukarela. Penyelidikan ini menggunakan soal selidik tinjauan untuk membolehkan responden menjawab melalui borang google untuk responden menjawab pada bila-bila masa dan di mana sahaja dengan telefon pintar mereka. Formula Krejcie dan Morgan telah digunakan dan keputusan menunjukkan bahawa 384 responden akan diperlukan dalam penyelidikan ini. Oleh itu, pengkaji menggunakan 4 minggu untuk mengumpul data dan menggunakan sumber output SPSS untuk menganalisis data. Kajian menunjukkan bahawa semua ujian hipotesis pembolehubah bebas diterima dan halangan yang paling ketara ialah halangan risiko. Kesimpulannya, "Innovation Resistance Theory" telah digunakan dalam penyelidikan dan semua objektif penyelidikan: "***Untuk mengenal pasti halangan yang mempengaruhi penggunaan pembayaran digital***"; "***Untuk menentukan cara halangan mempengaruhi penerimaan pembayaran digital***" dan "***Untuk menyiasat halangan paling ketara yang menjejaskan penggunaan pembayaran digital***" berjaya dijalankan.

Kata kunci: Pembayaran Digital, "Innovation Resistance Theory", Halangan

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LIST OF ABBREVIATIONS

DIGITAL PAYMENT	**DP**
USAGE BARRIER	**UB**
VALUE BARRIER	**VB**
RISK BARRIER	**RB**
TRADITION BARRIER	**TB**

1.0 CHAPTER 1

INTRODUCTION

Under this section, the general overview of the research study would be presented. Additionally, this section will describe the background, research problem, research objective and research questions of the resistance to adopting digital payment.

1.1 BACKGROUND

New technologies have opportunities in developing new innovations that can change a human's daily lives especially in the ecommerce marketplace that is growing rapidly (Dahlberg and Zmijewska, 2019). Also, technology development and growth has evolved from traditional credit card payment methods to enabling customers to make payments using mobile devices (Dahlberg and Zmijewska, 2019). Smartphones now are not only for communicating or playing games, but also to perform financial services such as paying for physical products, service and bills (De Kerviler, 2019).

From January 2020, all point of sale (POS) terminals will be required by Visa or MasterCard to accept cashless transactions (Lim, 2020). Innovation in mobile payment will revolutionize these traditional methods by using wireless and other communication technologies (Lim, 2020).

Digital payments are not only cards such as MasterCard or Visa, but also include contactless payment in a mobile phone such as E-wallet, Shopee Pay and Boost (Rathore, 2019).

Other than that, the introduction of multifunctional mobile gadgets, wireless communications and payment systems has transformed the way transactions are done in the real world other than cash (Seetharaman and Kumar, 2020). In Malaysia,

various digital payment systems have been introduced for Malaysians to choose from. For example, digital payment includes E-wallet, Grab Pay, Boost, Shopee Pay and other more. They are known as a payment mechanism and saves the users personal information (Swilley, 2021). All data in the digital wallet is encrypted which improves security. Therefore, a backup option is necessary to recover loss data (Rathore, 2019).

Next, digital payment can also be said to be a combination of mobile payment systems that allows users to pay their purchase using just their smartphones. All purchases can be paid instantly with convenience (Peterson, 2020). Google captured an essence stating that "The past thousand years, people have changed the way to pay from coins to paper money and now to plastic cards". Hence, digital payment has become a significant payment method in the technology world.

Furthermore, Bank Negara Malaysia has adopted more than 30 e-wallet licenses in Malaysia. They believe that e-wallet have big potential in changing Malaysia into a cashless society (Yunus, 2019). However, past research stated that 80% of the Malaysians are still using cash in hand while only 20% of the transactions in Malaysia are conducting digital payments (Yunus, 2019). Thus, results show that adoption in digital payment is still very low. This is because cash still plays a significant role where Malaysians prefer with the traditional method for payment because they think it is safer that they hold it in hand (Oreg, 2020).

In conclusion, digital payment brings many benefits to the users because it is a fast and easy way to make a payment without holding cash in hand (Taylor, 2018). However, technological innovations can also face challenges which become innovation resistance behaviour of the people in Malaysia (Kleijnen, 2019). As a

result, barriers to consumers in adopting digital payment have become a major issue for Malaysia to upgrade to the cashless society (Klejinen, 2019).

1.2 PROBLEM STATEMENT

Digital payment brings many benefits to the users because it is a fast and easy way to make a payment without holding cash in hand (Taylor, 2018). However, technological innovations can also face challenges which become innovation resistance behaviour of the people in Malaysia (Kleijnen, 2019). As a result, barriers to consumers in adopting digital payment have become a major issue for Malaysia to upgrade to the cashless society transaction.

The study of cashless payment has become a major current research topic in Malaysia (Lim, 2020). Over the past decades, the governments have introduced and encouraged people to adopt cashless payment.

Due to the growth of technology, more and more people are relying on technology. Nowadays, everything in life is surrounded with technology. For example, due to the pandemic, the adoption of cashless transactions has become significant to the world to avoid physical touch for all kinds of payment such as bills and grocery. Digital payment has slowly replaced the role of traditional payment methods (Shin, 2020).

Research shows that the adoption of the cashless payment is still very low among consumers in Malaysia (Noordin. 2019). Less than half of the population of people in Malaysia have chosen to use digital payment as the transaction. Hence, the adoption of cashless payment is still very low in Malaysia (Noordin, 2019).

One main issue of Malaysians not adopting digital payment is the lack of trust towards the technology (Sahut, 2018). Many people do not trust the cashless payment method like E-wallet or WeChat Pay, they prefer cash in hand because

they can see the money and feel secure (Sahut, 2018). Next, some generations such as elderly people still do not understand or do not accept the growth of technology because it is hard to learn for them. Hence, the technology gap had appeared.

In conclusion, past studies in cashless payment usually focus more on the factors that successfully adopted the usage of cashless payment but not much research was on the barriers that affect the adoption of cashless payment. Hence, further studies of these issues need to be investigated to help improve the adoption of cashless payment to lead Malaysia to a more technological world.

1.3 RESEARCH QUESTION

As the gap is the adoption of digital payment in Malaysia, the aim of this research is to analyze the barriers towards the adoption of digital payment. Hence, the research question has been conducted:

1. *What are the barriers that affect the adoption of digital payment?*
2. *How do these barriers affect the adoption of digital payment?*
3. *What is the most significant barrier that affects the adoption of digital payment?*

1.4 RESEARCH OBJECTIVE

As the gap is the adoption of digital payment in Malaysia, the aim of this research is to analyze the barriers towards the adoption of digital payment. Hence, the research objective has been conducted:

1. *To identify the barriers that affect the adoption of digital payment.*
2. *To determine how the barriers are affecting the adoption of digital payment.*
3. *To investigate the most significant barrier that affects the adoption of digital payment.*

1.5 SCOPE OF RESEARCH

To fulfill this research, the target audience are citizens in Malaysia who are Generation Z. This generation was born between 1996 until 2012 and is currently between 9 and 26 years old. However, since some of the Generation Z are still young, this study will only target Generation Z who are age 15 above (2007 above). This is because this generation of people will start to use money in their lives such as paying for bills, foods and grocery.

Through the survey, the research can discuss and understand the barriers towards them adopting digital payment so the digital payment service can improve better in their functions and service that helps lower the possible adoption barriers that stops Malaysians from using digital payment. Hence, Malaysia can quickly put their foot into the cashless society.

1.6 RESEARCH SIGNIFICANCE

The goal of the research is to understand the barriers in adopting digital payment to develop better services which provide distinct advantages to compete in the payment method market. This allows consumers as digital payment users to more comfortably choose a more user-friendly payment method, allowing them to recognize and evaluate the utility of the digital payment. As a result, it is hoped that the adoption of digital payment will improve the standard of living in Malaysia. Hence, the government wishes to achieve the aim of forwarding Malaysia to a cashless society.

Furthermore, Bank Negara Malaysia is slowly achieving its blueprint goal of building a financial sector 2020 that supports high income money and high value added. Also, many merchants such as restaurants, shopping malls and small businesses are providing cashless transaction services where consumers can just

scan for transactions. Hence, digital payment can foster the brand proposition of these merchants by providing customers with an enhanced payment experience.

In conclusion, the study has adopted the resistance innovation theory to understand what types of barriers that exist and block the adoption of digital payment.

1.7 LIMITATION OF THE RESARCH

The research is only focus on the Melaka area. Next, the research only discussed the consumer perspective. Also, the research focus on the Generation Z. Lastly, the research focus on only 4 independent variables (usage barrier, value barrier, risk barrier and tradition barrier). More explanation is discussed in the limitation part (Chapter 5).

1.8 DEFINITION OF VARIABLE

The dependent variable in the research is digital payment and the independent variables are usage barrier, value barrier, risk barrier and tradition barrier.

1.8.1 DEPENDENT VARIABLE

The dependent variable is the effect. Its value depends on changes in the independent variable

a. DIGITAL PAYMENT

Digital payment refers to where consumers use new technology as their new way of paying for foods, bills and grocery. These digital payments include Touch and Go E-wallet, Boost and Shopee Pay. For example, when consumers want to pay for their purchase item, they just need to click the pay button or let the cashier scan the barcode and the transaction is complete.

1.8.2 INDEPENDENT VARIABLE

The independent variable is the cause. It value is independent of other variables in the study.

a. USAGE BARRIER

Usage barrier occurs when the new technology is incompatible with an existing workflow and needs to be changed to accept innovation. For example, when digital payment is not functioning properly, it causes consumers to dislike using it which leads to a barrier.

b. VALUE BARRIER

Value barrier occurs when innovation does not provide a convincing performance-to-price value or the performance does not match with the expectation. For example, when digital payment does not meet consumers' high expectations, it causes consumers to be not interested in using digital payment for paying.

c. RISK BARRIER

Risk barrier occurs when an innovation faces issues where security in the innovation does not give safety such as third party accessing personal information. For example, when digital payment brings many harms to a consumer, consumers will be afraid to use digital payment methods.

d. TRADITION BARRIER

Tradition barrier occur when an innovation is replacing fixed routines of a process from an old style to a new style in the new generation. For example, when a consumer is not willing to learn or

adopt digital payment, consumers will continue the way they are used to paying.

1.9 SUMMARY

Chapter 1 has a simple introduction regarding digital payment such as the background of study, problem statement, research objective, research questions, scope of research, research significance and the definition of variable. Next, the research will discuss more further details of the study of barriers in digital payment in the next chapter.

2.0 CHAPTER 2

LITERATURE REVIEW

Under this section, chapter 2 is to achieve the outline theoretical foundation in the research and the background of the study. Also, hypotheses and conceptual framework are formed to understand the relationship between the dependent variable (DV) and independent variable (IV).

2.1 LITERATURE REVIEW

Past studies from other researchers in this relevant study of digital payment are taken to learn more on the research of the dependent variable (DV) and independent variable (IV). The studies learn about the digital payment to the theory that is used and the barriers in adopting digital payment.

2.1.1 DIGITAL PAYMENT

Now days, everything in life is digital. The more we become rely to all these things, the harder it is to maintain a life without it. Letters that used to be just a piece of paper are now converted into digital letter such as text message.

Digital payment is adopting new technology for changing traditional payment methods for purchasing items (Mallat, 2020). Mobile phones had already changed the original function of a telephone from just calling and texting, now users use it for doing everything such as online shopping, register for applications and mobile payment.

Digital payments are not only cards such as MasterCard or Visa, but also include contactless payment in a mobile phone such as E-wallet, Shopee Pay and Boost (Rathore, 2019). Innovation in mobile payment

will revolutionize these traditional methods by using wireless and other communication technologies (Dahlberg, 2019). According to the World Payment Report (WPR), digital payment continues to grow from 2017 until now.

2.1.2 BARRIERS TOWARDS DIGITAL PAYMENT

Barrier refers to an opposing feeling in a change. As for this research, the barriers are shown that users are having opposing feelings in adopting the new technology of digital payment. Hence, it shows that the new technology has faced a challenge which prevents Malaysia from success in going to a cashless society. As innovation highlights the term of changes, it shows that resistance is a normal reaction (Handrich, 2019).

In the past, many studies were more focused on the positive attitude towards a new innovation but not many people were studying on the barriers that stops one from using a new innovation. This is an important study to learn because it helps improve on the innovation to make people from rejecting to accepting a new innovation.

2.1.3 INNOVATION RESISTANCE THEORY

Innovation resistance theory has been adopted to this research. This model was made by Ram and Shenth. They were the first people to focus on barriers of adoption that results from resistance.

The research has conducted the theory of “The Innovation Resistance Model”. The innovation resistance model helps to examine consumer negative response towards an innovation by Ram and Shenth.

These negative responses are known as active resistance because they are the negative result of a product evaluation.

The theory also can be said as a feedback model that helps to draw out the negative perspective (Midgley and Dowling, 2020). They believe that main researchers have understood the accepting reason in adopting digital payment but there are also other researchers who are also interested in the rejecting reason of digital payment. Hence, further studies of resistance can help to broaden the understanding of innovation behavior.

The theory has determined 4 barriers to the adoption that are classified as two barriers which are functional barriers and psychological barriers. Functional barriers include usage barriers, value barrier and risk barrier while psychological barriers include tradition barriers. This theory is to make research on areas such as digital payment and online shopping (Laukkanen, 2020). Resistance refers to people who have negative feelings towards the changes in innovation (Kim and Khan, 2019).

2.1.4 USAGE BARRIER

Usage barrier is defined as challenge of the innovative usability of the service and the changes that users need (Laukkanen, 2020). Digital payment refers to an innovation that changes a consumer routine and requires a long development process before being accepted by the consumer (Shah, 2020).

Next, usage barrier refers to the challenge of functional usability of an innovation that includes two aspects. Firstly, the function of if the

new innovation is easy and convenient to use or not; Next is the degree of change required when the consumer uses the innovation (Kleijnen, 2020).

Moreover, the usage barrier brings a negative impact on the adoption of digital payment towards the X Generation in Malaysia (Moorthy, 2019). This is because when a new innovation does not result in ease of use in their experiences, therefore people will reject the acceptance of this new innovation (Chan, 2019). For example, the page of the digital payment is too complicated for some people to understand, users might not know how to top up money in the e-wallet hence they choose to give in cash. User-friendly digital payment such as e-wallet or mobile banking that are easy to use must be offered to the consumer to overcome this problem of usage barriers (Yu, 2019).

2.1.5 VALUE BARRIER

Value barrier refers to challenge of performance-to-price value to the new innovation (Lian, 2022). It is shown that if an innovation does not provide good value over the existing method, consumers will not willingly change the way of adopting digital payment (Parasuraman, 2021).

Also, when a new innovation brings an outcome for users to imply higher efforts in using, users will feel that is a waste of time and causes a resistance. Hence, applying to digital payment, this involves that digital payment needs to bring higher benefit comparing to traditional payment method

Past research shows that Finland is one of the countries that have the highest resistance of value barriers towards adopting digital payment (Laukkanen, 2019). Findings stated that digital payment systems need to boost their higher value in mobile banking to attract the customers from using cash to entering the cashless society (Lian, 2022). For example, when consumers feel that the learning cost is more than the performance-to-price value, value barriers will be formed where customers have no interest to learn on the new innovation.

2.1.6 RISK BARRIER

Risk barrier is one of the most concerning barriers that adopters think mainly in adopting new innovation. This is because consumers will choose products or services that are safe to use to avoid any problems. Risk barriers can be discussed in various risk types.

Firstly, is physical risk that refers to an innovation bringing harm to a person or a property. For example, when customers are transferring traditional methods to the new innovation, users will be concerned about privacy and third parties in accessing personal information (Chenmingui, 2019).

Next, is functional risk that refers to the functionality of the innovation not functioning properly. For example, when users are using digital payment, users will be concerned about internet connection or the app will lag which results in a failure in transaction (Elbadrawy, 2019). In addition, other risks such as economic risk and social risk also can affect the adoption of digital payment.

2.1.7 TRADITION BARRIER

Tradition barrier arises due to a change in a consumer's normal daily routine by adopting the new innovation (Cheung, 2019). According to Solomon (2022), these changes are classified as a cultural change. For example, some consumers are still more likely to choose physical payment methods because they do not understand the new innovation and they do not have the intention to learn about the new knowledge.

Next, tradition can be affected by negative word of mouth. This is because other consumers like to listen to the reviews or experience of other people of the product before actual purchase (Klein, 2019). For example, when consumer listen bad rumors of adopting new innovation, they will have no intention in adopting new innovation

Also, many users reject this new innovation because they are afraid that the new technology will replace human work. This leads to the result of unemployment where people find it hard to find work such as cashiers (Chemingui, 2019).

2.2 HYPOTHESIS DEVELOPMENT

After evaluating the past research of the study in the barriers in adopting digital payment, the hypothesis has been developed. Hence, the studies conclude the hypothesis of:

2.2.1 HYPOTHESIS 1: USAGE BARRIER

$\boldsymbol{H_0}$: There is no significance relationship between usage barriers and digital payment

$\boldsymbol{H_1}$: There is a significance relationship between usage barriers and digital payment

2.2.2 HYPOTHESIS 2: VALUE BARRIER

$\boldsymbol{H_0}$: There is no significance relationship between value barriers and digital payment

$\boldsymbol{H_1}$: There is a significance relationship between value barriers and digital payment

2.2.3 HYPOTHESIS 3: RISK BARRIER

$\boldsymbol{H_0}$**:** There is no significance relationship between risk barriers and digital payment

$\boldsymbol{H_1}$**:** There is a significance relationship between risk barriers and digital payment

2.2.4 HYPOTHESIS 4: TRADITION BARRIER

$\boldsymbol{H_0}$**:** There is no significance relationship between tradition barriers and digital payment

$\boldsymbol{H_1}$**:** There is a significance relationship between tradition barriers and digital payment

2.3 CONCEPTUAL FRAMEWORK

Figure 1 shows the conceptual framework of the study in the barriers towards adopting digital payment. The conceptual framework is adapted from the Innovation Resistance Theory that was conducted from Ram and Sheth. The framework below illustrates that the digital payment (dependent variable) was unsuccessful by different barriers (independent variable) such as usage barrier, value barrier, risk barrier and tradition barrier.

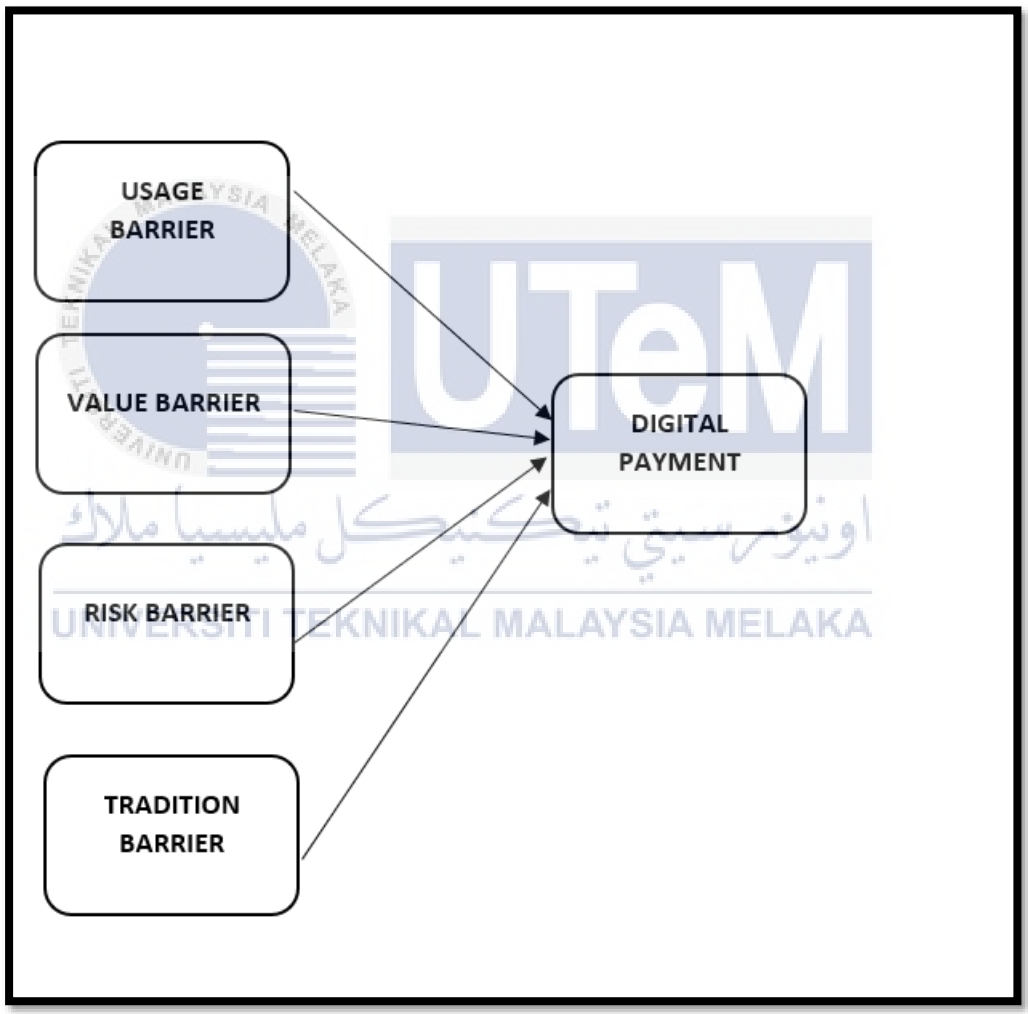

Figure 1: Conceptual Framework from Ram and Sheth

2.4 SUMMARY

Chapter 2 has discussed the past researchers where they shared their opinion on the study of barriers in adopting digital payment to develop a conceptual framework and the hypothesis. The next chapter will be discussing the research methodology.

3.0 CHAPTER 3

RESEARCH METHODOLOGY

Under this section, chapter 3 discusses the research methodology which is to collect data and information that was designed for this research. The research includes the research design, research strategy, population, sampling design, sample size, location and data analysis.

3.1 RESEARCH DESIGN

Research design is a strategy for answering the research question and research objective using empirical data.

3.1.1 EXPLANATORY RESEARCH

The research has used explanatory research. Explanatory research is a research design that brings out the details of a study. It is to help researchers to study problems that were not studied in-depth in the past. Hence, the researcher can understand more details of the study. Also, explanatory research is flexible and is widely accepted in the research (Samia, 2019). Also, this study is cross-sectional. This study focuses on a single point of time of the barriers towards adoption in digital payment.

3.2 METHODOLOGICAL CHOICE

Methodological choice is an option and a selection from given methods, instruments and techniques.

3.2.1 QUANTITATIVE METHODOLOGIES

The research uses quantitative methodologies in investigating between the relationship of digital payment and the barriers. Researchers will identify the barriers on how they become a problem to adopting

digital payment. Moreover, the research approach is an inductive approach.

3.3 SOURCES OF DATA

The source of data has been divided into two which are the primary data and secondary data.

3.3.1 PRIMARY DATA

Primary data refers to collecting data from different techniques such as surveys, interviews and direct observation. For example, for this research primary data such as surveys are conducted to gather information of the resistance towards digital payment. Surveys are collected from a large group of target respondents. Survey is a quick and efficient way to collect data. Besides, surveys bring convenience to the respondents because respondents can answer the survey anytime and anywhere without any appointment. Results can be instantly reviewed as well.

3.3.2 SECONDARY DATA

Secondary data refers to collecting data from other resources such as articles, journals and literature reviews of past researchers. For example, literature reviews of past researchers in different articles and journals are conducted in this research. This is because it helps to understand different angles of understanding in the barriers towards adopting digital payment.

3.4 POPULATION

In this research, the population is targeted to Generation Z. Generation Z was born between 1996 and 2012 and is currently between the ages of 9 and 25 years old. However, some of the Generation Z are still young, this study will target starting from 15 years old above.

According to data from Malaysia's Department of Statistics, the Melaka population for the fourth quarter of 2020 was estimated at 998428 while the population of citizens is 757271 and the non-citizen population is 32865 (Mahidin, 2021). Out of the 757271 million citizens, the composition of Bumiputera is 66.9%, followed by Chinese (26.3%), Indians (6.2%) and others (0.5%). According to research estimates, Generation Z in Melaka is 409692 people, accounting for 54.1%. Therefore, the sampling frame of this study includes approximately 409692 people and the target respondents will answer the survey through an online method (google form).

3.5 SAMPLING DESIGN

Non- probability sampling and convenience sampling method is used in this research. Non- probability sampling is a sampling method that involves non-random selection based on convenience or other criteria, allowing you to easily collect data in the study. Non probability sampling includes:

3.5.1 PURPOSIVE SAMPLING

Purposive sampling refers to the experience and knowledge of respondents while making decisions (Alkassim, 2016). This sampling method is adopted in qualitative research. Also, purposive sampling helps to give support to the existing resource and ensure it is used effectively (Musa, 2016).

3.5.2 VOLUNTARY RESPONSE SAMPLE

Voluntary response sample refers to the respondent willingness to answer the survey (Etikan, 2016). This sampling method is adopted in qualitative research. Instead of the researcher choosing the respondents, the respondent can volunteer themselves. Hence, survey will be sent to different platform such as WhatsApp and Facebook and those who are voluntary to answer the survey with the terms and condition

3.6 SAMPLE SIZE

In this research, the sample size is determined with The Krejcie and Morgan Formula. It is to figure out how big the sample should be (Kunchamboo, 2020). With a standard error of 5%, any population greater than 1 million would result in a sample size of 384. The calculation is below:

$$n = \frac{X^{2*}N*P*(1-P)}{(ME^{2*}(N-1))+(X^{2*}P*(1-P))}$$

Where:
n = required sample size
x^2 = Chi-square for the desired confidence level at 1 degree of freedom
N = population size
P = population proportion (.50 for this table)
ME = desired margin of error (expressed as a proportion)

Figure 2: The Krejcie and Morgan Formula

N	409692
P	0.5
x^2	3.841
ME	0.05

Table 1 : Formula of Krejcie and Morgan Formula

- **CALCULATION**

$$n = \frac{(3.841)(409692)(0.5)(1-0.5)}{[(0.05*0.05)(409692-1)]+[(3.841)(0.5)(1-0.5)]}$$

$n \approx 384$

  - Hence, the expected respondent is 384 to answer this survey. The survey will be sent to all respondent that are in Melaka.

3.7 RESEARCH STRATEGY

Research strategy is a tool in the research to collect the data from the respondents regarding the research.

3.7.1 QUESTIONNAIRE DESIGN

Data is collected by using questionnaire design. This is to obtain the data that is needed in the primary data. There are a total of 3 sections for respondents to answer which are Section A, Section B and Section C.

Section A is about the personal information such as gender, age, education level, digital payment users, type of digital payment, experience of using and the purpose of using digital payment (demographic details).

Next, section B will be about the interest on respondent of whether they are interest to use the digital payment or not (digital payment).

Lastly, section C will be regarding the barriers of adopting digital payment (barriers in adopting digital payment).

The research will use agree or disagree method with the question provided by using 5-point Likert scale. This allows the respondent to answer the question from the survey with the ranking from 1 to 5. In this survey, the research shows where from (1) is strongly disagree; (2) is disagree; (3) is neutral; (4) is agree and (5) is strongly agree. All information will be confidential and only used for the purpose of this research.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

Figure 3: Likert Scale

3.8 LOCATION

Data will be collected online to everyone who is in the terms and conditions that can answer this survey in Melaka such as students in UTeM, family and friends who use digital payment online. The survey will be sent as google form for the target audience to answer anytime or anywhere through online because it is simple and convenient.

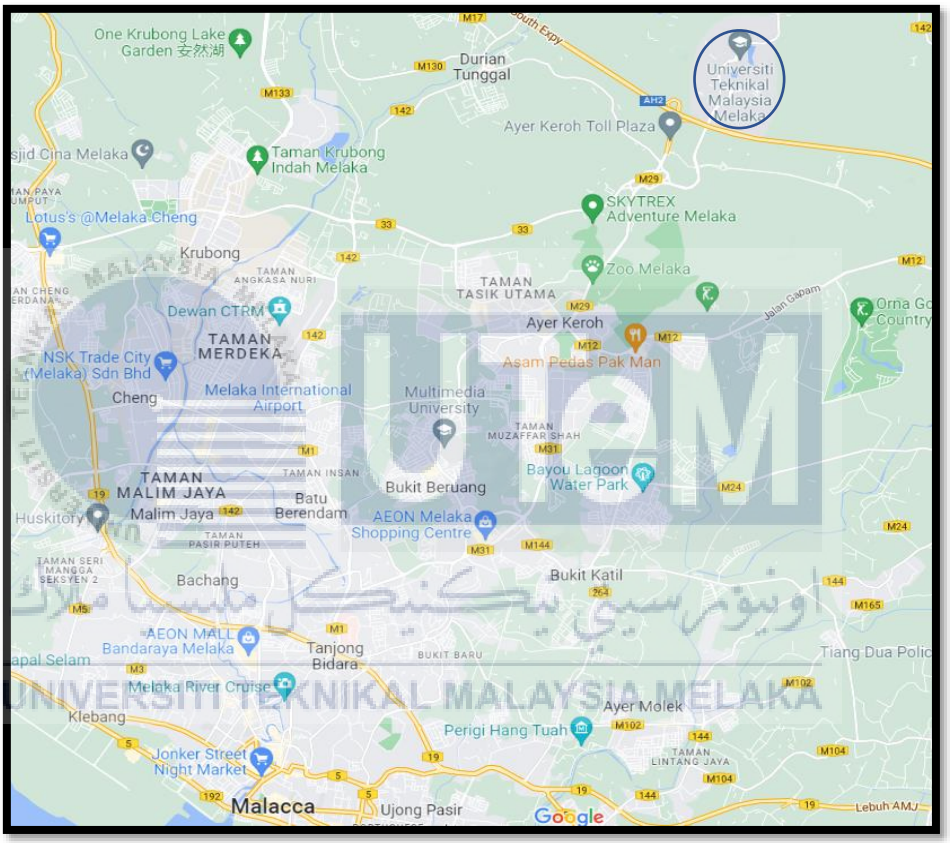

Figure 4: Melaka

3.9 DATA ANALYSIS

Data has used descriptive analysis and inferential analysis to see the data of respondents in digital payment.

3.9.1 DESCRIPTIVE ANALYSIS

Descriptive analysis converts new data into simple form from categories such as demographic profile and the central tendency and dispersion measures (Zikmund, Carr, Babin and Griffin, 2010).

3.9.2 INFERENTIAL ANALYSIS

The inferential analysis is discussed about the reliability test, Pearson correlation and multiple linear regression.

a. RELIABILITY TEST

The reliability test shows the consistency of the result from each variable (Weir, 2005). For example, Cronbach's alpha (α) is the coefficient to measure the reliability fairly. The range is from 1-0. When data exceeds 0.70, it means the data shown is reliable (Santos, 1999).

CRONBACH ALPHA COEFFICIENT RANGE	STRENGTH
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable

$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

Table 2: Cronbach Alpha Coefficient Range

b. PEARSON CORRELATION ANALYSIS

Pearson Correlation Analysis studies the association between the dependent variable (DV) and the independent variable (IV) (Marthandan, 2009). It is represented as "r" and the range between ± 1 (Low, 2016). The variables will be shown positively correlated and vice versa when r is positive (Saunders and Thornhill, 2016).

Correlation Coefficient Value (*r*)	Direction and Strength of Correlation
-1	Perfectly negative
-0.8	Strongly negative
-0.5	Moderately negative
-0.2	Weakly negative
0	No association
0.2	Weakly positive
0.5	Moderately positive
0.8	Strongly positive
1	Perfectly positive

Figure 5: Pearson Correlation Coefficient

c. MULTIPLE LINEAR REGRESSION

Multiple Linear Regression explained the correlation with more than one independent variable (IV) and dependent variable (DV) (Black and Anderson, 2010). The purpose is to test the hypothesis formed to see whether it is accepted or rejected. For example, multiple linear regression includes MLR model summary and coefficients.

$Y = a + bX_1 + cX_2 + dX_3 + eX_4$

Table 3: Equation

3.10 SUMMARY

Chapter 3 has illustrated the method of collecting the data for the research such as primary data (questionnaires) and secondary data (literature review). The data is collected in Melaka with an expected number of 384 respondents to answer the survey provided. The next chapter will discuss the findings and discussion of the research.

4.0 CHAPTER 4

DATA ANALYSIS

Under this section, the analysis of the data will be presented from the data that was collected by the respondents. The researcher explains the data in a clear and orderly manner, starting with the most significant results and going down to the least significant, the analysis will be simple and understandable. Hence, the total respondents that are used in this research is a total of 384 responses.

4.1 DESCRIPTIVE ANALYSIS

The descriptive analysis will discuss the demographic profile and the descriptive statistic.

4.1.1 DEMOGRAPHIC PROFILE

In this section, the profile of demographic includes the category of gender, age, education, digital payment user, experience using digital payment, spending in digital payment and the purpose of using digital payment. All information is confidential.

a. GENDER

Gender is targeted male or female.

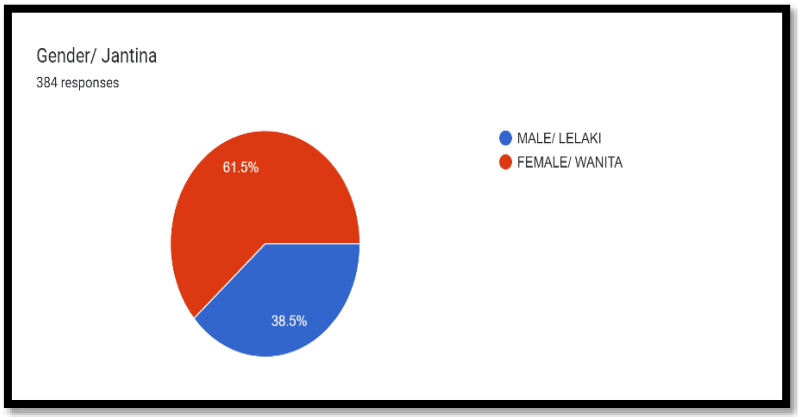

Figure 6: Gender

GENDER	FREQUENCY	PERCENTAGE (%)
MALE	148	38.5
FEMALE	236	61.5
TOTAL	**384**	**100**

Table 4: Gender

According to table 4, it shows the percentage and frequency of the respondent's gender. A total of ***148 (38.5%)*** respondents are ***male*** and the remaining ***236 (61.5%)*** are ***female***. Hence, the most respondent are female.

b. AGE

The age is targeted around 15-25 years old.

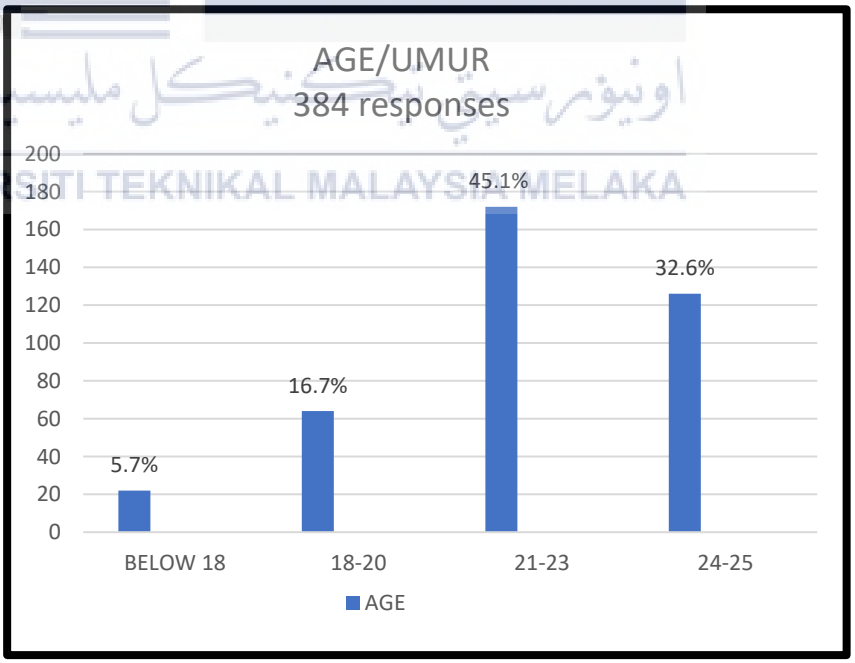

Figure 7: Age

AGE	FREQUENCY	PERCENTAGE (%)
BELOW 18	22	5.7
18-20	64	16.7
21-23	173	45.1
24-25	125	32.6
TOTAL	**384**	**100**

Table 5: Age

Table 5 shows the frequency and percentage of the respondent's ages. A total of ***22 (5.7 %)*** respondents are ***below 18 years old***; ***64 (16.7%)*** respondents are ***18-20 years old***; ***173 (45.1%)*** respondents are ***21-23 years old*** and ***125 (32.6%)*** respondents are ***24 -25 years old***. Hence, the most respondent are 21-23 years old.

c. EDUCATION

The education is mainly targeted from SPM to Degree level. However, if respondents are none of it, they can choose other.

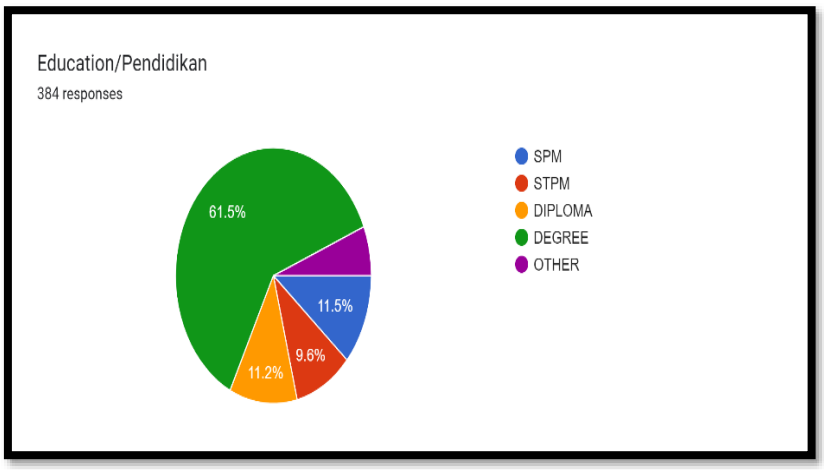

Figure 8: Education

EDUCATION	FREQUENCY	PERCENTAGE (%)
SPM	46	12
STPM	37	9.6
DIPLOMA	43	11.2
DEGREE	236	61.5
OTHERS	24	6.3
TOTAL	**384**	**100**

Table 6: Education

Table 6 shows the frequency and percentage of the respondent's education level. A total of ***46 (12%)*** respondents are ***SPM level***; ***37 (9.6%)*** are ***STPM level***; ***43 (11.2%)*** respondents are ***diploma level***; ***236 (61.5%)*** respondents are ***degree level*** and ***24 (6.3%)*** respondents are ***others*** such as not studying or working. Hence, the most respondent are degree level.

d. ARE YOU A DIGITAL PAYMENT USER?

The question is to see how many people use digital payment.

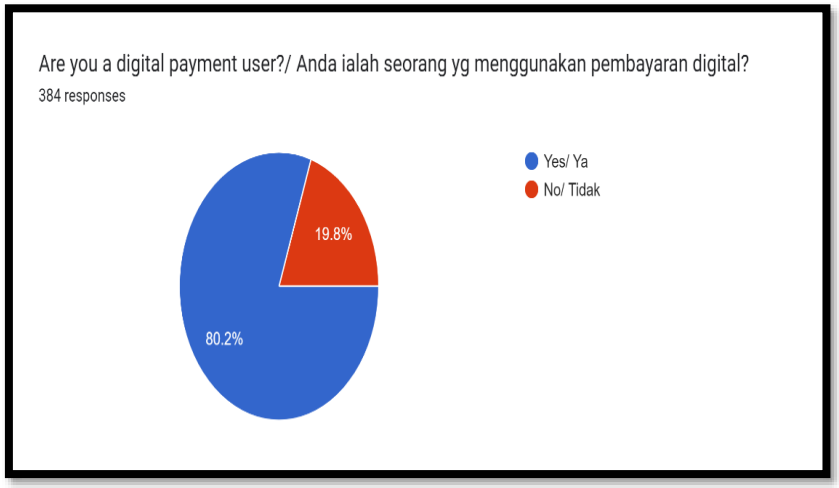

Figure 9: Digital Payment User

DIGITAL PAYMENT USER	FREQUENCY	PERCENTAGE (%)
YES	308	80.2
NO	76	19.8
TOTAL	**384**	**100**

Table 7: Digital Payment User

Table 7 shows the frequency and percentage of the respondents in digital payment use. A total of ***308 (80.2%)*** respondents are ***digital payment users*** and the remaining ***76 (19.8%)*** are ***not digital payment users***. Hence, the most respondent are digital payment user.

e. HOW LONG HAVE YOU BEEN USING DIGITAL PAYMENT?

This question is to see the duration of the respondent in using digital payment.

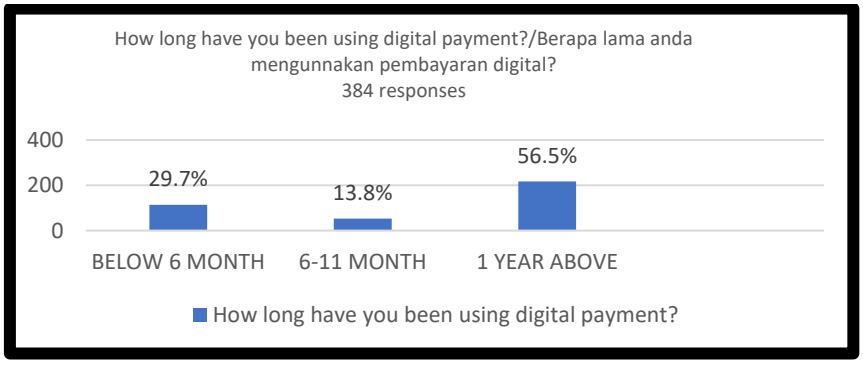

Figure 10: Duration using Digital Payment

DURATION USING DIGITAL PAYMENT	FREQUENCY	PERCENTAGE (%)
BELOW 6 MONTHS	114	29.7
6-11 MONTHS	53	13.8
1 YEAR ABOVE	217	56.5
TOTAL	**384**	**100**

Table 8: Duration Using Digital Payment

Table 8 shows the frequency and percentage of the respondents in the duration using digital payment. A total of ***114 (29.7%)*** respondents used digital payment ***below 6 months***; ***53 (13.8%)*** respondents used digital payment for ***6-11 months*** and ***217 (56.5%)***

respondents used digital payment ***1 year above***. Hence, the most respondent use digital payment 1 year above.

f. HOW MUCH WILL YOU WILLING TO SPEND THROUGH DIGITAL PAYMENT?

The question is to see the respondents willing to spend how much in the digital payment.

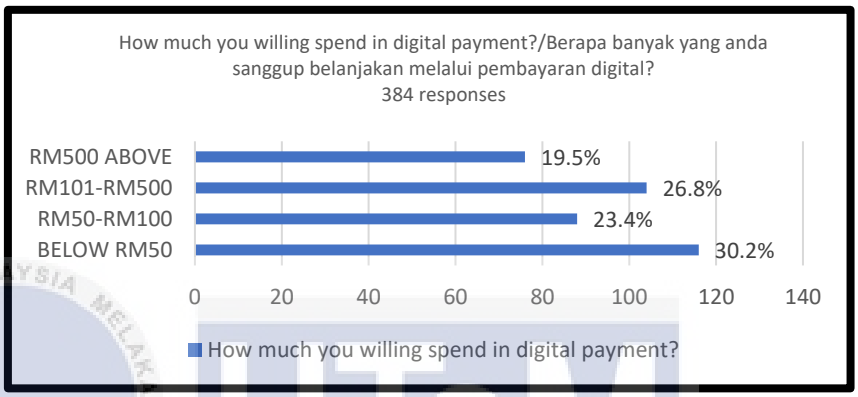

Figure 11: Spending in Digital Payment

SPENDING IN DIGITAL PAYMENT	FREQUENCY	PERCENTAGE (%)
BELOW RM 50	116	30.2
RM 50 – RM 100	90	23.4
RM 101 – RM 500	103	26.8
RM 500 ABOVE	75	19.5
TOTAL	**384**	**100**

Table 9: Spending in Digital Payment

Table 9 shows the frequency and percentage of the respondent of spending in digital payment. A total of ***116 (30.2%)*** respondents spend ***below RM50***; ***90 (23.4%)*** respondents spend between ***RM50-RM100***; ***103 (26.8%)*** respondents spend between ***RM101-RM500*** and ***75 (19.5%)*** respondents spend ***RM500 above***. Hence, most respondent spends below RM 50 in digital payment.

g. WHAT DO YOU USE DIGITAL PAYMENT FOR?

The question is to see the purpose of respondent using digital payment.

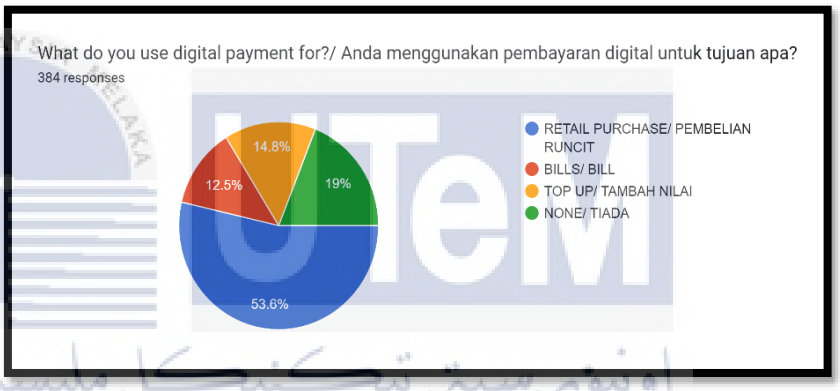

Figure 12: Purpose using Digital Payment

PURPOSE USING DIGITAL PAYMENT	FREQUENCY	PERCENTAGE (%)
RETAILS PURCHASE	206	53.6
BILLS	48	12.5
TOP UP	57	14.8

NONE	73	19
TOTAL	**384**	**100**

Table 10: Purpose of Digital Payment

Table 10 shows the percentage and frequency of the respondent's reason in using digital payment. A total of ***206 (12.5%)*** respondents uses digital payment for ***retail purchase***; ***48 (12.5%)*** respondents use digital payment for paying ***bills***; ***57 (14.8%)*** respondents use digital payment for ***top up*** and ***73 (19%)*** respondents do ***not use digital payment for any purpose***. Hence, the most respondent use digital payment for retail purchase.

4.1.2 DESCRIPTIVE STATISTIC

The descriptive statistics analysis which includes the standard deviation and mean (Wachs, 2019).

a. DIGITAL PAYMENT

This is to identify where users have interest or not in adopting digital payment.

ITEM		MEAN	STANDARD DEVIATION
DP 1	I am not interested in using digital payment	3.03	1.40

DP 2	I will not use digital payment in the future	2.90	1.42
DP 3	The service of digital payment is not convenient for me	3.00	1.42
DP 4	I will not recommend to use digital payment to my friends and family	2.99	1.41
Valid N (listwise): 384			

Table 11: Digital Payment

SOURCE: SPSS OUTPUT

According to table 11 stated the result of means and standard deviation of the digital payment. The analysis has shown that the highest mean value for digital payment is "***I am not interested in using digital payment***" ***(DP 1)*** of 3.03 and the standard deviation is 1.40. While the lowest mean value for digital payment is "***I will not use digital payment in the future***" ***(DP 2)*** of 2.90 and the standard deviation is 1.42. This shows that mostly the respondents choose neutral (3) in the survey.

b. USAGE BARRIER

Usage barrier is the barrier that happen when a user tries to use the digital payment but the function is not working smoothly

ITEM		MEAN	STANDARD DEVIATION
UB 1	I think digital payment is hard to use	2.99	1.36
UB 2	Digital payment is not convenient than I expect	3.07	1.36
UB 3	Digital payment service is slow to use	3.13	1.34
UB 4	Digital payment service is not time efficient compared to conventional way	3.17	1.35
Valid N (listwise): 384			

Table 12: Usage Barrier

SOURCE: SPSS OUTPUT

According to table 12 stated the result of means and standard deviation of the usage barrier. The analysis has shown that the highest mean value for usage barrier is ***"Digital payment service is***

not time efficient compared to conventional way ***(UB2)*** of 3.17 and the standard deviation is 1.35. While the lowest mean value for usage barrier is ***"I think digital payment is hard to use" (UB1)*** of 2.99 and the standard deviation is 1.36. This shows that mostly the respondents choose neutral (3) in the survey.

c. VALUE BARRIER

Value barrier is the barrier that users feel that using the digital payment method does not bring any advantage or does not make their life easier in paying.

ITEM		MEAN	STANDARD DEVIATION
VB 1	I think hand in cash payment is better than digital payment	3.44	1.21
VB 2	Digital payment does not bring any advantage compared to cash payment	3.13	1.37
VB 3	Digital payment is not increasing my ability to manage my financial matters	3.47	1.24
VB 4	Digital payment does not increase my choices as a consumer	3.21	1.31
Valid N / (listwise): 384			

Table 13: Value Barrier

SOURCE: SPSS OUTPUT

Table 13 stated the result of means and standard deviation of the value barrier. The analysis has shown that the highest mean value for value barrier is ***"Digital payment is not increasing my ability to manage my financial matters'" (VB3)*** of 3.47 and the standard deviation is 1.24. While the lowest mean value for value barrier is ***"Digital payment does not bring any advantage compared to cash payment" (VB2)*** of 3.13 and the standard deviation is 1.37. This shows that mostly the respondents choose neutral (3) in the survey.

d. RISK BARRIER

Risk barrier is the barrier when a user is afraid that using digital payment might bring risk on leaking their private information or the money stolen inside the digital payment

	ITEM	MEAN	STANDARD DEVIATION
RB 1	I fear of information expose to third party with digital payment	3.80	1.06
RB 2	I fear of filling wrong information while the transaction	3.79	1.05
RB 3	I fear that there will be connection error while the transaction	3.90	1.06

RB 4	I fear of being hacked by hacker	4.09	1.03
Valid N / (listwise): 384			

Table 14: Risk Barrier

SOURCE: SPSS OUTPUT

Table 14 stated the result of means and standard deviation of the risk barrier. The analysis has shown that the highest mean value for risk barrier is ***"I fear of being hacked by hacker" (RB4)*** of 4.09 and the standard deviation is 1.03. While the lowest mean value for risk barrier is ***"I fear of filling wrong information while the transaction" (RB2)*** of 3.79 and the standard deviation is 1.05. This shows that mostly the respondents choose agree (4) in the survey.

e. TRADITION BARRIER

Tradition barrier is the barrier when a user is not able to accept the new innovation of digital payment and they still prefer the traditional way of paying

ITEM		MEAN	STANDARD DEVIATION
TB 1	I still prefer cash payment (conventional way)	3.45	1.20
TB 2	I cannot accept the new innovation of changing	3.08	1.33

	from conventional to digital innovation		
TB 3	I feel impatient with the digital payment service	3.17	1.22
TB 4	Digital payment does not fit my lifestyle	3.10	1.34
Valid N / (listwise): 384			

Table 15: Tradition Barrier

SOURCE: SPSS OUTPUT

Table 15 stated the result of means and standard deviation of the tradition barrier. The analysis has shown that the highest mean value for tradition barrier is ***"I still prefer cash payment (conventional way)" (TB1)*** of 3.45 and the standard deviation is 1.20. While the lowest mean value for tradition barrier is ***"I cannot accept the new innovation of changing from conventional to digital innovation" (TB2)*** of 3.08 and the standard deviation is 1.33. This shows that mostly the respondents choose neutral (3) in the survey.

4.2 INFERENTIAL TABLE

The reliability test, correlation and the multiple linear regression will analyse in this part.

4.2.1 RELIABILITY TEST

The reliability test is to identify if the research method can reproduce the same results multiple times.

CONSTRUCT	CRONBACH'S ALPHA (α)	NUMBER OF ITEM
Digital Payment	0.968	4
Usage Barrier	0.913	4
Value Barrier	0.921	4
Risk Barrier	0.959	4
Tradition Barrier	0.952	4

Table 16: Reliability Analysis

SOURCE: SPSS OUTPUT

According to table 16 the reliability analysis of the barriers towards digital payment. The data is shown to be reliable and valid when α values exceed 0.70. The analysis showed that the dependent variable has an α of 0.968 which is excellent. Next, for the independent variable, the lowest α is the usage barrier of 0.913 (excellent) while the highest α is the risk barrier of 0.959 (excellent). Value barrier and tradition barrier have the α of 0.921 (excellent) and 0.952 (excellent) respectively. All items in the questionnaire survey had shown a satisfied reliability test

where they all exceed 0.7 where all the tables are reliable and valid. The highest α is risk barrier of 0.959.

Hence, the Reliability Analysis is formulated in the table below for this research:

VARIABLE	CRONBACH'S ALPHA (α)	STRENGTH OF ASSOCIATION
Digital Payment	0.968	Excellent
Usage Barrier	0.913	Excellent
Value Barrier	0.921	Excellent
Risk Barrier	0.959	Excellent
Tradition Barrier	0.952	Excellent

Table 17: Cronbach Alpha in Research

SOURCE: DEVELOP FROM RESEARCH

4.2.2 PEARSON CORRELATION COEFFICIENTS

The Pearson Correlation Coefficient is a measure of how well two variables are related.

PEARSON CORRELATION COEFFICIENTS, N=384					
VARIABLE	**DP**	**UB**	**VB**	**RB**	**TB**
DP	1	.416**	.885**	.898**	.883**
Sig (2-tailed)		.000	.000	.000	.000
UB	.416**	1	.882**	.497**	.493**
Sig (2-tailed)	.000		.000	.000	.000
VB	.885**	.882**	1	.495**	.897**
Sig (2-tailed)	.000	.000		.000	.000
RB	.898**	.497**	.495**	1	.886**
Sig (2-tailed)	.000	.000	.000		.000
TB	.883**	.493**	.897**	.886**	1
Sig (2-tailed)	.000	.000	.000	.000	
**. Correlations is significant at the level 0.01 level (2-tailed)					

Table 18: Pearson Correlation Coefficient

SOURCE: SPSS OUTPUT

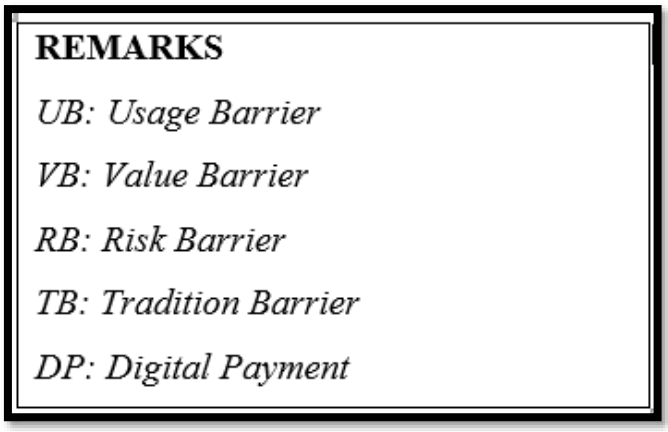

Figure 13: Remarks for Pearson Correlation

According to table 18 stated the Pearson Correlation Coefficient. Correlation is significant at the 0.01 level where it is greater than 0.5. The analysis shows that the usage barrier has a correlation with digital payment of 0.416 where the strength is weakly positive. Next, the value barrier has a correlation with digital payment of 0.885 where the strength is strongly positive. Thirdly, the risk barrier has a correlation with digital payment of 0.898 where the strength is strongly positive. Lastly, the tradition barrier has a correlation with digital payment of 0.883 where the strength is strongly positive. Hence, all relationships show significant relationships.

Hence, the Pearson Correlation Coefficient is formulated in the table below for this research:

INDEPENDENT VARIABLE	CORRELATION	STRENGTH
Usage Barrier	0.416	Weakly Positive
Value Barrier	0.885	Strongly Positive
Risk Barrier	0.898	Strongly Positive
Tradition Barrier	0.883	Strongly Positive

Table 19: Pearson Correlation Coefficient in Research

SOURCE: DEVELOP FROM RESEARCH

4.2.3 MULTIPLE LINEAR REGRESSION

The model summary, ANOVA table and the coefficient will be discussed

a. MODEL SUMMARY

Model summary is to specify multiple models in one single regression command

MODEL	R	R SQUARE	ADJUSTED R SQUARE	STD. ERROR OF THE ESTIMATE
1	.928[a]	.860	.859	0.50696
a. Predictors: (Constant), Usage Barrier, Value Barrier, Risk Barrier, Tradition Barrier				

Table 20: MLR Summary

SOURCE: SPSS OUTPUT

Table 20 stated the MLR Summary. The analysis showed the R is 0.928, which indicates that the independent variables (usage barrier, value barrier, risk barrier and tradition barrier) are relevant to the dependent variable (digital payment). Also, R Square value is 0.860. Hence, 86% of the independent variables explain the variation in dependent variables.

b. ANOVA TABLE

ANOVA table is to test the means for two or more populations with the dependent variable and independent variable.

MODEL		SUM OF SQUARE	DF	MEAN SQUARE	F	SIG
1	**Regression**	60.708	4	15.177	184.335	.000[b]
	Residual	97.405	379	.257		
	Total	98.113	383			
Dependent Variable: Digital Payment						
b. Predictors: (Constant), Usage Barrier, Value Barrier, Risk Barrier, Tradition Barrier						

Table 21: ANOVA Table

SOURCE: SPSS OUTPUT

According to table 21, the sig value of 0.000 is smaller than 0.05. Hence, the model fit on the research is achieved. It also proved that

usage barrier, value barrier, risk barrier and tradition barrier is correlated with digital payment.

c. COEFFICIENT

Coefficient is a specific measure that fits the strength of the linear relationship between the variables.

COEFFICIENT						
MODEL		UNSTANDARDIZED COEFFICIENT		STANDARDIZED COEFFICIENT	T	SIG
		B	STD. ERROR	BETA		
1	(Constant)	1.125	.115		5.082	.000
	UB	.118	.049	. 082	3.654	.000
	VB	.349	.056	.298	6.182	.000
	RB	.468	.032	.442	0.936	.000
	TB	.301	.055	.265	5.425	.000
a. Dependent Variable: Digital Payment						

Table 22: Coefficient

SOURCE: SPSS OUTPUT

REMARKS

UB: Usage Barrier

VB: Value Barrier

RB: Risk Barrier

TB: Tradition Barrier

DP: Digital Payment

Figure 14: Remarks of Coefficient

Table 22 stated the coefficient of the research. The formula is formulated below:

$\mathbf{Y = A + B_{x1} + B_{x2} + B_{x3} + B_{x4}}$
Where:
Y= Dependent Variable
A= Constant from coefficients table
B = Independent Variable
x = Beta, B value
$\boldsymbol{B_{x1}}$ **= Usage Barrier**
$\boldsymbol{B_{x2}}$ **= Value Barrier**
$\boldsymbol{B_{x3}}$**= Risk Barrier**
$\boldsymbol{B_{x4}}$**= Tradition Barrier**

Table 23: Formula of Coefficient

Y = 1.125+0.118 (Usage Barrier) +0.349 (Value Barrier) +0.468 (Risk Barrier) +0.301 (Tradition Barrier)

Table 24: Coefficient in Research

SOURCE: DEVELOP FROM RESEARCH

According to table 24, ***"Y"*** is the dependent variable (digital payment). To formulated the research, the B value of the independent variables have been conducted ($\boldsymbol{B_{x1} + B_{x2} + B_{x3} + B_{x4}}$).

Risk barrier (RB) has the most significant impact on the digital payment of 0.468 units. The regression coefficient value of usage

barrier (UB), value barrier (VB) and tradition barrier (TB) is all positive of 0.118, 0.349 and 0.301 respectively. Hence, all independent variables are positive where the significance level is p<0.001<0.05.

4.2.4 HYPOTHESIS TESTING

The hypothesis testing will be discussed. The hypothesis testing purpose is that the hypothesis will not be supported if p value is smaller than 0.05.

Hence, below has shown the result of the hypothesis of the digital payment with the usage barrier, value barrier, risk barrier and tradition barrier.

a. HYPOTHESIS 1: USAGE BARRIER

HYPOTHESIS 1: USAGE BARRIER

H_0: There is no significance relationship between usage barriers and digital payment

H_1: There is a significance relationship between usage barriers and digital payment

Figure 15: Hypothesis for Usage Barrier

The hypothesis 1 is supported. P value for the relationship between the digital payment and the usage barrier equals 0.000 which is shown less than 0.05. Hence, ***H_0 (There is no significance relationship between usage barriers and digital payment)*** is rejected while ***H_1 (There is a significance relationship between usage barriers and digital payment)*** is accepted.

b. HYPOTHESIS 2: VALUE BARRIER

HYPOTHESIS 2: VALUE BARRIER

H_0: There is no significance relationship between value barriers and digital payment

H_1: There is a significance relationship between value barriers and digital payment

Figure 16: Hypothesis for Value Barrier

The hypothesis 2 is supported. P value for the relationship between digital payment and the value barrier equals 0.000 which is shown less than 0.05. Hence, ***H_0 (There is no significance relationship between value barriers and digital payment)*** is rejected while ***H_1 (There is a significance relationship between value barriers and digital payment)*** is accepted.

c. HYPOTHESIS 3: RISK BARRIER

HYPOTHESIS 3: RISK BARRIER

H_0: There is no significance relationship between risk barriers towards adoption of digital payment

H_1: There is a significance relationship between risk barriers and digital payment

Figure 17: Hypothesis for Risk Barrier

The hypothesis 3 is supported. P value for the relationship between digital payment and the risk barrier equals 0.000 which is shown less than 0.05. Hence, ***H_0 (There is no significance relationship between risk barriers and digital payment)*** is rejected while ***H_1 (There is a significance relationship between risk barriers and digital payment)*** is accepted.

d. HYPOTHESIS 4: TRADITION BARRIER

HYPOTHESIS 4: TRADITION BARRIER

H_0: There is no significance relationship between tradition barriers towards adoption of digital payment

H_1: There is a significance relationship between tradition barriers and digital payment

Figure 18: Hypothesis for Tradition Barrier

The hypothesis 4 is supported. P value for the relationship between digital payment and the tradition barrier equals 0.000 which is shown less than 0.05. Hence, ***H_0 (There is no significance relationship between tradition barriers and digital payment)*** is rejected while ***H_1 (There is a significance relationship between tradition barriers and digital payment)*** is accepted.

Hence, the hypothesis is formulated in the table below:

VARIABLE	HYPOTHESIS (SIG)	RESULT
H_1 (There is a significance relationship between usage barriers and digital payment)	0.000	Accepted
H_1 (There is a significance relationship between value barriers and digital payment)	0.000	Accepted
H_1 (There is a significance relationship between risk barriers and digital payment)	0.000	Accepted
H_1 (There is a significance relationship between tradition barriers and digital payment)	0.000	Accepted

Table 25: Hypothesis Testing in Research

SOURCE: DEVELOP FROM RESEARCH

4.3 SUMMARY

All data are analysed in this chapter. The sample size of this research is 384 respondents. The survey was sent through WhatsApp and other online methods to the target respondents within 4 weeks for them to answer. After 4 weeks, a total of 384 respondents were successfully collected.

5.0 CHAPTER 5

DISCUSSION, IMPLICATION, RECOMMENDATION AND CONCLUSION

In this chapter, the major findings of the study will be discussed after analysing the questionnaire survey into data. Also, the implication and limitation will be discussed as well. Lastly, recommendation and the conclusion of the research will be analysed.

5.1 DISCUSSION OF MAJOR FINDING

The data of the independent variables of the research will be discussed ***(usage barrier, value barrier, risk barrier and tradition barrier)*** to relate with the research objectives and the research questions.

5.1.1 OBJECTIVE 1

"To identify the barriers that affect the adoption of digital payment"

The Innovation Resistance Theory has been applied in this study to explore the barriers of adopting digital payment in Malaysia. This theory is determined by Ram and Sheth. The innovation resistance model helps to examine consumer negative response towards digital payment. The theory has determined some barriers such as ***usage barrier, value barrier, risk barrier*** and ***tradition barrier***. All the barriers have been tested in the data analysis (Chapter 4) and the results has shown that in the hypothsis, they are accepted and supported in the research of their relationship to the dependent variable ***(Digital Payment)***.

Hence, the objective ***"To identify the barriers that affect the adoption of digital payment"*** is successfully conducted in the research.

5.1.2 OBJECTIVE 2

"To determine how the barriers affecting the adoption of digital payment"

The research also has conducted on how the barriers were affecting digital payment. The research was also supported by some of the past researcher.

Hence, the objective ***"To determine how the barriers affecting the adoption of digital payment"*** is successfully conducted. The discussion is explained below:

a. USAGE BARRIER IN ADOPTING DIGITAL PAYMENT

Firstly, the data illustrate that usage barrier has a significant relationship towards the adoption of digital payment where the hypothesis H_1 ***(There is a significance relationship between usage barrier and digital payment)*** of usage barrier is accepted.

The result corresponds to some of the past studies of previous researchers where they stated that usage barrier affects the use of digital payment. According to Chan (2019), when a new innovation does not result in ease of use in their experiences, therefore people will reject the acceptance of this new innovation. Next, according to Shah (2020), Digital payment refers to an innovation that changes a consumer routine and requires a long development process before being accepted by the consumer.

The findings showed that some users find that the use of digital payment is hard to use due to the complexity such as not knowing

how to reload money in the digital payment or when wanting to make a transaction, the balance is low and not enough.

Also, another problem is language barrier. This is because most apps common language is English. However, some users are not so fluent with English which the users could not understand the meaning in the digital payment service.

Next, some users who have astigmatism or poor vision feels that typing in the amount of the money in a small device is inconvenient to them because it is hard to see compare to holding real cash where they can see clearly which causes the process and efficiency of paying in digital method is slower than the conventional way.

In conclusion, the usage barrier occurs and the objectives of the research can be identified.

b. VALUE BARRIER IN ADOPTING DIGITAL PAYMENT

Next, the data illustrate that value barrier has a significant relationship towards the adoption of digital payment where the hypothesis $\boldsymbol{H_1}$ ***(There is a significance relationship between value barrier and digital payment)*** of value barrier is accepted.

The result corresponds to some of the past studies of previous researchers where they stated that the value barrier affects the use of digital payment. According to Parasuraman (2021), an innovation does not provide good value over the existing method, consumers will not willingly change the way of adopting digital payment. Next, according to Lian (2022), findings stated that digital payment

systems need to boost up their higher value in mobile payment to attract the customers from using cash to entering the cashless society.

The findings showed that the users find that the use of digital payment has not provided a better performance to price value compared to conventional methods.

Also, some businesses only provide one option of digital payment platform which causes many consumers who do not have that specific platform could not choose digital payment as a payment option. For example, some users they only use E-wallet but the businesses did not provide QR code for E-wallet, hence the users could not pay with E-wallet.

Next, many users still feel that hand in cash is better because it is easier for the people to manage and control their spending. For example, when using digital payment, it is easy to overspend their budget a day because they don't feel the money getting less compared to holding the cash in hand.

In conclusion, value barrier occurs and the objectives of the research can be identified.

c. RISK BARRIER IN ADOPTING DIGITAL PAYMENT

Thirdly, the data illustrate that risk barrier has a significant relationship towards the adoption of digital payment where the hypothesis ***H_1 (There is a significance relationship between risk barrier and digital payment)*** of risk barrier is accepted.

The result corresponds to some of the past studies of previous researchers where they stated that the risk barrier affects the use of digital payment. According to Chemingui (2019), when customers are transferring traditional methods to the new innovation, users will be concerned about privacy and third parties in accessing personal information. Next, according to Elbadrawy (2019), when users are using digital payment, users will be concerned about internet connection or the app will lag which results in a failure in transaction.

The findings showed that digital payment causes some risk to the users especially exposure of personal information to others such as hackers or stealers. For example, other users can just use your digital payment account if they know your password and user account. Hackers can also use your personal information to do bad things such as take a loan.

In addition, using Wi-Fi provided by the business during transaction can bring the risk of hackers easily to access the user's digital payment. This is because the Wi-Fi is shared with the public where everyone can use the internet and hackers can hack easily.

Next, users are also worried about filling wrong information such as the amount of the payment. This causes that if the users fill in exceed money, the business will need to refund however the process of refunding sometimes takes a long time to process. Customer fraud could also happen where customer did not fill in as much as they should pay and the businesses did not look properly before the customer leave.

Also, users also worry when there is a connection error during the payment because of the bad internet or data. This causes to waste time where users need to refresh or restart their mobile device to reconnect back with the data.

In conclusion, risk barrier occurs and the objectives of the research can be identified.

d. TRADITION BARRIER IN ADOPTING DIGITAL PAYMENT

Lastly, the data illustrate that tradition barrier has a significant relationship towards the adoption of digital payment where the hypothesis $\boldsymbol{H_1}$ ***(There is a significance relationship between tradition barriers and digital payment)*** of tradition barrier is accepted.

The result corresponds to some of the past studies of previous researchers where they stated that tradition barrier affects the use of digital payment. According to Chenmingui (2019), many users reject this new innovation because they are afraid that the new technology will replace human work. This leads to the result of unemployment where it is hard for people to find work such as cashiers. Next, according to Cheung (2019), Tradition barrier arise due to a change in a consumer's normal daily routine by adopting the new innovation.

The findings showed that many users still rather choose cash payment (conventional way) instead of digital payment because they feel that the change of technology is too fast and they could not catch up or follow with the new innovation.

Next, many workers are not interested in digital payment due to the high risk of unemployment. This is due to the reason that with the technology getting more advanced in this world, technology will replace human labour. Although is good for the businesses to have a little help of the technology but too much will cause where humans service is no more a requirement.

Also, many consumers prefer to engage in a face-to-face conversation when making a payment so they can make sure that the amount they pay is correct and safe. Many consumers will feel that a business service is good when there is a interaction between the consumers and the businesses.

In conclusion, tradition barrier occurs and the objectives of the research can be identified.

5.1.3 OBJECTIVE 3

"To investigate the most significant barrier that affects the adoption of digital payment"

The researcher has found that the ***risk barrier*** is the most significant barrier to adopting digital payment with the highest coefficient of 0.468 units and the correlation is strongly positive with the highest 0.898 units. This is shown that in the survey, the respondents have choose that for the questions in risk barrier, they mostly choose agree (4) and strongly agree (5). This is due to the reason that the Internet world is full of internet threats such as hackers and data theft. All personal information of the users such as bank account number and the password can be stolen by one click on a simple device.

Hence, the objective ***"To investigate the most significant barrier that affects the adoption of digital payment"*** is successfully conducted.

5.2 IMPLICATION

The implication will discussed in two part is managerial implication and theoretical implication.

5.2.1 MANEGERIAL IMPLICATION

In this research, the study shows a clear vision on how the barriers (usage barrier, value barrier, risk barrier and tradition barrier) have affected the adoption of digital payment. The research also can identify which barrier causes the most concern to stop from converting Malaysia to convert to a cashless society.

This is important to be aware of as Malaysia is trying to achieve a cashless society. For example, as cash payment is hard to track and there is no detailed record for transactions, hence the research can help the government identify the problems in digital payment to implement a better financial strategy so that consumers have interest of using digital payment, and the governments can improve in the accounting, tax investigating and even criminal activities such as fraud.

In addition, having a better digital payment service, it helps Bank Negara Malaysia to create a digital and cashless society and consumers can increase their payment options.

Therefore, the service in digital payment must make changes and improvements to create satisfaction to the users:

1. **USAGE BARRIER**:
    - Digital payment services should provide various languages that are used in Malaysia such as Bahasa Melayu, English, Chinese and Bahasa Tamil so that all Malaysians can use them.
    - Users can choose to auto reload the money every month to avoid low balance during payment.
    - Businesses should have the barcode scanner so that the businesses can scan the consumers barcode to pay instead of consumer scanning and typing the amount.
2. **VALUE BARRIER**:
    - Users can set the limit of spending in the digital payment so that they will not overspend their budget
    - Businesses should provide various platform such as E-wallet, Shopee Pay, Grab Pay and more so that customers can choose to use their preferred platform.
    - Digital payment needs to improve the specifications such as reliability and convenience to meet the customer satisfaction.
3. **RISK BARRIER**:
    - Digital payment service should improve the features in digital payment like fingerprint or face recognition for the users need to be recognise is the user before using the digital payment

- Digital payment should request one-time password (OTP) before every payment so that users can also be alerted that the digital payment is being used.
- Users should use own self data and avoid using Wi-Fi provided from the stores to avoid the hackers to access the digital payment account.
- Malaysia Communication and Multimedia Commission (MCMC) can collaborate with Telekom Malaysia to strengthen the coverage of the data roaming to ensure internet stability.

4. TRADITION BARRIER:

- Users who like using digital payment should provide word of mouth to other users of the good in digital payment because it helps to brainwash the users to use the digital payment.
- Digital payment service should also collect feedback from users to understand what are the problems and make changes to meet the satisfaction of the users.
- All business needs to target their users on who will prefer using digital payment to increase customer payment option.

Hence, these strategies can help the digital payment service to be better and the experience of using digital payment will be greater and meets consumers high satisfaction.

5.2.2 THEORITICAL IMPLICATION

This research is to contribute to all academicians (researchers, lectures and students) and also company researchers who are interested in adopting digital payment. Based on past researchers, the research are more focus on reason adopting digital payment but this research is to identify barriers in adopting digital payment.

The study has found that all the relationship of dependent variable (digital payment) independent variables (usage barrier, value barrier, risk barrier and tradition barrier) is significant positive from the innovation resistant theory.

Also, the research also found that risk barrier is the most concern in the barriers adopting digital payment because risk is related with safety issue such as personal information and money being stolen. Many users wanted to use the safest way to pay for their product.

5.3 LIMITATION

The research has also faced some limitations. Firstly, the research was only studied in the Melaka area, especially UTeM students, Taman Tasik Utama area and Bukit Beruang area. These areas were chosen based on the location where the researcher is located and is convenient to collect data. Therefore, the results of the research cannot be represented for the whole Malaysia population on the barriers of adopting digital payment because it is not collected in every state there is in Malaysia.

Next, the sample size was mainly focused on Generation Z in the research. However, some of the Generation Z are still young so the age respondents are targeted at 15 above. In the 384 respondents, mostly respondents are around 21-23

years old. Hence, the study does not represent the whole population of the Malaysia citizens because the data has not been collected in other generations such as Generation Y.

In addition, the research was more intended to the consumers reason of not using digital payment and not the business people. This shows that the research is only in one area of perspective.

Lastly, the research was only analysing four types of barriers which are usage barrier, value barrier, risk barrier and tradition barrier. Thus, the research could not represent the whole reason for affecting the use of digital payment.

5.4 RECOMMENDATION

The study of this research has conducted a few suggestions. Firstly, the study can be further researched in every state in Malaysia such as Selangor, Kuala Lumpur, Johor and more. This is to ensure the reliability of the research can be represented for the whole Malaysia in the barriers of adopting digital payment.

Next, for further studies, the researchers might expand the scope of the survey and larger sample size to the whole Malaysia citizens such as Generation Y, Millennials and Boomers. This will make the results more accurate for the barriers in using digital payment.

In addition, the research could also look in the business perspective to see why some businesses are not using digital payment for customers to choose as a payment option.

Lastly, the research can analyse more types of barriers that resist consumers from using the digital payment such as image barrier and information barrier. This helps the study to be more understandable for the problems in adopting digital payment.

5.5 CONCLUSION

In a nutshell, the research of ***"understanding the barriers in adopting digital payment"*** is very important to study for the better experience in using digital payment.

Digital payment is becoming more and more popular in the world. During the pandemic covid-19, many businesses encourage cashless transaction where they provide digital platform such as e-wallet, grab pay and more to let the customer choose to pay for their products. This is to avoid physical touch between the businesses and the consumer. However, the adoption was low in Malaysia. The introduction and understanding of digital payment and what to do in the research have been conducted in chapter 1.

Chapter 2 has illustrated on the barriers in adopting digital payment has been studied by past researchers to formulate the hypothesis of the relationship of dependent variable (digital payment) and independent variable (usage barrier, risk barrier, value barrier and tradition barrier).

The research has used around 4 weeks to collect the data from the respondents by conducting a survey to understand their interest in digital payment and also how these barriers have affected them. The total respondents are 384 from sending through WhatsApp and other online method. The research has used Krjcie and Morgan Formula to calculate the sample size in Melaka. The explanation is discussed in chapter 3.

After collecting the data, the objectives of the research have been discussed in the data analysis (Chapter 4). The reliability, correlation, coefficient and hypothesis has been conducted on the research and has shown that all the independent variable and the dependent variable are related.

In addition, the discussion in major findings (chapter 5) were also conducted. For example, firstly, the research has discussed what ate the barriers in adopting digital payment. For example, the Innovation Resistance Theory (Ram and Sheth) has been applied in this study and has identified barriers such as ***usage barrier, value barrier, risk barrier*** and ***tradition barrier*** are accepted and supported in the research of their relationship to the dependent variable ***(Digital Payment)***.

Next, the research has discussed how the barriers have affected the use of digital payment. For example, for ***usage barrier***, some users face problems when using digital payment like language barriers and do not know how to reload money in the digital payment; for ***value barrier***, some user feels that digital payment is not increasing the ability to manage their financial matter; for ***risk barrier***, users are fear of being hack by hacker and personal information get stolen and lastly for ***tradition barrier***, some users still prefer cash payment compared to digital payment.

Lastly, the researcher has found that the ***risk barrier*** is the most significant barrier to adopting digital payment where all the data analysis for risk barrier has shown that it is the highest value in coefficient (0.468) and correlation (0.898). This is because the risk barrier can cause safety issue to the users such as hackers can steal all their money and personal information.

In conclusion, the research has used chapter 1 to chapter 5 to understand about this research ***"understanding the barriers in adopting digital payment".*** The research hopes to alert the readers who reads in this research about the barriers in digital payment so that the service can be taken seriously. This is to identify the threats and to make improvements or changes to improve the service and become a better service for Malaysia users to use and also helps to attracts more customers in adopting digital payment. Hence, the research hopes to help Malaysia to increase

marketing competitive within Malaysia and also other country. Not only that, the research also hopes to help Malaysia achieve cashless society.

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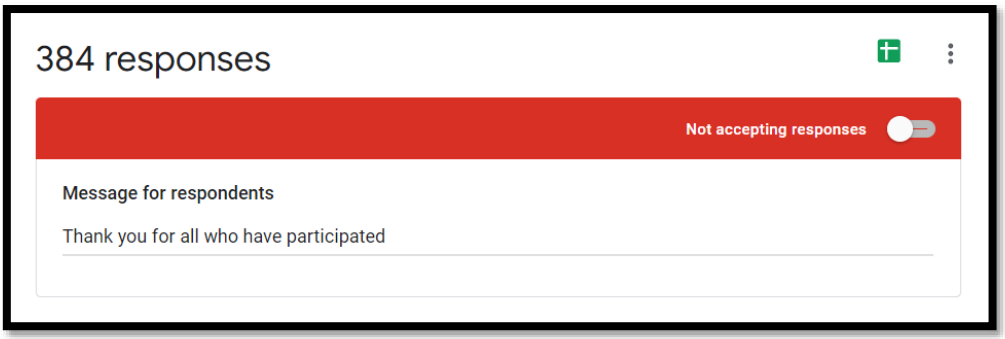
APPENDIX

WEEK/ACTIVITIES	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
FYP Discussion									M							
Search for interest topic									I							
Meeting with supervisor									D							
Topic discussion																
Dvelop research problem									B							
Develop research objective and research question									R							
Title confirmation									E							
Draft chapter 1-3									A							
Full chapter 1-3									K							
Presentation 1																
Q&A online session																

Appendix 1: Gantt Chart 1

WEEK/ACTIVITY	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Create questionnarie and correction														
Distibute questionnarie									M					
Collect questionarrie									I					
Analysis Data									D					
Chapter 5									B					
Submission draft									R					
Slide Preparation									E					
Submission full report									A					
Presentation									K					
Q&A Session														

Appendix 2: Gantt Chart 2



Appendix 3: 384 Respondents

UNDERSTANDING THE BARRIERS IN ADOPTING DIGITAL PAYMENT

This research is to understand the barriers in converting from traditional payment method to the digital payment method among the generation Z.

SECTION A: DEMOGRAPHIC PROFILE

Section A is to fill some personal details of the respondents. Please tick (√) the answers of the question. All answers will be kept strictly confidential.

1. **GENDER**
   - ☐ MALE
   - ☐ FEMALE
2. **AGE**
   - ☐ BELOW 18
   - ☐ 18-20
   - ☐ 21-23
   - ☐ 24-25
3. **EDUCATION**
   - ☐ SPM
   - ☐ STPM
   - ☐ DIPLOMA
   - ☐ DEGREE
   - ☐ OTHERS: _____
4. **Are you a digital payment user?**
   - ☐ YES
   - ☐ NO
5. **How long have you been using digital payment?**
   - ☐ BELOW 6 MONTHS
   - ☐ 6-11 MONTHS
   - ☐ 1 YEAR ABOVE
6. **How much will you willing to spend through digital payment?**
   - ☐ BELOW 50
   - ☐ RM 50 – RM 100
   - ☐ RM 101 – RM 500
   - ☐ RM 500 ABOVE
7. **What do you use digital payment for?**
   - ☐ RETAILS PURCHASE
   - ☐ BILLS
   - ☐ TOP-UP
   - ☐ NONE

Appendix 4: Survey Section A (Demographic Detail)

LIKERT SCALE

Respondents will choose whether they agree or disagree with each statement using the Likert scale from (1): Strongly Disagree; (2): Disagree; (3): Neutral; (4): Agree and (5): Strongly Agree. Respondent need to circle one answer only on the following statement

SECTION B: BARRIERS TOWARDS DIGITAL PAYMENT

Section B is to seek opinion of respondent's interest on adopting digital payment or not.

NO	QUESTION	SD	D	N	A	SA
DIGITAL PAYMENT						
DP 1	I am not interested in using digital payment	1	2	3	4	5
DP 2	I will not use the digital payment in the future	1	2	3	4	5
DP 3	The service of digital payment is not convenient for me	1	2	3	4	5
DP 4	I will not recommend to use digital payment to my friends and family	1	2	3	4	5

Appendix 5: Survey Section B (Digital Payment)

SECTION C: BARRIERS IN ADOPTING DIGITAL PAYMENT

Section C is to understand what makes them not interested in adopting digital payment

NO	QUESTION	SD	D	N	A	SA
Usage Barrier (UB) Usage barrier is the barrier that happen when a user try to use the digital payment but the function is not working smoothly						
U1	I think digital payment is hard to use	1	2	3	4	5
U2	Digital payment is not convenient than I expect	1	2	3	4	5
U3	Digital payment service is slow to use	1	2	3	4	5
U4	Digital payment service is not time efficient compared to conventional way	1	2	3	4	5
Value Barrier (VB) Value barrier is the barrier that users feel that using the digital payment method does not bring any advantage or does not make their life easier in paying						

Appendix 6: Survey Section C (Barriers In Adopting Digital Payment)

V1	I think hand in cash payment is better than digital payment	1	2	3	4	5
V2	Digital payment does not bring any advantage compared to cash payment	1	2	3	4	5
V3	Digital payment is not increasing my ability to manage my financial matter	1	2	3	4	5
V4	Digital payment does not increase my choices as a consumer	1	2	3	4	5
Risk Barrier (RB) Risk barrier is the barrier when a user is afraid that using digital payment might bring risk on leaking their private information or the money stolen inside the digital payment						
R1	I fear of information expose to third party with digital payment	1	2	3	4	5
R2	I fear of filling wrong information while the transaction	1	2	3	4	5
R3	I fear that there will be connection error while the transaction	1	2	3	4	5
R4	I fear of being hack by hacker	1	2	3	4	5
Tradition Barrier (TB) Tradition barrier is the barrier when a user is not able to accept the new innovation of digital payment and they still prefer the traditional way of paying						
T1	I still prefer cash payment (conventional way)	1	2	3	4	5
T2	I cannot accept the new innovation of changing from conventional way to digital innovation	1	2	3	4	5
T3	I feel impatient with the digital payment service	1	2	3	4	5
T4	Digital payment does not fit my lifestyle	1	2	3	4	5

Appendix 7: Survey Section C Part II