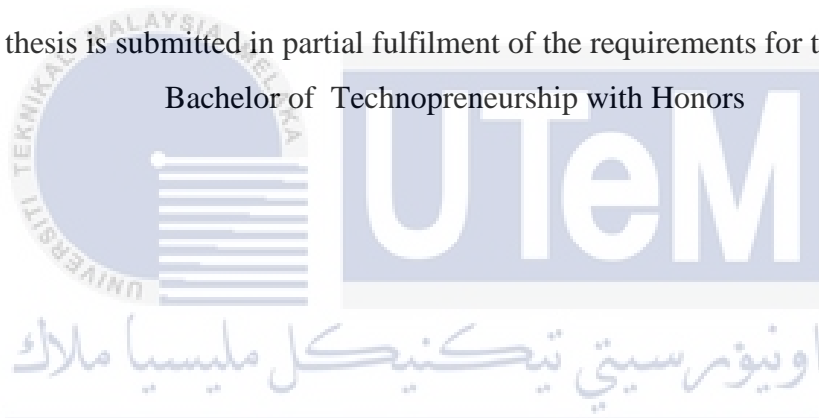


**AN EFFECTIVE, SECURE, RELIABLE AND CUSTOMER SATISFACTION
VIA ONLINE SHOPPING PLATFORM, A FUNDAMENTAL STUDY**

SITI AISHAH BINTI ISMAIL

This thesis is submitted in partial fulfilment of the requirements for the award of
Bachelor of Technopreneurship with Honors



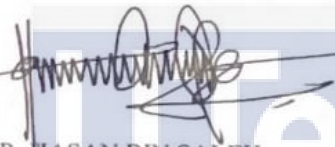
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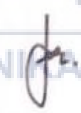
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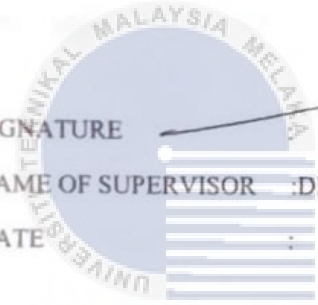
JANUARY 2023

APPROVAL

I hereby acknowledge that this project paper has been accepted as part of fulfilment for the degree in Bachelor of Technopreneurship with Honors.

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DECLARATION

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ABSTRACT

In the era of globalization, Malaysia is entering Industry 4.0 or known as Fourth Industrial Revolution which is focusing on digital transformation. Furthermore, Artificial Intelligence (AI) is a current trend in today markets and gives so many opportunities in different fields. However, AI has been picking up the speed in online retail space in order to deliver more personalized experiences for online shoppers. Therefore, a few online shoppers are not aware of implementation of AI in e-commerce Malaysia. Hence, the aim of this research is to study about an effective, secure, reliable and customer satisfaction via online shopping platform a fundamental study. This study had been mainly adopted from Technology Acceptance Model (TAM) and the independent variables are effective, secure, reliable and customer satisfaction. Besides that, quantitative research method has been collected through the questionnaire. According to Krejcie and Morgan table, a total of 103 respondents who stay at Melaka was selected by using simple random sampling in order to answer the questionnaire. Statistical Package for Social Science (SPSS) version 26 was used by researcher to analyse the collected data. The data analysis techniques used in this research were descriptive analysis, Pearson correlation analysis, and regression analysis in order to describe the variables numerically and determine the relationship between independent variables and the dependent variable.

Keywords: Artificial Intelligence (AI), customer shopping experience, e-commerce, Malaysia, TAM, Melaka

ABSTRAK

Dalam era globalisasi, Malaysia sedang memasuki Industri 4.0 atau dikenali sebagai Revolusi Perindustrian Keempat yang memberi tumpuan kepada transformasi digital. Selain itu, kecerdasan buatan (AI) adalah trend semasa dala pasaran hari ini dan telah memberi banyak peluang dalam pelbagai bidang yang berbeza. Tambahan pula, AI telah memilih kelajuan dalam ruang runit dalam talian untuk memberikan pengalaman yang lebih peribadi kepada pembeli dalam talian. Bagaimanapun, terdapat pembeli dalam talian yang tidak menyedari pelaksanaan AI dalam laman web e-dagang Malaysia. Oleh itu, tujuan penyelidikan ini adalah untuk mengkaji tahap berkesan, selamat, boleh dipercayai dan kepuasan pelanggan melalui platform beli-belah dalam talian satu kajian asas. Kajian ini telah diterima pakai dari Model Penerimaan Teknologi (TAM) dan pembolehubah bebas adalah kesanggupan yang dirasakan, kemudahan kegunaan, keseronokan yang dirasakan dan sifat yang dilihat dan dirasakan. Selain itu, kaedah penyeldikan kuantitatif telah dikumpulkan melalui soal selidik. Menurut jadual Krejcie and Morgan, seramai 103 responden telah dipilih di Melaka dengan menggunakan persampelan rawak mudah untuk menjawab soal selidik. Pakej Statistik untuk Sains Social (SPSS) versi 26 digunakan oleh penyelidik untuk menganalisis data yang dikumpul. Teknik analisis data yang digunakan dalam kajian ini adalah analisis deskriptif, analisis korelasi Pearson, dan analisis regresi untuk menerangkan pembolehubah secara numerik dan menentukan hubungan antara pembolehubah bebas dan pembolehubah bergantung.

Kata Kunci: Kecerdasan buatan (AI), pengalaman membeli-belah pelanggan, e-dagang, Malaysia, model TAM, Melaka

TABLE OF CONTENTS

Contents	Pages
DECLARATION	ii
ABSTRACT	iii
ABSTRAK	iv
CONTENT	v-viii
LIST OF FIGURES	ix
LIST OF TABLES	ix-x
 CHAPTER 1 INTRODUCTION	
1.0 Introduction	1
1.1 The Background of Study	1-3
1.2 Problem Statement	4-5
1.3 Research Question	5
1.4 Research Objective	6
1.5 Significant of the Study	6-7
1.6 Summary	7
 CHAPTER 2 LITERATURE REVIEW	
2.0 Introduction	8
2.1 E-commerce	8-9
2.1.1 Type of E- commerce	9-11

2.2	Online shopping platform	11
2.2.1	Advantages using online stores	11-12
2.2.2	Disadvantages using online stores	12-13
2.3	Artificial Intelligence	13-14
2.3.1	Categorization of Artificial Intelligence	14-15
2.3.2	The Application of AI Technology in Electronic Commerce	15-16
2.4	Effective	17
2.5	Secure	17-18
2.6	Reliable	18
2.7	Customer Satisfaction via Online Shopping	19
2.8	Theoretical Framework	20
2.8.1	Technology Acceptance Model (TAM)	21
2.9	Hypothesis of Study	21-22
2.10	Summary	22

CHAPTER 3 RESEARCH METHODOLOGY

3.0	Introduction	23
3.1	Research Design	24
3.2	Quantitative Research	24
3.3	Data Collecting	25-26
3.4	Research Location	26
3.5	Scop and Sample	27-28
3.6	Pretest or Pilot Study	28-29

3.7	Research Validity and Reliability	29-30
3.8	Summary	31

CHAPTER 4 DATA ANALYSIS

4.0	Introduction	32
4.1	Pilot Test	33
4.1.1	Reliability Test	33-34
4.2	Descriptive Statistics of Demographic Variables	34
4.2.1	Gender	35
4.2.2	Age	36
4.2.3	Occupation	37
4.2.4	The most preferred online shopping platform	38
4.2.5	Summary of Descriptive Analysis	39-40
4.3	Reliability Test	40-41
4.4	Descriptive Statistics of Variables	41-42
4.5	Pearson's Correlation Analysis	42
4.5.1	Correlation between Variables	44
4.5.2	Multiple Linear Regression Analysis	45-46
4.6	Hypothesis Testing	46-48
4.7	Conclusion	48

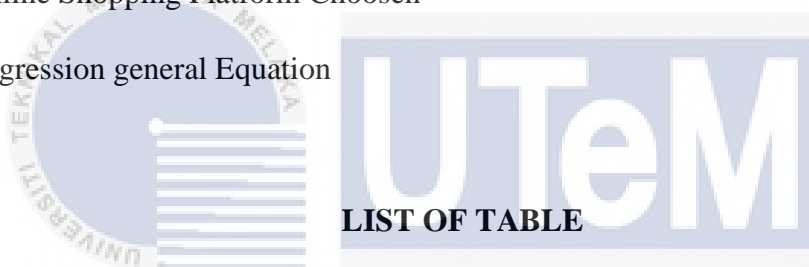
CHAPTER 5 DISCUSSION AND CONCLUSION

5.0	Introduction	49
5.1	Discussion of Findings	49-51

5.1.1 To identify how effective of AI system when applying on online shopping platform	51
5.1.2 To determine the security of AI through customer online shopping experience in e-commerce Malaysia	52
5.1.3 To ensure the reliability AI on online shopping platforms through customer experience in Malaysia	53
5.1.4 To determine the customer satisfaction during using e-commerce through AI systems	54
5.2 Implications of the Research	55
5.3 Limitation of Study	55
5.4 Recommendation	56
5.5 Conclusion	57
REFERENCES	58-59
APPENDIX 1	60
APPENDIX 2	61
APPENDIX 3	62-64
APPENDIX 4	65

LIST OF FIGURES

Contents	Pages
2.1 Theoretical Framework for an effective, secure, reliable and customer satisfaction via online shopping platform a fundamental study	20
3.1 Research Location	26
3.2 Table of Krejcie and Morgan	28
4.1 Gender of Respondents	35
4.2 Age of Respondents	36
4.3 Occupation of Respondents	37
4.4 Online Shopping Platform Chosen	38
4.5 Regression general Equation	45



Contents	Pages
3.3 Cronbach's Alpha Coefficient	30
4.1 Reliability Statistic for all variables	28
4.2 Result of test Reliability for the Pilot Test (Each)	29
4.3 Gender of Respondents	31
4.4 Age of Respondents	36
4.5 Occupation of Respondents	37
4.6 Online Shopping Platform	38
4.7 Summary of Demographic Data	39

4.8 Reliability Statistics for All Variables	40
4.9 Reliability for Each Variable	41
4.10 Descriptive Statistics for Variables	42
4.11 Interpretation of Correlation Coefficient	43
4.12 The Result of Correlation Analysis for All Variables	44
4.13 Model Summary	45
4.14 ANOVA	46
4.15 Coefficients	46



CHAPTER 1

INTRODUCTION

1.0 Introduction

This chapter consists of information about the background study of topic which was an effective, secure, reliable and customer satisfaction via online shopping platform a fundamental study. In addition, the researcher discussed the online marketplace and thought that this chapter served as a starting point of the discussion about how to share and succeed with research with the general public. Additionally, researcher also discussed about background study, problem statement, research problems, research objectives, scope of study, limitations of study, and importance of study.

1.1 The Background of Study

The topic about an effective, secure, reliable and customer satisfaction via online shopping platform a fundamental study. Nowadays, the technology become one of the most important things in our daily life. Using the technologies, we can access to the internet broadly. The internet has opened a window of opportunity to everyone because of its ability to make viable the conduct their business in cyberspace or by connecting among people from worldwide without geographical limitations. In short, consumer can order their goods and services anywhere and

anytime without go out. Just by clicking, a transaction can be conducted online. They can access virtually 24 hours, 7 days a week without worrying about store hours, time zones, or traffic jams (Li & Gery, 2000; Waldo, 2000).

Due to its ability to facilitate idea sharing, community building, democratic future shaping, and the promotion of innovative business practises, the Internet has gained popularity in Malaysia. In addition to being able to reach a global market, the Internet is also the biggest shopping mall in the world and enables businesses to operate on a tight budget. The finest ways to market, communicate, and distribute goods and information to their target audience are available on the internet, which gives merchants a new chance.

The evolution of the information society is often compared to the Industrial Revolution in terms of its consequences. The use of information and communication technologies allows individuals and organisations to expand their abilities, strengthen cross-border contacts and develop an open society with cultural originality and variety. The importance of the information component has overtaken that of the production factor as a result of technological and economic improvements. The word "e-commerce" was created as a result of several enterprises and organisations moving their commercial operations online and establishing client interactions through electronic information and communication channels.

Using private or public communication networks including the internet to exchange services in order to create additional value is known as e-commerce. E-commerce refers to the process of planning, organising and executing electronic commercial processes. Both service providers and service customers can be businesses, administrative bodies of government, and private persons. What matters is that the business relationship established by electronic means adds value, which may come in the shape of a monetary or intangible contribution.

Customers can directly buy goods or services from merchants online through an online shopping platform using a web browser or a mobile app. Besides, customers can

use a shopping search engine to locate a product that interests them. Shopping search engines show the availability and price of the linked products at multiple e-retailers. Throughout the world, people commonly use this platform to buy goods and services. Several online businesses have started utilising different sorts of artificial intelligence in order to better understand their customers and provide a better customer experience (AI).

Artificial Intelligence (AI) is the engineering or science of making intelligent machines and intelligent computer programs. AI was developed to create intelligence in the machines or software and provide them the ability to think as humans. It is a scientific topic that through the reconstruction and expansion of human intelligence and can understand the autonomous process of mental work. Intelligent technology is the centre of artificial intelligence technology and intelligent devices are close to human being mentality, such as robots, speech environments and image visualization. Intelligence technology is emerging very fast with the advancement of science and technology also transform the human being daily lifestyle, mainly in e-commerce sector.

Due to its ability to facilitate idea sharing, community building, democratic future shaping, and the promotion of innovative business practises, the Internet has gained popularity in Malaysia. In addition to being able to reach a global market, the Internet is also the biggest shopping mall in the world and enables businesses to operate on a tight budget. The finest ways to market, communicate, and distribute goods and information to their target audience are available on the internet, which gives merchants a new chance.

One of the examples that we can see is Lazada. Hans-Peter Ressel, CEO of Lazada Malaysia disclosed that their company is working on a brand new Lazada app, driven by artificial intelligence (AI). Based on Ressel, the new Lazada app has been redesigned to provide each user with more tailored browsing experience. Hence, less focus will be placed on product categories, and instead, the app's machine-learning algorithms will highlight more items the user is likely to be interested in based on past purchases and viewing patterns.

1.2 Problem Statement

This study focused on an effective, secure, reliable and customer satisfaction via online shopping platform a fundamental study. Malaysia is one of the fastest growing and expanding the quickest in e-commerce markets in Southeast Asia and also achieve a high rates of e-commerce usage (Yoong, 2018). Many consumers choose to utilise online shopping platforms to buy goods and services due to the competitive pricing, wide selection, free shipping, practicality, time-saving benefits, and exclusive promotions by online retailers. However, using an online buying platform has many drawbacks.

First of all is poor customer service. According to ATG Global Consumer Trend Study, 90% customers of e-commerce consider live chat because it is helpful and 63% of customers were more likely to return to a website that offers live chat (Admin, 2018). Poor customer service such delay in delivery is one of the most critical problems. Customer service influence consumer through vendor knowledge, responsiveness and reliability. Vendor knowledge and responsiveness reflect the way that the service provider expects and responds in time and effectively to customers' needs and request besides providing the customer with the knowledge before they make a purchase. Reliability happened when the customer perceives that there is a high chance that the service provider will deliver exactly what is being promised within the proper time.

The lack of personalization. Due to the fact that we can only display the products that they are truly interested in rather than the complete product line, we have a far better chance of converting visitors into customers when we offer a tailored shopping experience. Most websites that use personalization leverage information from a user's previous behaviour to offer them products that are comparable to or pertinent to the ones they previously viewed or purchased. It lacks interpersonal communication and rapid reward, and it doesn't allow for the product's sensory evaluation.

Other than that, unclear product information. Uncertain product information aside from that. If they can't get their queries answered right away, 45% of US buyers, according to Forrester, are likely to give up on a transaction. It's important to pay

attention to what customers are asking, whether they do so in person, over the phone, in chat, or by examining the search terms they enter into the website. Ensure that every attribute displayed is distinct and easy to understand. It is possible to understand and navigate values that are spelled appropriately. Furthermore, buying online does not allow sensory evaluation of the product which is can lead to lacks interpersonal communication or instant gratifications (Hassanein and Head 2007).

1.3 Research Question

The intention of this study is to determine how to properly respond to the questions below. Research questions were set up for achieving the goal and to better define the focus of this study:

1. How effectiveness Artificial Intelligence (AI) systems when applying on online shopping platform
2. What are the securities of artificial intelligence (AI) through customer online shopping experience in e-commerce
3. What are the reliabilities Artificial Intelligence (AI) on online shopping platforms through customer experience in Malaysia
4. How was the customer satisfaction during using e-commerce through artificial intelligence (AI) systems

1.4 Research Objective

This study aims at addressing an effective, secure, reliable and customer satisfaction via online shopping platform a fundamental study. Four research objectives were set up to achieve the goal and to better define the focus of this study.

1. To identify how effective Artificial Intelligence (AI) systems when applying on online shopping platform
2. To determine the security of Artificial Intelligence (AI) through customer online shopping experience in e-commerce
3. To ensure the reliability Artificial Intelligence (AI) on online shopping platforms through customer experience in Malaysia
4. To determine the customer satisfaction during using e-commerce through Artificial Intelligence (AI) systems

1.5 Significant of the Study

The significant of this study is we got to know an effective, secure, reliable and customer satisfaction via online shopping platform a fundamental study. Besides that, this research is to study how effective Artificial Intelligence (AI) systems when applying on online shopping platform. Furthermore, the researcher also determines the security of Artificial Intelligence (AI) through customer online shopping experience in e-commerce Malaysia, ensure the reliability of Artificial Intelligence (AI) on online shopping platforms through customer experience in Malaysia and determine the customer satisfaction during using ecommerce through artificial intelligence (AI) systems.

On top of that, this study will beneficial and also be important to the Malaysians besides can make people more aware while using online shopping platform. In addition, it was helpful for all kinds of e-commerce websites because the researcher provided the research information regarding an effective, secure, reliable and customer satisfaction

via online shopping platform a fundamental study. This study will be presented as a future reference for researchers continuing the topic with more details.

1.6 Summary

To summarize, this chapter had discussed introduction which is include the background of study and also problem statement. The problem statement in this study was determined by researcher in order to identify research questions and research objectives. Furthermore, researcher explained about the scope, importance and limitations of the study.



CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

This chapter will extensively describe the concept of online shopping platform, together with relevant previous studies. This chapter will bring about the information and details. Hence, can also construct the theoretical framework. The theoretical framework in this study based on the fundamental theory of internet and online shopping platform. This study is specially done to consumer online purchasing and spread awareness about online shopping platform. A summary will be done at the end of this chapter to sum up the theoretical framework of this study.

2.1 E-commerce

According to Oxford Dictionary (2012), electronic commerce can be defined as a commercial transaction conducted electronically through internet. Besides, E-commerce is the exchange of goods and services as well as the movement of money using digital communications. It involves business communications and transmissions across networks and through computers. E-commerce is thus described as the trade of products and services over an electronic network without the use of actual physical intermediaries.

Apart from that, e-commerce signifies the preparation of grounds for transaction of commodities and exchange of information through internet. E-commerce includes creation of market, ordering, supply management as well as transfer of money and data. In practise, e-commerce is a broad term that refers to a variety of technologies that can be used to strengthen business relationships (S. G. E. Garrett P.J. Skevington, 1970). The e-commerce platform is an obvious outcome of globalization and technological revolution around the globe.

The concept of information and communication has changed due to the change in technological are all over the world. The frequently used of Internet for commercial purposes gave a rise to the existence of the electronic phenomenon. Business-to-business (B2B), business-to-consumer (B2C), consumer-to-consumer (C2C), or consumer-to-commercial transactions are the four main types of business transactions that take place (C2B). E-business and e-commerce are frequently used interchangeably. The transactional procedures that make up online retail shopping often known as e-tail.

Platforms that host e-commerce transactions may include online marketplaces that sellers simply sign up for, such as Amazon. The software as a services (SaaS) tools that allow customers to rent online store infrastructures or open sources tools for companies to use in-house development to manage. The e-commerce users in Malaysia are currently 16.53 million, who spend \$79.15 USD online annually. Four years from now, online shoppers are expected to reach 21.44 million and spend approximately \$110.04 USD ("Malaysia eCommerce Insights," 2018).

2.1.1 Type of E- commerce

1. Business to business (B2B)

Business to business (B2B) e-commerce refers as a type of commerce transaction that exist between businesses, such as those involving a manufacturer and wholesaler, or a wholesaler and a retailer. In short, B2B e-commerce is defined as the e-commerce

between companies. To make sure that e-commerce platform successful, the website must reflect the company's values, be user-friendly, and allow prospective buyers to get the information they have been searching for.

2. Business to consumer (B2C)

Markus (2017), business to consumer (B2C) is defined any type of process of selling products directly to consumers. Furthermore, B2C e-commerce involves customers gathering information, purchasing physical goods and for information goods, receiving products over an electronic network. B2C e-commerce are focused to reduce transactions costs (particularly search costs) by increasing consumer access to information and allowing consumers to find the most suitable or competitive price for a product or services. Besides, it is also reduced the market entry barriers since the cost of maintaining e-commerce site is much cheaper than installing brick and mortar store. This has provided a good platform for e-retailers to run their online business with low cost.

3. Consumer to Consumer (C2C)

Consumer to consumer (C2C) e-commerce is a form of business where a company only involved in providing a platform for various people use it to interact with each other for mutual benefit. Furthermore, C2C e-commerce is a business transaction between two parties or two individuals who engage with each other using the platform given. Aside from that, the C2C e-commerce platform differs from the B2B and B2C e-commerce platforms. The C2C ecommerce network helps merchants and buyers to make more money. This is due to the fact that sellers can hold inventory at their own convenience, resulting in a lower selling price for the products or services. Additionally, a C2C e-commerce platform might include the selling of both new and used products.

4. Consumer to business (C2B)

C2B businesses C2B enable people to offer products and services to businesses. In this e-commerce paradigm, a website can enable users to publish the work they need done and request quotes from companies. Services for affiliate marketing would also be categorised as C2B. The pricing of goods and services is the competitive advantage of

the C2B e-commerce model. With the strategy, consumers have the power to set the price or to influence corporate competition to satisfy their wants. Recently, this tactic has been inventively employed to link businesses with social media stars to promote their products.

2.2 Online shopping platform

A type of e-commerce known as online shopping platforms allows customers to make direct purchases of goods or services from sellers online. Other titles include online store, virtual store, web store, Internet shop, and e-store. An online store evokes the tangible similarity of purchasing goods and services via an online store. Online purchasing from businesses to consumers is what this procedure is known as. Consumers who choose to purchase products online are said to be engaged in the practise of online shopping. The consumers most likely to have a preference for online shopping are those who value its convenience and time saving (Pate and Adams, 2013).

2.2.1 Advantages using online stores

1. Convenient and time saving

Online stores are practical, save time, eliminate needless travel, and do not require line waiting. They are available at all times and are open constantly. Customers can get rich, free information on goods and services from these shops. They also offer certain online tools to help customers compare and choose between different goods and services. Hoffman and Novak (1996) suggested that the main distinction between marketing communication on the internet and traditional mass media is interactivity.

2. Better prices

Due to the lack of middlemen, things are sent directly from the manufacturer or seller to you online, making it possible to find better bargains at lower prices. Comparing

prices and finding a better offer is also made easier. Cheap coupons and rebates are also available on many websites. As internet retailers are only allowed to collect sales tax if they have a physical presence in the state, in addition to the reduced costs, consumers can also save money on taxes. Moreover, it helps cut down on parking and expenses of car petrol.

3. More Variety

Consumers may buy practically any brand or product online. Users can stay current with global trends without incurring travel expenses. Consumers are not restricted to their local neighbourhood but have access to retailers across the state, nation, and even the globe. Users can choose from a considerably greater variety of colours and sizes than they would have access to locally. Users can always find their size and colour, though, as the supply is substantially larger. Even out-of-stock items can be ordered from some online retailers, and they'll notify consumers as soon as they do.

4. Easy Price Comparisons with Other Website

Comparing and researching products and better prices is so much easier on online shopping platform because it is wide platform. If people shopping for appliances, they can find consumer reviews and product comparisons for all the options on the market, with links to the best prices. We can research first hands experience, ratings, and reviews for most products and retailers.

2.2.2 Disadvantages using online stores

1. Shipping issues and delays

The biggest and best online merchants and shipping services occasionally have terrible days. There is no way for customers to ensure that they will receive their purchases in time unless they go pick them up from a store. Unexpectedly frequently happen, packages are lost, diverted, damaged, or delivered to the incorrect address. This

is more likely to happen during times of high sales, when they run the risk of making a mistake when processing consumer orders.

2. Less contact with the community

When purchase on online stores, it is unnecessary to leave the house to make purchases from online retailers. This might be okay for a while, but there will come a time when we just want to fit in, get some fresh air, change our surroundings, talk face to face, and participate in our community. A genuine human connection might occasionally be lacking from a computer display.

3. Complicated in returning

Some sellers make the process breezy, but many make it extra hard for customers to return their merchandise or get a refund. Sometimes the consumers need to wait for a few days to get a response from sellers. Most of the times, customers can't get reimbursed for any shipping costs. Labelling, packaging, shipping, tracking, and filling out all the proper forms are a hassle we can avoid if buy in person.

4. Unsure exactly what actual getting

Customers cannot use their senses of sight, touch, taste, smell, or hearing to evaluate the products they see online while shopping or conducting product research at online stores. Due to the lack of face-to-face interaction, customers of online retailers may develop low trust and feel more danger. Although this difficulty can be reduced by using certain software tools such as the online recommendation agent and the online negotiation agent.

2.3 Artificial Intelligence (AI)

Artificial Intelligence (AI) is the science and engineering discipline of creating intelligent machines especially intelligent computer systems. Furthermore, artificial intelligence was established as a sub-field of Computer Science in 1956 at Dartmouth

College. In other words, AI is a machine who able to learn and to think like a human being. AI is able to emulate cognitive human.

Nowadays, the rise of internet and the increase in the power of machines, together with the emergence of new needs within society, have allowed a renewed interest in artificial intelligence. That is called AI 2.0 or 4th Revolution. Artificial intelligence has gained a significant media attention and its practical applications have become common and have embedded in many industries, business and personal use. In addition, many classical AI problems are now solved and become an important part of our daily lives.

2.3.1 Categorization of Artificial Intelligence

1. Weak Artificial Intelligence

According Khillar, S. (2020) Weak artificial intelligence known as narrow AI embodies which designed to carry out one particular job. Besides, it is designed and programmed to perform a single task and works within a limited context. In weak AI, machines behave like an intelligent human which have the abilities like thinking, moving, and talking but these are programmed to do so. Besides that, weak AI is able to emulate the human logic through analysis of huge amounts of data. The goal of weak AI is to find an automated solution or to improve something that already works.

For example, weak AI can identify the pattern and correlations from the data more efficiently than humans do. Sales predictions, purchase, suggestions and weather forecast are the implementation of weak AI. Besides that, majority of practical applications of Artificial intelligence nowadays are considered as weak AI. Video games, like the chess example mentioned above, and personal assistants like Google Search and Apple's Siri are examples of weak AI systems. The assistant will respond to our questions if you ask it any.

2. Strong Artificial Intelligence

According Khillar, S. (2020) Strong AI can define a theoretical form of machine intelligence which supports the view that machines can really develop human consciousness equal to human beings. Strong AI refers to computers or programmes that think for themselves and carry out challenging tasks independently of human oversight. Strong AI employs complex algorithms to help systems function in a range of circumstances. Strong AI-powered robots are capable of making decisions without the need for human oversight. Strong AI-powered machines are capable of finishing difficult tasks on their own, much like humans. In essence, it asserts that a computer that has been functionally organised has a mind that observes, considers, and intends in a manner similar to that of a human mind.

2.3.2 Application of Artificial Intelligence Technology in Electronic Commerce

Along with science and technology, artificial intelligence technology is developing, and it is fundamentally altering how people live and work. Artificial intelligence technology has developed into a potent instrument for accelerating sales growth and streamlining e-commerce operations in the realm of electronic commerce. Artificial intelligence's application in the sphere of ecommerce is currently primarily represented in the following elements (Xia Song, 2019). According to Gartner (2020), more than 80% of customer service jobs will be replaced by artificial intelligence.

1. Artificial Intelligence Assistant

A chatbot or artificial intelligence assistant will employ a natural language processing system to automatically answer to customer inquiries, carry out basic voice commands, and offer product recommendations. To engage with clients in personalised chat conversations on e-commerce websites, machine learning algorithms are developed. Consumers can utilise chatbots to find pertinent products, confirm that they are available, evaluate various things, and ultimately pay for them. Additionally, users can use the chatbot to get in touch with the proper customer support representatives if they have any issues or questions. Text, speech, and even photos can be used by customers to express their complaints to the robots.

2. Recommendation Engine

Built on a machine learning algorithm architecture, the recommendation engine is a fully functional recommendation system. Deep learning, statistical programming, consumer behaviour research and prediction, and the identification of products that are most likely to draw customers are all feasible. Based on the calculation results, the recommendation engine can capture important information about the product that was searched for. Finally, it generates the right choices for the browser and puts them on a personal page to help customers find the goods fast. A recommendation system can be modified by artificial intelligence by using a dimensionality reduction technique. The recommendation system has undergone the biggest change thanks to artificial intelligence.

3. Intelligent Logistics

In order to replace people with technical equipment, intelligent logistics is a paradigm of logistics development that uses information technology to make equipment and controls intelligent. Service quality and operational effectiveness can both be considerably increased by intelligent logistics. Inventory forecasting is challenging because of the unstable demand and cutthroat markets. Deep learning algorithms and artificial intelligence, however, are able to recognise and calculate the key order cycle factors. The benefit of machine learning systems is that they may learn more over time, improving the accuracy of inventory demand forecasting for firms.

4. Optimal Pricing

In today's e-commerce industry, long-term continuous pricing alteration is quite challenging. The issue of automatically pricing a huge number of products has virtually been resolved thanks to artificial intelligence, which can quickly evaluate vast amounts of data. Product evaluation, logistics cost, and service quality will all have an impact on the final comprehensive ranking results. Optimal pricing is a difficult challenge for businesses to solve, however artificial intelligence is quite good at thoroughly researching price issues. AI can solve the optimal pricing problem by using potent deep machine learning algorithms to continuously monitor market dynamics and alter the competitive environment.

2.4 Effective

Effectiveness is related to features of e-commerce platforms, such as the availability of precise, informational texts describing the goods and services offered, as well as thumbnails, images, and videos showcasing the goods and services on sale. The usability of ecommerce systems is also influenced by a well-designed interface that grabs users' attention and makes navigation easy. Easy and straightforward access to the website of the virtual business is another crucial aspect of usability.

The effective provision of services such as electronic shopping cart, electronic shopping list, site map, search engine and payment methods were great importance to an easy to used e-commerce system. Furthermore, even a novice user should have no trouble using the aforementioned services, and advanced users need quick and simple access to the web pages that interest them.

2.5 Secure

Consumers are most concerned about online security. Consumers' perceptions of online transaction security have been found to include protection of payment mechanisms and the confidentiality of financial information from unauthorised and unlawful access (Román & Cuestas, 2008). Using secure online purchasing techniques reduces a chance of falling victim to fraud and identity theft. Identity theft occurs when an unauthorised party obtains personal information, like name, email address, payment details or social security number.

Roca, Garcia and de la Vega (2009) defined online security as a risk that could result in a situation, condition, or occurrence that could financially strain network resources or data through data loss, disclosure, alteration, denial of service, fraud, waste, or abuse. Consumers' intentions to shop online are affected when they feel uneasy, especially when dealing with financial transactions and the fear of any fraud (Roca et

al., 2009). Additionally, the trustworthiness of the parties involved in the system affects how consumers may interact with it in a way that is both dependable and comfortable (Salo&Karjaluoto, 2007).

2.6 Reliable

N. Fenton, S. Pfleeger, 1997 defines the quality element of dependability refers to a collection of characteristics that have an impact on the ability of software to sustain its level of performance, under specified circumstances, for a specified amount of time. Maturity, fault tolerance, and recoverability are qualities of reliability. When it comes to e-commerce systems, reliability is correlated with the consistency of services like shopping lists, shopping carts, and searching as well as the correctness of the information offered on items and services in the form of text, photographs, and other multimedia. Even in the event of a system breakdown, the e-commerce system is dependable if it can restore user transactions.

The key characteristic of an e-commerce system's dependability is the security of electronic financial transactions. There are five security obstacles for transactions over the Internet. These include data integrity, access control, user accountability, and confidentiality. The purpose of digital certificates and Secure Socket Layer (SSL), which were both developed, is to ensure that transactions are secure. The aforementioned techniques assure the dependability of e-commerce and designed to provide transaction security even in the event of system breakdown.

In terms of fraud and non-delivery, credit card payments provide higher safety than other payment options. The CVV code that is written on the back of your card is required by many online merchants. The last three digits of the code will typically work. This will stop anyone who has managed to gain personal information about you, like your name, card number, and expiration date, from using your card to make purchases. Never provide information about your credit card or debit card through email.

2.7 Customer Satisfaction via Online Shopping

Consumer marketing, service delivery, tourism, and retailing are just a few of the business contexts where the customer happiness in online shopping idea has been investigated. Online customer activities include shopping, which covers a wide range of product categories, online services like banking, theatre reservations, news and information, as well as social media sites like Facebook and Instagram. Therefore, customer satisfaction has become an important concept for e-marketers responsible for the ecommerce platform, besides that in the context of online purchase which may influence in performance in online sales.

Customers who are satisfied with the service provided by a service provider would increase the usage level and future usage intentions (Henkel et al., 2006). Customer satisfaction and repurchase intentions can be increased by offering superior service quality (Cronin et al., 2000). When customers are satisfied with the product or service they buy, they tend to purchase again from the same supplier. Several studies have found evidence for a positive relationship between customer satisfaction and repurchase intentions.

Rahman et al. (2018) most of the consumers liked home delivery services and purchase products through cash on delivery payment method. This approach provides tight security and satisfaction to the consumer besides it is secure. Debit card, credit card and other services as pay pal also a valid method to complete a payment transaction through online shopping.

2.8 Theoretical Framework

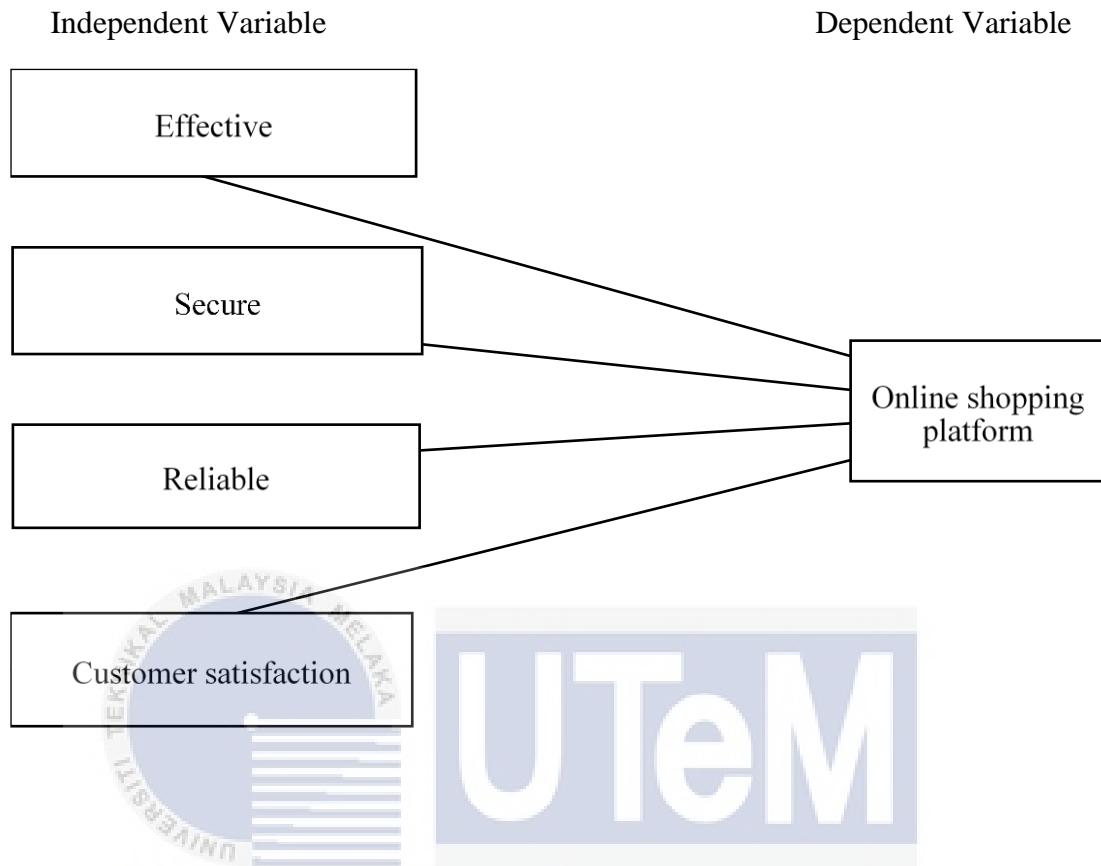


Figure 2.1 Theoretical Framework for an effective, secure, reliable and customer satisfaction via online shopping platform a fundamental study

2.8.1 Technology Acceptance Model (TAM) (Davis, 1989)

In this study of an effective, secure, reliable and customer satisfaction via online shopping platform a fundamental study, Technology Acceptance Model (TAM) used to identify and construct theoretical framework as this theory is the most related to the development of technology. This theoretical framework is helpful in designing questionnaires in the next chapter. Independent variable (IV) is the variable that being manipulated in order to measure its impacts on dependent variable (DV).

TAM is a widely used and recognised theory that has been used by the majority of prior researchers as a framework to analyse how people accept information technology (IT). Additionally, TAM has shown to be the most accurate model for elucidating the variation in users' behavioural intentions connected to IT adoption and usage across a broad range of scenarios. In a variety of user scenarios, Mathieson contends that TAM is favoured to other models like the Theory of Reasoned Action (TRA). In addition, substantial theoretical and empirical support has accumulated in favor of TAM, compared to alternative models such as the Theory of Reasoned Action (TRA) and the Theory of Planned Behavior (TPB) (Hong, Thong, & Tam, 2006).



2.9 Hypothesis of Study

Based on theoretical framework and the function of hypothesis, both are to test the relationship between variables. Hypothesis statements consist of null hypothesis and alternate hypothesis. Null hypothesis portrays that there is no relationship or no influence while alternate hypothesis shows that the presence of relationship. Through the discussion and justification from the literature review, following hypothesis have been established to observe the relationship between the variables.

1. Effective

H1: There is significant relationship between effective with online shopping platform

2. Secure

H2: There is significant relationship between secure with online shopping platform

3. Reliable

H3: There is significant relationship between reliable with online shopping platform

4. Customer satisfaction

H4: There is significant relationship between customer satisfaction with online shopping platform

2.10 Summary

This chapter described the literature review about the online shopping platform. In this chapter, researcher gathered some related information based on the research questions and research objectives from previous researchers. The theoretical framework was used as a guidance in this research to identify how effective, secure, reliable and also determine the customer satisfaction during using online shopping platform. Researcher also made hypothesis based on the independent variables in order to find out the significant relationship towards the dependent variable.

CHAPTER 3

RESEARCH METHODOLOGY

3.0 Introduction

In this chapter, researcher reviewed the research method that was most appropriate for this study, as well as the approaches that could be employed to answer to the problem statement established in the previous chapter. According to Ghauri and Gronhaug (2010), research methods are rules and procedures that can be seen as ‘tools or ways of proceeding to solve problems.’ Research methods is mainly used to collect the data, samples and also the solution to solve the problems. Research methods represented the procedures and techniques which used to obtain and analyse the data collected.

Therefore, researcher also explained about the research methods that have been chosen by researcher in this study. In the first section, researcher discussed about the research design and select an appropriate methodology choice. After that, researcher described about the sources of primary and secondary data in this study. Besides that, location of research was elaborated and questionnaire design has been discussed. Sampling design and research strategy were explained after the design of questionnaire. Furthermore, researcher explained few data analysis method which used in data collection also validity and reliability were discussed by researcher.

3.1 Research Design

Regarding to Saunders et al., (2012) Research design is a general plan on how researcher will answer the research questions in order to meet research objectives by providing the justification for selection of data sources, collection methods and technique of data analysis. Besides, research design was known as the structure of research which include research topic, research questions and research objectives in the research study. Research design also identified the sources from which researcher planned to collect data, how researcher proposed to collect and analyse the data, discussed ethical issues and also the limitations that researcher will faces.

Research design have three types which were exploratory, descriptive and explanatory (Saunders et al., 2012). Exploratory was required when there was no previous research information related to the problem. Saunders et al. (2012) stated that exploratory was a valuable means to ask for open questions to discover the activities and gain more insights about the related research topic. When a researcher already has some knowledge and information about the research topic, they employ descriptive research to further their understanding of the subject. Additionally, descriptive research can be carried out as data collection through surveys and interviews in which the questions were utilised to acquire all the required information.

3.2 Quantitative Research

Research methods consists of three types which are quantitative, qualitative and mixed methods research. In order to analyse the data acquired, the most important is to select the most appropriate research approach for this project. In this study, researcher choose the quantitative research method as the finding results with good result of validity, reliability and precise output. Questionnaires were constructed as a survey research approach in quantitative research. Based on research Malhotra and Birks (2007), quantitative questionnaire required on public social response and it provided enough data for research to make a generalization regarding the findings.

3.3 Data Collecting

Based on Adams (2007), there were two types of data collecting which classified into primary data and secondary data. The data sources used by the researcher to obtain information and data for this study are primary data and secondary data. Researchers are urged to use these primary and secondary data sources to simplify the collecting of data and information. Meanwhile, researchers are able to produce clear, accurate, and easy-to-use data for this study by combining these two types of data.

Primary data source known as a first-hand sources or new data which is collected directly from respondent. Primary data is information that gathered directly from a data source without having to go via any other sources. Surveys, observations, experiments, questionnaires, focus groups, and interviews are all examples of primary data sources. In this particular research, the researcher opted to make use of questionnaires in order to gather data from the respondents. It allows the researcher to reach the required quantity of respondents at the lowest possible cost while maintaining a high degree of flexibility.

Therefore, the primary data for this study would be based on data collection of survey through the questionnaires. The questionnaires will use a non-comparison type data which is using Likert Scale. Each question will be answered according to the scale listed below:

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

While secondary data source is preferred as a public or existing data and information that has been written by other researchers or approved in public. They are considered to be data that already exists. Secondary data is representing the information is effectively access, gathered and recorded by researcher.

Secondary data is a current type of information gathered from different sources such as government distributions, internal records of associations, reports and books. The internet, scholarly reference books, and research journals are all examples of secondary data sources that the researcher may draw from in the course of their work. Lastly the data collected will be analysed in SPSS version 26.

3.4 Research Location

Researcher decided to choose Melaka as the selected regions to conduct the survey and collect data. The respondent will target around the shopping mall because mostly people who like to go to shopping mall have probability to use online shopping platform. From them, researcher wanted to get more perception about an effective, secure, reliable and customer satisfaction via online shopping platform a fundamental study which is one of the recent issues in Malaysia. Especially during the pandemic COVID-19 because most of the people cannot go out to do a physical shopping so they make online shopping to avoid the virus spreading. The respondents will have different background, experience and age level.

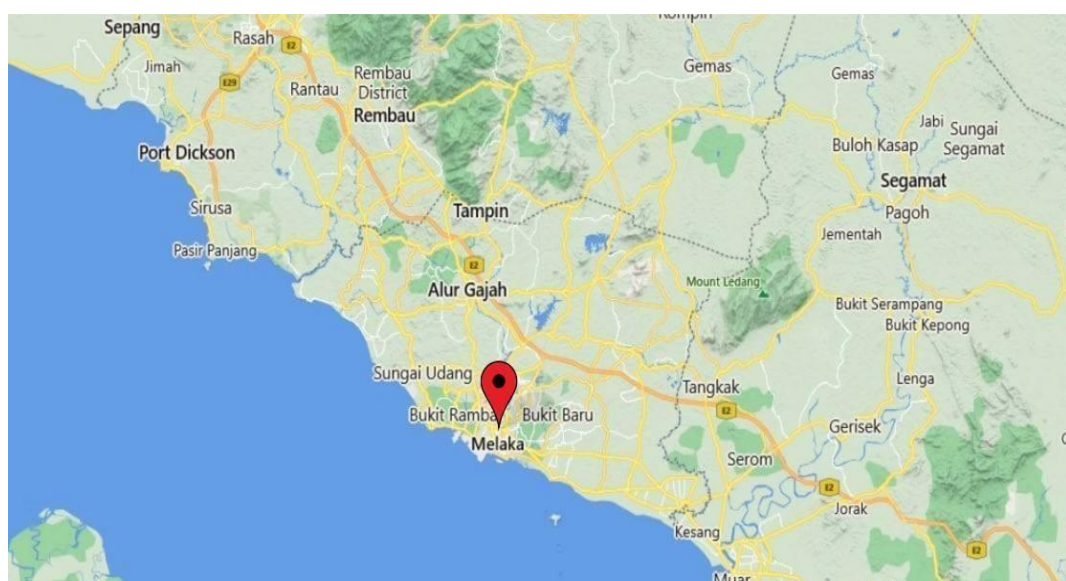


Figure 3.1 Research location

3.5 Scop and Sample

The researcher chose to utilise simple random sampling to examine the link between the independent variables and dependent variables. The term of sample size often refers to the number of individual units that were selected from the total amount of data that was collected. The number for the sample size might vary anywhere from thirty to five hundred respondents. The investigator reaches the conclusion that a sample size of 103 respondents has been selected randomly as the source of analysis to answer the questionnaires that refer to the table of Krejcie and Morgan.

There is no predetermined number of persons who participated in the research from either the working population or the student population. Since the quantity is inside the range that was proposed by Sekaran U. (2003), it is unquestionably possible to get it in order to satisfy the requirements of the study data. The questionnaire was designed with closed ended questions and distributed through Google forms and straight to randomly target sample. Lastly, Statistical Package for Social Science (SPSS) software version 26 was used in order to analyse the data that have been collected.

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	100000	384

Note. —*N* is population size. *S* is sample size.
Source: Krejcie & Morgan, 1970.

Figure 3.2 Table of Krejcie and Morgan

3.6 Pretest or Pilot Study

According to Sekaran (2013) stated that pilot test was an important element in research strategy in order to measure the validity and reliability of the questionnaire in the survey. By using pilot test, it enabled researcher to reveal the errors and weakness in the questionnaire so that further modification can be done before the questionnaire was distributed to public and respondents (Kvale, 2007). Pilot test enabled to reduce the vagueness in the questionnaire so that respondents can have a clear understanding on the question. All the feedbacks 26 from pilot test respondents were evaluated and included to the final survey questionnaire. Therefore, researcher choose a total of 20 respondents to conduct the pilot test. The respondents' suggestion and feedback were evaluated and

integrated in the final questionnaire. A final revised questionnaire was qualified to distribute to the respondents.

3.7 Research Validity and Reliability

Every research effort placed a premium on validity and reliability because the goal of the study is to generate believable results. In order to reduce the likelihood of designing questionnaire questions subjectively and receiving incorrect replies, data collection was dependent on the questionnaire design, thus it is crucial (Saunders et al.,2012). Therefore, in order to improve the calibre of this research, researcher will employ a variety of tactics to improve measurement accuracy and reliability.

Validity examines how truthful the research results are. It is the extent to which the instrument measures what it purports to measure. Researchers generally determine validity by asking a series of questions, and will often look for the answers in the research of others. The validity in quantitative data was concerned with the accuracy and truthfulness of the findings. Winter (2000) stated there were two concerns on validity which include whether the instruments used for measurement were accurate or whether they were actually measuring what they want to measure. On top of that, validity consists of three types which are internal validity, external validity and construct validity.

Reliability referred to the data collection techniques and analytic process would produce consistent findings if they were replicated by different researcher. Besides, there were few threats which would influence the reliability of research for example participant error and research error. Participant error was any factor which transform the way in which the participants perform. Therefore, in order to enhance the reliability, researcher should find some suitable respondents to fill in the questionnaires. Researcher error is defined as any factors that transform the researcher's interpretation. Thus, to overcome all the problems, researcher need to well prepared and have a clear understanding on all the related material so that a good quality of questionnaire can be constructed.

Internal consistency reliability is defined as the consistency of the results delivered in a survey. By ensuring that the various items measuring the different constructs deliver consistent scores. Cronbach's Alpha test was used to measure internal consistency reliability in this research. The Cronbach's Alpha Coefficient range and the internal consistency is listed at Table 3.3. Therefore, researcher can enhance the accuracy of estimation and besides that increase the reliability of measures in this research. In this research, the results must be reliable and valid.

Cronbach's Alpha Coefficient Range	Internal Consistency
$\alpha \geq 0.9$	Excellent
$0.7 \leq \alpha < 0.9$	Good
$0.6 \leq \alpha < 0.7$	Acceptable
$0.5 \leq \alpha < 0.6$	Poor
$\alpha < 0.5$	Unacceptable

Table 3.3 Cronbach's Alpha Coefficient

3.8 Summary

This chapter outlined the methodology used in this study to achieve the study objective. Measurements and scales are presented in this chapter to test the operational model and objectives of this study. Statistical Package for Social Science (SPSS) software version 26 was used in order to analyse the data collection. Moreover, descriptive analysis and linear regression will be used to analyse the data collected. Therefore, descriptive research has been selected as the research design for the study. Besides that, quantitative method was choose in this study and conducted through the use of questionnaire.



CHAPTER 4

DATA ANALYSIS

4.0 Introduction

This chapter consists of the data analysis and result findings of this study. Questionnaire survey has been constructed with three sections. Section A consists demographic respondent, section B about independent variables and section C about dependent variables. The data was collected with 103 sample among the residents of Malacca. After that, all the information will be interpreted and analysed in getting the result by using Statistical Package for Social Science software (SPSS) version 26.

The results of data obtained will be analysed and evaluated in a more comprehensible way. The descriptive analysis will be used to analyse the demographic data, following another reliability test examining the data's reliability if any changes are made to the questionnaire set. Then, descriptive analysis will be utilised to examine an Effective, Secure, Reliable and Customer Satisfaction via Online Shopping Platform.

4.1 Pilot Test

As mentioned in previous chapter, it is expected that the questionnaire set used in this research is as consistent as previously used in past study. The coming subsections will further discuss the reliability of the questionnaire set using the first 20 responds of the questionnaire set. To examine the validity and reliability of the questionnaire that is set for this research, a pilot test was conducted using Statistical Package for Social Science software (SPSS) version 26.

4.1.1 Test Reliability

After completed the test validity for the pilot test, the researcher continues with reliability test as the next step to determine the consistency and reliability of the questionnaires. The Cronbach's internal consistency alpha measure is applied to the first 20 respondents for the measurement of consistency of answers to scale-items of a set of questions. The Cronbach's Alpha coefficient range should stay ≥ 0.9 to have the strongest establishment of consistency and reliability and ≤ 0.5 to stay valid.

The table 4.1 shows the total number of all variables including both independent variables and dependent variables, in a reliability test using Cronbach's Alpha. It is shown that value of the Cronbach's Alpha score for the total variable is .946, which significantly indicates this set of questionnaires is reliable for its use.

Table 4.1 Reliability Statistics for all variables

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.944	.946	28

Source: SPSS Software

As shown in Table 4.2 below, this table shows the results of the test reliability for the pilot test based on each variable. For the independent variables, effective has excellent reliability results with Cronbach's Alpha value of .930, while secure, reliable and customer satisfaction respectively have good reliability results with Cronbach's Alpha value of .735, .754 and .853. For the dependent variable, online shopping platform also has good reliability with Cronbach's Alpha value is .722. The count value obtained by the Cronbach's Alpha value for each variable ranged from .722 to .835 > 0.600. Based on the basis of decision making in the test reliability can be concluded that this research instrument reliable, in which as a very high of reliability. Hence, it is safe to assume that these questions are sufficient and may be proceed for the actual use in the questionnaire.

Table 4.2 Result of Test Reliability for the Pilot Test (Each)

	Variable	Cronbach's Alpha	Result
Independent Variables	Effective	.930	Excellent Reliability
	Secure	.735	Good Reliability
	Reliable	.754	Good Reliability
	Customer satisfaction	.853	Good Reliability
Dependent Variable	Online shopping platform	.722	Good Reliability

4.2 Descriptive Statistics of Demographic Variables

In this section, all related data collected from Section A of the questionnaire is analysed using frequency analysis. A full set information summary of the participants in this research such age, gender, occupation and the most preferred online shopping platform will be tabulated and explained. The data will display in tables and figures to show the frequency of demographic information of respondents.

4.2.1 Gender

Table below shows the frequency of gender with two categories gender which is Male and Female. Out of 103 respondents, there are 33 males and 70 females with a percentage 32% and 68% respectively. This shows that there are more female respondents than male respondents participated in this research.

Table 4.3: Gender of Respondents

	Frequency	Percent (%)	Valid percent	Cumulative Present
Valid Male	33	32.0	32.0	32.0
Female	70	68.0	68.0	100.0
Total	103	100.0	100.0	

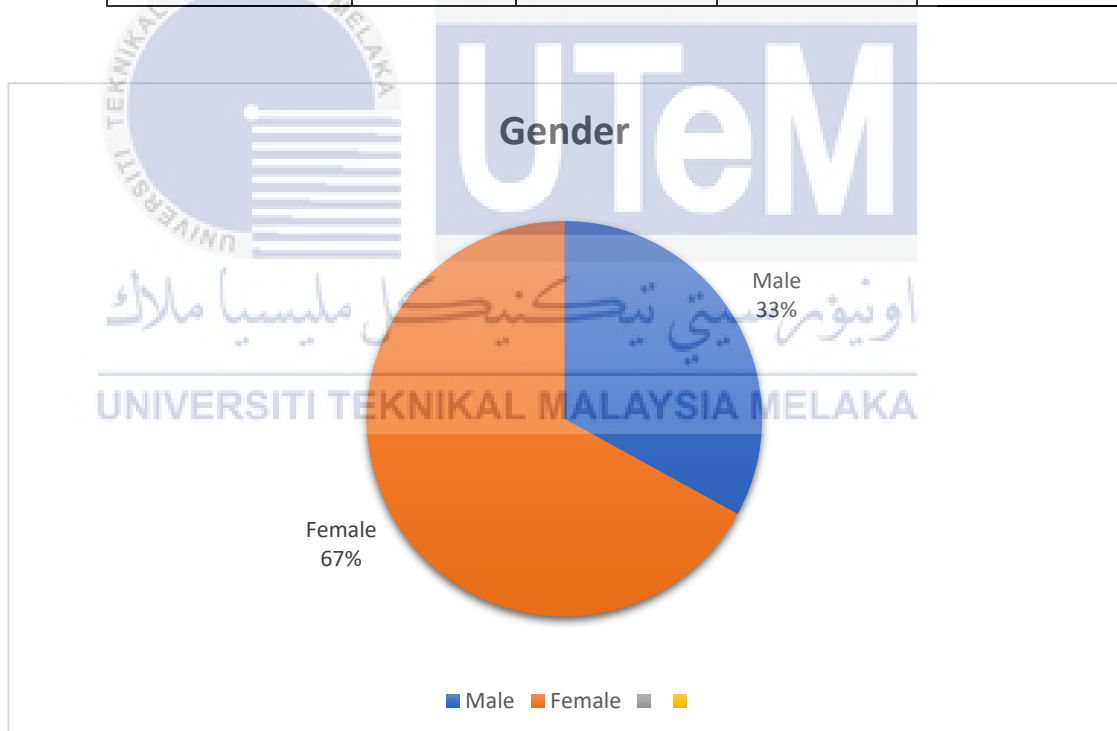


Figure 4.1: Gender of Respondents

4.2.2 Age

The table above shows the frequency of the age of respondents. As shown in Table 4.4, there are four age groups. The dominating age group is aged between 18 to 28 years old representing 68.9% of the total number, followed by those age between 51 and above with percentage of 12.6%. Then, those age 29 to 39 years old got 11.7% of percentage. The remaining number of respondents out of 103 is those age 40-50 taking up the remaining 6.8% of the sample.

Table 4.4: Age of Respondents

	Frequency	Percent (%)	Valid Percent	Cumulative percent
Valid 18-28	71	68.9	68.9	68.9
29-39	12	11.7	11.7	80.6
40-50	7	6.8	6.8	87.4
51 and above	13	12.6	12.6	100.0
Total	103	100.0	100.0	

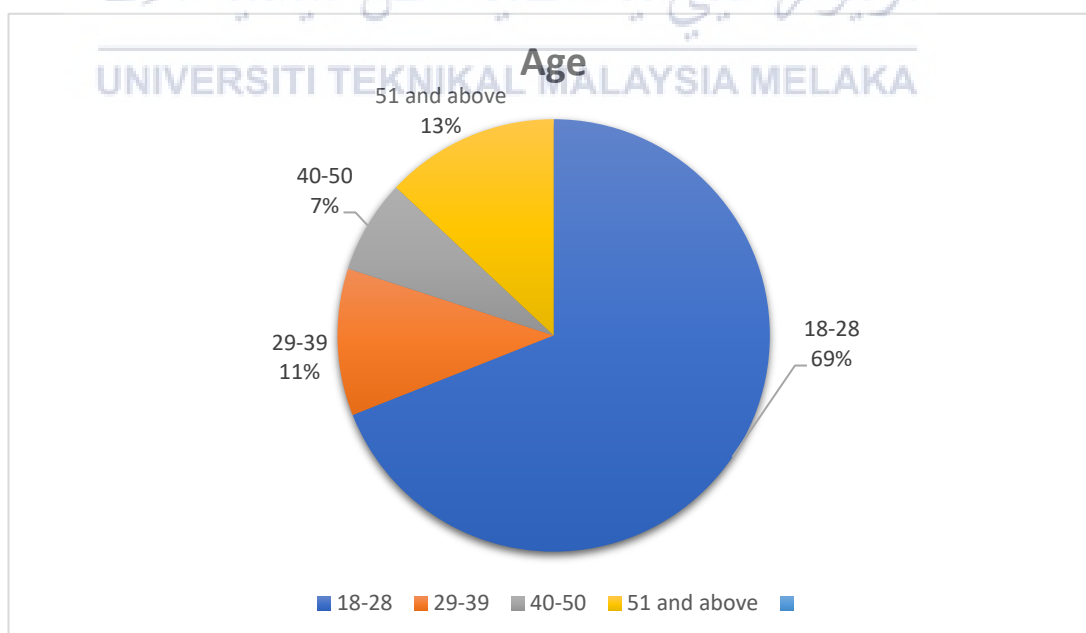


Figure 4.2: Age of Respondents

4.2.3 Occupation

According to the data above, there are 5 categories occupation of respondents. Majority of the respondents are from students with 44.7%, following by private employee with 21.4%, 19.4% of them are from government background and 9.7% of them from jobless categories. The rest of them are self employed, taking up 4.9% of the sample size.

Table 4.5: Occupation of Respondents

	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Valid Government	20	19.4	19.4	19.4
Private employee	22	21.4	21.4	40.8
Self employed	5	4.9	4.9	45.6
Jobless	10	9.7	9.7	55.3
Students	46	44.7	44.7	100.0
Total	103	100.0	100.0	

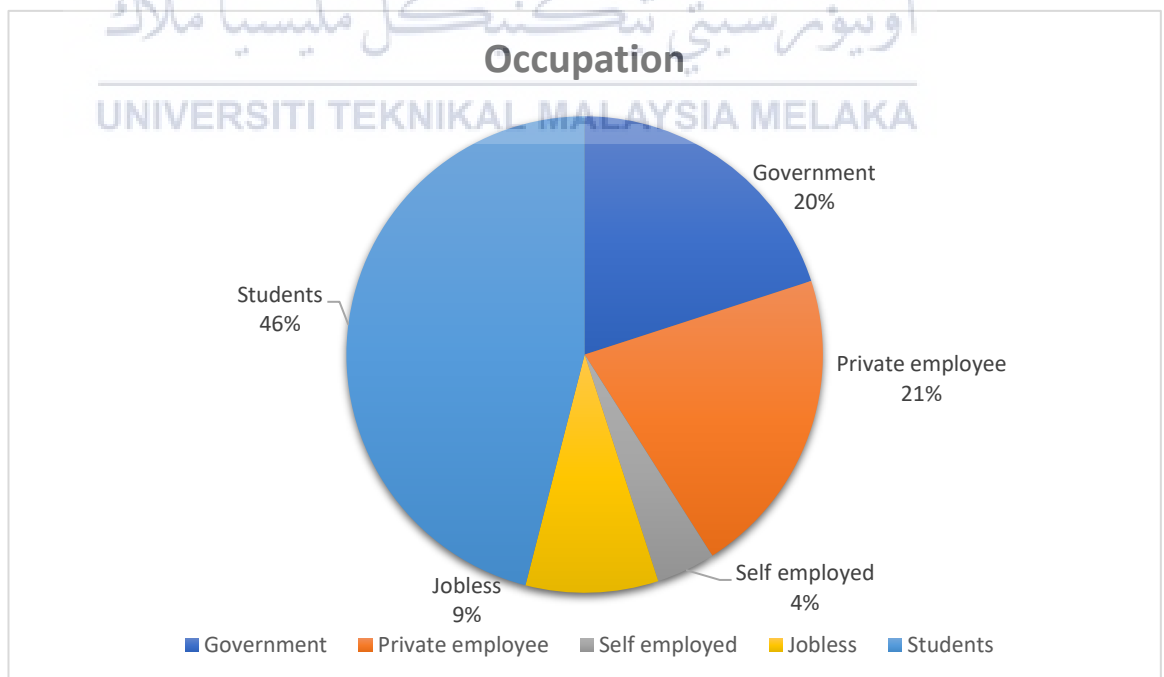


Figure 4.3: Occupations of Respondents

4.2.4 The most preferred online shopping platform

The most preferred online shopping platform by respondents is shown in Table 4.6 below. Most of them choose Shopee platform for online shopping with percentage 77.7%. Platforms Tik Tok and others get 12.66% and 8.7% of the sample size respectively. Lastly, 1% of 103 respondents have been choose website platform for online shopping.

Table 4.6: Online shopping platform

	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Valid Shopee	80	77.7	77.7	77.7
Tik Tok	13	12.6	12.6	90.3
Website	1	1.0	1.0	91.3
Others	9	8.7	8.7	100.0
Total	103	100.0	100.0	

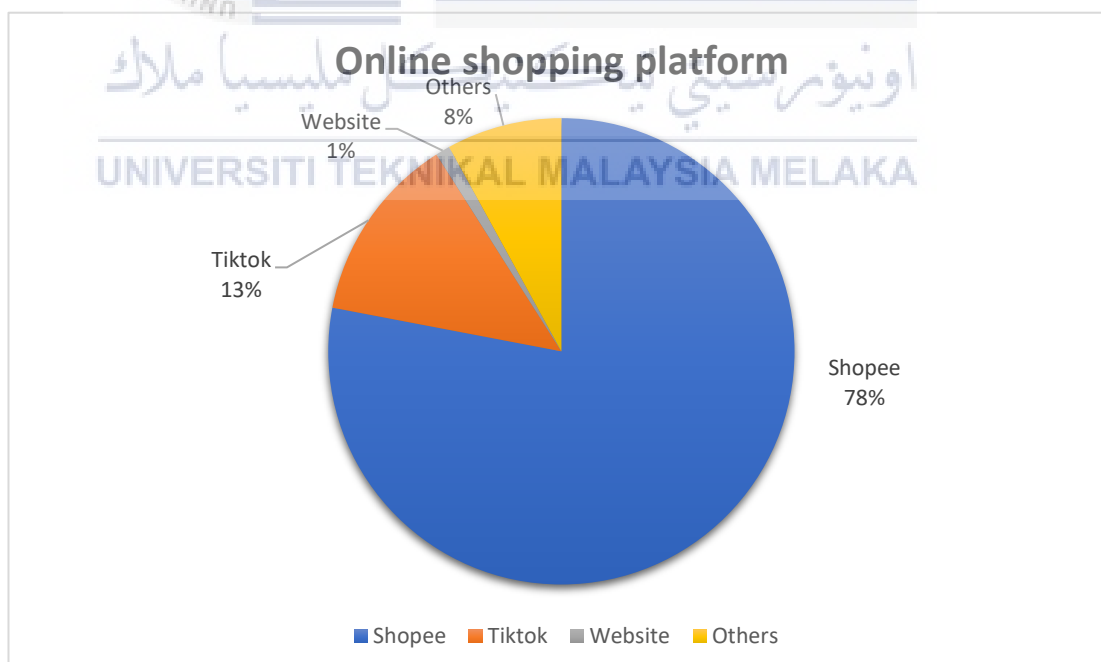


Figure 4.4: Online shopping platform

4.2.5 Summary of Descriptive Analysis

Krejcie & Morgan's (1970) Given population set that if $N=140$, then $S=103$. There were 103 responses recorded, which marked a response rate of 100%. The following table represents the overview of the demographic data respondents.

Table 4.7 Summary of Demographic Data

Demographic components	Percentage (%)
1. Gender <ul style="list-style-type: none">• Male• Female	32.0 68.0
2. Age <ul style="list-style-type: none">• 18-28• 29-39• 40-50• 50 and above	68.9 11.7 6.8 12.6
3. Occupation <ul style="list-style-type: none">• Government• Private employee• Self employed• Jobless• Students	19.4 21.4 4.9 9.7 44.7
4. The most preferred online shopping platform <ul style="list-style-type: none">• Shopee• Tik Tok• Website• Others	77.7 12.6 1.0 8.7

According to the data overview above, there are more female respondents (68.0%) than a male (32.0%) who participate in this survey. Most of them are from aged 18 to 28 years old (68.9%), following by those age range between 50 and above 12.6%. In terms of occupations, there are 46 of them are from student categories which takes up (44.7%) of the sample size. Majority respondents choose Shopee, with almost 77.7% than others platform.

The next section will discuss the findings and its consistency with past research and justification based on demographic data collected. Evidence will be given based on the findings of previous related research.

4.3 Reliability Test

After the pilot test was conducted in the previous subsection 4.1 to the first 20 respondents got a relatively high reliability because it obtained more than 0.8. However, the reliability test was conducted again using Cronbach's Alpha to test the reliability of the latest data which has a total of 103 respondents.

Table 4.8 Reliability statistics for all variables

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items	N of Respondents
.889	.892	28	103

The table 4.8 shows reliability statistics of the reviewed data sets for a total 103 respondents. It is mentioned that Cronbach's Alpha scores need to be above 0.6 to be considered weakly reliable, 0.7 or above moderately reliable and 0.8 to 1.0 highly reliable. In this case, all items were considered good with highly reliable because their Cronbach's Alpha ranged between 0.8 to 1.0 with .889.

Table 4.9 Reliability statistics for each variable

Variable	Cronbach's Alpha	N of items
Effective	.758	6
Secure	.570	5
Reliable	.627	6
Customer satisfaction	.819	5
Online shopping platform	.636	6

Table 4.9 signifies the Cronbach's Alpha for Online shopping platform is the highest among variables with .819 followed by effective variable with .758. It can be categorized in good grade. Besides that, reliable and online shopping platform having 6 questions where this section of the questionnaire shows a reliable consistency with a Cronbach's Alpha of .627 and .636 which is acceptable categories. However, secure score the lowest for Cronbach's Alpha with .570 which is poor.

4.4 Descriptive Statistics of Variables

In this section explains the descriptive analysis for the variables that are tested in this research. Descriptive statistics are used to provide a brief summary of the sample and its steps with simple graphical analysis and forms the basis for almost every quantitative analysis of the data to ensure that the data looks simple, easy to understand and organized by summing and organizing the whole. (Prof William M.K. Trochim, 2021). The results for all variables show in table above including the calculation sample and the standard deviation of 4 items under the independent variable which are effective, secure, reliable and customer satisfaction while the online shopping platform is the dependent variable.

Table 4.10 Descriptive Statistics for Variables

	N	Minimum	Maximum	Mean	Standard deviation
Effective	103	1.50	5.00	4.1440	.75481
Secure	103	2.00	5.00	3.8291	.67586
Reliable	103	1.50	5.00	3.8414	.65736
Customer satisfaction	103	1.40	5.00	3.9573	.85160
Online shopping platform	103	1.33	5.00	3.9887	.71181

Table 4.10 shows the standard deviation, the highest and lowest mean obtained by items of the independent variables and dependent variable. Based on the table, the total mean of all items of Effective is 4.1440 which is the highest mean with standard deviation .75481. Besides that, Secure get the lowest mean, 3.8291 with standard deviation .67586. The mean of Reliable is 3.8414 lesser than Customer Satisfaction with total mean recorded is 3.9573 while Online shopping platform is 3.9887. All mean values are above at high level categories. The highest value and lowest value of each variable is as tabulated in Table 4.10.

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4.5 Pearson's Correlation Analysis

Pearson's analysis of the correlation used to decide the strength of the relationship between the two variables Pearson coefficient, r used to determine the strength of the correlation between the data analysis, will derive three conclusions from the data summary. First, there is a tendency to increase from a positive association that represents another variable. While the negative correlation is another aspect, it appears to decline. Thus, there is no association between variable, it does not appear to go up or down. The significant values used in this analysis is 0.01 (two-tailed). Instead of the cause and effects, the correlations in this study only shows information regarding the degree of which two variables are connected. Hence, this analysis is only to proof that the results analysed using linear regression are valid.

The purpose of this study An Effective, Secure, Reliable and Customer Satisfaction Via Online Shopping Platform, A Fundamental Study. Pearson's Correlation Analysis is used to identify the relationship between the variables. The degree of the correlation can be varied which is shown in the table above.

Table 4.11 Interpretation of Correlation Coefficient

Coefficient	Strength of Association
± 0.81 to ± 1.00	Very strong
± 0.61 to ± 0.80	Strong
± 0.41 to ± 0.60	Moderate
± 0.21 to ± 0.40	Weak
± 0.00 to ± 0.20	Very weak or no relationship

Source: Prion & Haerling, 2014



4.5.1 Correlation between Variables

Table 4.12 The result of correlation analysis for all variables

	Effective	Secure	Reliable	Customer Satisfaction	OSP
IV1 Pearson Correlation	1	.484**	.544**	.624**	.588**
Sig. (2-tailed)		.000	.000	.000	.000
N		103	103	103	103
IV2 Pearson Correlation	.484**	1	.568**	.304**	.245**
Sig. (2-tailed)	.000		.000	.002	.013
N	103	103	103	103	103
IV3 Pearson Correlation	.544**	.568**	1	.592**	.445**
Sig. (2-tailed)	.000	.000		.000	.000
N	103	103	103	103	103
IV4 Pearson Correlation	.624**	.304**	.592**	1	.586**
Sig. (2-tailed)	.000	.002	.000		.000
N	103	103	103	103	103
DV Pearson Correlation	.795**	.245**	.445**	.586**	1
Sig. (2-tailed)	.000	.013	.000	.000	
N	103	103	103	103	103

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

The table above tabulates the correlations between the independent and dependent variable. It is clearly shown that all correlations are significant ($p < 0.05$). The Pearson's Correlation of effective to OSP is $r = 0.588$. This shows that effective is correlate to online shopping platform as the Pearson Correlation in moderate relationship. Then, the relationship between Secure and OSP is $r = 0.245$ which is strength of correlation is weak. Moreover, Reliable and OSP is shown to be statistically significant factors which is the value of $p < 0.05$ with $r = 0.445$ while the correlated coefficient for Customer Satisfaction and OSP is $r = 0.586$, $p < 0.00$. To conclude, it is safe to assume that mostly all variables is significantly correlated with Online Shopping Platform.

4.5.2 Multiple Linear Regression Analysis

This section will further discuss about the result of the second and third objective of this research using multiple linear regression analysis. Multiple regression analysis method was used to measure the effect of the four independent variables on the dependent variable. The hypotheses stated in Chapter 2 will also be tested to examine whether it is to be rejected or accepted. To achieve those, independent variables and dependent variable will be analysed in this section.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + \varepsilon$$

Figure 4.5 Regression general equation

This equation is to express the relationship between dependent variable and independent variable. This assumption of the equation is to test normality, variance of error term (constant variance), serial correlation of error term and multicollinearity. All assumption must be valid before regression analysis.

Table 4.13: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.657 ^a	.432	.409	.54740

a. Predictors: (Constant), Effective, Secure, Reliable and Customer Satisfaction

Table 4.14 shows the result of multiple linear regression analysis which is the value of the correlation coefficient (R) is .657, which define that there is a strong relationship between independent variables in this research. A positive sign of R is a good relationship between independent variable and the dependent variable. It is shown that the value of the respondent contains these variables. However, the value of R square is .432, which means that 43.2% of variable affected the relationship.

Table 4.14: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	22.316	4	5.579	18.619	.000 ^b
Residual	29.365	98	.300		
Total	51.681	102			

From Anova table, it showed a probability level of value of 0.000. However, the probability 0.000 lower than 0.05. That mean the multiple regression models can be used to predict the effective, secure, reliable and customer satisfaction on online shopping platform. To summarise, all independent variable significantly effects the online shopping platform.

4.6 Hypothesis Testing

By using the regression analysis, the validity of the hypothesis is determined. A hypothesis can be accepted when t-value is exceeds than 1.96 and p-value is less than 0.05. When the p-value reaches 0.05, it shows that the independent variables have no significant influence on the dependent variable.

Table 4.15 Coefficients

Model	Understandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.405	.376		3.734	.000
Effective	.358	.100	.380	3.564	.001
Secure	-.100	.103	-.095	-.980	.330
Reliable	.115	.119	.107	.969	.335
Customer satisfaction	.263	.090	.315	2.929	.004

Hypothesis 1

H₀: There is no significant relationship between effective with online shopping platform

H₁: There is significant relationship between effective with online shopping platform

From the table 4.16, the result of regression for effective as independent variable and online shopping platform as dependent variable. The significance value of effective is $0.001 < 0.05$, then it can be concluded that has a significant relationship between effective with online shopping platform. Thus, the researcher accepted the alternative hypothesis (H₁) and rejected the null hypothesis (H₀)

Hypothesis 2

H₀: There is no significant relationship between secure with online shopping platform

H₁: There is significant relationship between secure with online shopping platform

The significance value of the secure is $0.330 > 0.05$, then it can be concluded that has no significant relationship between secure and online shopping platform. Therefore, the researcher accepted the null hypothesis (H₀) and the alternative hypothesis was rejected (H₁).

Hypothesis 3

H₀: There is significant relationship between reliable with online shopping platform

H₁: There is significant relationship between reliable with online shopping platform

The significance value of the reliable is $0.335 > 0.05$, then it can be concluded that has no significant relationship between reliable and online shopping platform. Therefore, the researcher accepted the null hypothesis (H₀) and the alternative hypothesis was rejected (H₁).

Hypothesis 4

H₀: There is significant relationship between customer satisfaction with online shopping platform

H₁: There is significant relationship between customer satisfaction with online shopping platform

The significance value of the customer satisfaction is $0.004 < 0.05$, then it can be concluded that has significant relationship between customer satisfaction and online shopping platform. Thus, the researcher accepted the alternative hypothesis (H₁) and rejected the null hypothesis (H₀).

4.7 Conclusion

In conclusion, this chapter discussed the study of data and the outcomes of the report. It consists of on Reliability Analysis, Descriptive Analysis, Pearson Correlation Analysis and Multiple Regression Analysis used to analyse the data collected from 103 respondents using questionnaires. SPSS version 26 software was used and the reliability of the test questionnaire was considered high. Furthermore, the researchers found that effective and customer satisfaction show significance at the level 0.001 and 0.004 where $p < 0.005$ while secure and reliable show 0.330 and 0.335 which is not significant. Therefore, all justifications on the result findings will be further discussed in the following chapter.

CHAPTER 5

DISCUSSION AND CONCLUSION

5.0 Introduction

This chapter discusses the outcomes attained from the previous chapter. A summary of descriptive analysis will be discussed and the objectives of this study will be justified with previous study. Recommendation will also be given for future references in related fields together with the implications of this study. Finally, a summary will be done with a conclusion to mark the end of this study.

5.1 Discussion of Findings

There are 103 respondents selected around Melaka. They were being focus to answer the questionnaire. In addition, the pilot test was conducted on 20 respondents before actual data was collected. The pilot test aims to ensure that respondents understand their questions. The results of Cronbach Alpha are ideal for high analysis reliability. The result value is 0.944 which is above the standard value of 0.7.

The methods and standard deviations were found in this study during a descriptive analysis of all things under the independent variable and dependent variable. The mean result for the independent variables is 4.1440, 3.8291, 3.8414 and

3.9573 while 3.9887 for dependent variable. So that, the mean value of the variables was higher than 3.0, which indicates that most respondents understood all the questions.

Furthermore, the findings also show that the Pearson correlation coefficient analysis which the first independent variable, effective and dependent variable, online shopping platform (OSP) was a moderate positive correlation $r = 0.588$, correlation relationship between the second independent variable, secure and dependent variable, online shopping platform (OSP) was a weak correlation with $r = 0.245$, correlation relationship between third variable, reliable and dependent variable, online shopping platform (OSP) was positive correlation with $r = 0.445$ and correlation relationship between the fourth independent variable, customer satisfaction and dependent variable, online shopping platform (OSP) also was moderate positive correlation with $r = 0.586$.

Besides, the ANOVA analysis showed that dependent variable which is online shopping platform (OSP) has significant results on the independent variables effective, reliable and customer satisfaction. This result can affect convenience with all the factors. Finally, the Regression Analysis found that the independent variable, effective structure is the most relevant factor affecting online shopping platform.

This research is done based on the four main objectives that are developed by the researcher in order to solve the research questions stated in the beginning of this research. The result findings and its justification according to previous research will be briefly discussed in this section, where three subsections will be formed to discuss the following research objectives:

1. To identify how effective Artificial Intelligence (AI) systems when applying on online shopping platform
2. To determine the security of artificial intelligence (AI) through customer online shopping experience in e-commerce Malaysia
3. To ensure the reliability Artificial Intelligence (AI) on online shopping platforms through customer experience in Malaysia

4. To determine the customer satisfaction during using e-commerce through artificial intelligence (AI) systems

5.1.1 To identify how effective Artificial Intelligence (AI) systems when applying on online shopping platform

To determine how effectiveness Artificial Intelligence (AI) systems when applying on online shopping platform, many literatures, scientific journals and academic papers have been reviewed in order to achieve the first aim. Effective after-sales service aids firms in maintaining customer trust and pleasure despite the fact that the sellers and buyers are not present in person and there is no evidence of identification. Besides, good targeting and expansion to new markets are indispensable for the growth of e-businesses (Gordon et al., 1997).

Objective 1 is to identify how effective Artificial Intelligence (AI) systems when applying on online shopping platform accepted since the results of this under the very strong range of significance. Thus, effective can be concluded in this research. Based on table 4.15, effective is the most significant factors influencing the online shopping platform which is the significant value of 0.001.

5.1.2 To determine the security of artificial intelligence (AI) through customer online shopping experience in e-commerce Malaysia

Consumers now prioritise online security during online transactions, thus if businesses want to profit from online users, they must concentrate on online security measures. Businesses must put an emphasis on security measures and technological competence that can better serve their customers. Businesses must also pay attention to the trustworthiness of their websites in order to increase customer buy intent. Nowadays, it is quite simple to create and upload bogus websites that engage in fraudulent transactions with customers and prevent them from placing online orders.

According to a Taylor Nelson Sofres poll, only 3% of Internet users in Malaysia made an online purchase in 2002, down from 4% in 2001. Although 38% of Malaysians believe that shopping at a store is secure, 36% of them don't want to give up their credit card information. The main deterrent to internet shopping was stated to be security-related concerns. The lack of trust and confidence of Malaysian consumers in e-commerce transactions is further highlighted by this reality that the Consumer Protection Act particularly excludes protection in E-transactions, (Kiranjit, 2005).

Hence, objective 2 is rejected since the results are very weak relationship between the variables which is 0.245. Hypothesis 2 is also rejected. The significance value is $0.330 > 0.005$, then it can be concluded that has no significant relationship between reliable and online shopping platform. According Roca et al. 2009, Consumers feel insecure, especially when they have to deal with financial transaction fear of any fraudulent purposes, intention to purchase online becomes distorted. Therefore, the researcher accepted the null hypothesis (H_0) and the alternative hypothesis was rejected (H_1).

5.1.3 To ensure the reliability Artificial Intelligence (AI) on online shopping platforms through customer experience in Malaysia

The reliability is related to the accuracy of the information such as text, images, multimedia provided about products and services, as well as the consistency of the services like a shopping list, shopping cart, searching. The e-commerce system is reliable when it restores user transactions, even in the case of a system failure.

In order to convince customers that a certain website is reliable and secure enough for them to conduct business, firms need employ a variety of approaches. Customers' e-commerce purchasing intentions would increase if they thought a website was reputable. The experience of the after-sale service is a crucial component of marketing that helps to identify consumers' intention to buy.

Organizations need to concentrate on a number of methods and regulations to improve the after-sale service experience for customers. Businesses must develop sophisticated reverse management systems inside the supply chain, clearly define their warranty and guarantee rules, and allow customers to make changes and receive their orders on time. These methods and policies will lessen consumers' post-purchase dissonance, which will encourage them to engage in online or e-commerce shopping.

Objective 3 is still achieved even though hypothesis 3 is rejected since the results of this variable falls around $.335 > 0.005$ which is not significance. Thus, reliability still has a positive mild effect towards online shopping platform can be concluded in this research. According Rapp et al. 2009, privacy on the internet should be concern between buyers and sellers as most consumers are only willing to trust sites that reveal personal information.

5.1.4 To determine the customer satisfaction during using e-commerce through artificial intelligence (AI) systems

According to Pappas, customer satisfaction is an ongoing analysis about the product acquisition or utilization expertise which inherent to the individual. Therefore, online sellers must pay attention to maintaining and raising the level of customer satisfaction if they want to keep the existing customer and draw new customers to their online shopping window. Additionally, the purpose of this study is to evaluate how well artificial intelligence (AI) systems satisfy customers when they use online shopping.

The principal advantage is convenience. With no lines to wait in or cashiers to help you with your purchases, you may finish your shopping in a matter of minutes. We enjoy a zero-pollution shopping experience and the flexibility to shop online whenever we want. No other website offers rapid access to informational products like e-books, which are available to you as soon as payment is received. Furthermore, there is no need for any physical materials at all when things are downloaded from the internet, which is good for the environment.

Due to how straightforward it is to find things using both generic and site-specific search engines, online shopping is seen as being more convenient. Hence, there is no hassle of driving and parking. However, to note that the saving money benefit of online shopping is mentioned much less frequently than convenience besides can save time (Windham & Orton, 2000).

Objective 4 is to determine the customer satisfaction during using e-commerce through artificial intelligence (AI) systems accepted since the results of this under the very strong range of significance. Jun et al. (2004) also show that a significantly positive relationship exists between overall online service quality and customer satisfaction. Thus, effective can be concluded in this research. Based on table 4.15, customer satisfaction is the significant factors influencing the online shopping platform which is the significant value of 0.004.

5.2 Implications of the Research

This study might be implied for the business which is the company target to expand their market through online platform. This is due to one of the best strategies used for online shopping by using the internet as a tool for shopping platform. Nowadays, most young people spend a lot of time surfing over the internet. Therefore, this study is being specific to the target audience of young people. In addition to the growth of e-commerce, online shopping is becoming popular and important in daily life. The position of e-commerce has received great attention from entrepreneurs and academics in the today highly competitive online world. In future, e-commerce for consumer retention and purchase is a strategic necessity for long-term market success. In particular, customer retention is strongly related to online vendor profitability.

5.3 Limitation of Study

The limitation when conducting this study, the researcher face issues while do a research samples and selection. Sampling errors occur when a probability sampling method is used to select a sample. However, that sample does not reflect to the general population or appropriate population concerned. This result also can be known as sample bias. When conducting a survey, researcher also need to redistribute the questionnaire because of there is some issue with the questions. Therefore, the researcher asked the supervisor's advice to help in this problem.

During data collection, it is hard to get respondents via online survey because most people hard to give a respond through online and too busy to answer the survey. Besides, it takes a long time because it is difficult to get enough respondents who match the target.

5.4 Recommendation

Based on the findings of this study, a proposal is proposed for the benefit of online retailers to develop or optimize strategic marketing plans or strategic entry plans and the way to improve the ecommerce for Malaysia market future reference. The next subsection will describe in more detail the possible improvements that can be made based on the limitations of this research that may contribute as a future reference to existing online retailers.

Online retailers need to provide specific product features in the e-commerce platform to increase customer confidence because the existing online retailers only state the colour and provide a description of the product through pictures only without specifying the size. In addition, online retailers also need to put pictures that have a high qualities photo of the product instead of pictures taken from the internet or pictures taken with low quality.

Then, to ensure in the convenience of online shopping, online retailers should ensure that the site loads quickly, whether on a computer or mobile device. In addition, online retailers should continue to keep in touch with customers where to place customer reviews and also ask customer emails to provide the latest information about the product and also about the promotion days. In addition, online retailers have to always active in e-commerce to make it easier for customers to reach where they can provide fast service to customer chat.

Create a new system with strict security measures. Internet privacy and information security are now major concerns for online retailers. According to Rapp et al. (2009), the majority of consumers are uninformed of the handling and use of their personal information. As a result, buyers and sellers should be concerned about privacy online because most users would only trust websites that offer personal information.

5.5 Conclusion

In conclude, the overall result revealed that effective, secure, reliable and customer satisfaction had the positive influence to the online shopping platform. Researchers anticipate that the results will provide online merchants with clear information and a solution as well as aid them in understanding the particular variables that motivate customers to shop online. In order to meet the needs of online shoppers, they might therefore develop their methods. Based on the value of coefficient beta, the most affected influence of online shopping platform is effective. Apparently, young generation especially students nowadays more frequent use online shopping platform which is Shopee.



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APPENDIX 1

GANTT CHART OF PSM 1

Task	Weeks														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Topic selection															
Identify problem statement															
Identify research questions and research objectives															
Chapter 1 completion															
Reading literature review															
Chapter 2 completion															
Chapter 3 drafting															
Chapter 3 completion															
Amendments of proposal															
Slides preparation															
Compiling of proposal															
Report submission															
PSM 1 presentation															

APPENDIX 2

GANTT CHART OF PSM 2

Task	Weeks													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Form questionnaire														
First meeting with supervisor														
Questionnaire correction														
Spread the questionnaire through online platform														
Analyse data of 20 respondent in SPSS														
Spread the questionnaire for actual data														
SPSS workshop														
Meeting supervisor														
Analyse actual data														
Finish report chapter 4														
Finish report chapter 5														
Combine all chapter														
PSM 2 presentation														
Report submission														

QUESTIONNAIRE

Section A Demographic

Gender/ Jantina

- Male/ Lelaki
- Female/ Perempuan

Age/ Umur

- 18-28
- 29-39
- 40-50
- 51 and above

Occupation/ Pekerjaan

- Government/ Kerajaan
- Private employee/ Swasta
- Self employed/ Bekerja sendiri
- Jobless/ Tidak bekerja
- Students/ Pelajar

The most preferred online shopping platform. / Platform membeli belah atas talian yang paling digemari.

- Shopee
- Tiktok
- Website
- Others

No.	Items	1	2	3	4	5
	Section B					
1	The internet will make it easier to search for and purchase products					
2	Using internet to purchase a product would allow me to do my shopping more quickly					
3	Using the internet as a medium to buy a product would be flexible to interact with anytime					
4	Internet will increase my productivity when searching and buying products					
5	Online shopping allows me to track the goods					
6	Rapid response from the sellers is important to me					
7	Online shopping is as secure as traditional shopping					
8	This platform helped me reduce consumer uncertainty					
9	Buying online will be vulnerable to scammers.					
10	I am bit concerned my personal data lack to other entities					
11	I am bit concerned about the security and privacy of my online payments					
12	I received the product at the appropriate time.					
13	The quality of the product purchased may be good as ordered					
14	Online product information is clear, precise and easy to understand					
15	I can read past customer feedback before buying online					
16	It is important that sellers describe product feature clearly					
17	Bad returning policy					
18	Online shopping platform would be easy to use					

19	Customer service such as chat box is very convenient to communicate with sellers					
20	I prefer to buy online because of the easy online purchase procedure					
21	I prefer buying online because the selection of products is very wide.					
22	I prefer online shopping platform because there are many discounts and promotion					
	Section C					
23	Authorization mechanism of this platform make me feel comfortable					
24	Shopping through online platform can save our time					
25	Shopping through online platform can save the cost of car fuel					
26	Buying online will provide home delivery service					
27	Using online payment will be easier than a cash					