

CONSUMERS' ACCEPTANCE
TOWARDS E-GROCERY

PHANG JO YEE

MASTER OF BUSINESS ADMINISTRATION

UNIVERSITI TUNKU ABDUL RAHMAN FACULTY OF
ACCOUNTANCY AND MANAGEMENT

APRIL 2016

Consumers' Acceptance Towards E-Grocery

Phang Jo Yee

A research project submitted in partial fulfilment of the
requirement for the degree of

Master of Business Administration

Universiti Tunku Abdul Rahman

Faculty of Accountancy and Management

April 2016

Consumers' Acceptance Towards E-Grocery

By

Phang Jo Yee

This research project is supervised by:

Farah Waheeda Binti Jalaludin

Lecturer

Department of International Business
Faculty of Accountancy and Management

Copyright © 2016

ALL RIGHTS RESERVED. No part of this paper may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, graphic, electronic, mechanical, photocopying, recording, scanning, or otherwise, without the prior consent of the authors.

DECLARATION

I hereby declare that:

- (1) This Research Project is the end result of my own work and that due acknowledgement has been given in the references to all sources of information be they printed, electronic, or personal.
- (2) No portion of this research project has been submitted in support of any application for any other degree or qualification of this or any other university, or other institutes of learning.
- (3) The word count of this research report is 18678.

Name of Student: Phang Jo Yee
Student ID: 14UKM00221
Signature: _____
Date: _____

ACKNOWLEDGEMENT

First and foremost, I would like to express my deepest gratitude to my mother, Ms. Ong Poh Kuan, and father, Phang Yeong Keat, who have been with me throughout this entire journey. Without them, I would not be able to successfully complete this dissertation.

I would also like to thank Ms. Farah Waheeda for her guidance and mentorship throughout this dissertation. It was an honour to work with her and she has helped me all the way through this research study.

I would also like to thank the members of Faculty of Accountancy and Management and Institute Postgraduate Studies and Research, for their assistance during the programme.

Thank you.

TABLE OF CONTENTS

	Page
Copyright	iii
DECLARATION	iv
TABLE OF CONTENTS.....	vi
LIST OF TABLES	x
LIST OF FIGURES	xi
Abstract.....	xii
Chapter 1: Introduction.....	1
1.0 Introduction.....	1
1.1 Research Background	1
1.2 Problem Statement.....	4
1.3 Research Objective(s).....	5
1.3.1 General Objective	5
1.3.2 Specific Objectives	5
1.4 Research Questions.....	5
1.5 Hypotheses of the Study	6
1.6 Significance of the Study	6
1.7 Conclusion	8
Chapter 2: Literature Review.....	9
2.0 Introduction.....	9
2.1 Review of Literature	9
2.1.1 E-Grocery.....	9
2.1.2 Perceived Usefulness	12
2.1.3 Perceived Ease of Use.....	13
2.1.4 Perceived Risk	14
2.1.5 Social Influence	16

2.1.6 Attitude Towards Using E-Grocery	17
2.1.7 Behavioural Intention to Use E-Grocery	19
2.1.8 Actual Usage of E-Grocery	20
2.2 Proposed Theoretical/Conceptual Framework.....	22
2.3 Hypotheses Development	25
2.3.1 Perceived Usefulness and Attitude Towards Using E-Grocery	25
2.3.2 Perceived Ease of Use and Attitude Towards Using E-Grocery	26
2.3.3 Perceived Ease of Use and Perceived Usefulness.....	28
2.3.4 Perceived Usefulness and Behavioural Intention to Use E-Grocery	29
2.3.5 Attitude Towards Using E-Grocery and Behavioural Intention to Use E-Grocery	31
2.3.6 Behavioural Intention to Use E-Grocery and Actual Usage of E-Grocery	32
2.3.7 Perceived Risk and Attitude Towards Using E-Grocery	34
2.3.8 Social Influence and Attitude Towards Using E-Grocery	35
2.4 Conclusion	37
Chapter 3: Research Method.....	38
3.0 Introduction.....	38
3.1 Quantitative Approach	38
3.2 Data Collection	39
3.3 Sampling Design.....	40
3.3.1 Target Population.....	40
3.3.2 Sampling Elements	41
3.3.3 Sampling Units	42
3.3.4 Sampling Technique	42
3.3.5 Sampling Size	43
3.4 Research Instrument.....	44
3.5 Pilot Test.....	45
3.6 Data Scale Measurement.....	48
3.7 Data Analysis Techniques.....	49
3.7.1 Reliability Test.....	49
3.7.2 Pearson's Correlation.....	50

3.7.3 Multiple Regression Analysis	51
3.7.4 Linear Regression Analysis	52
3.8 Conclusion	52
Chapter 4: Research Results	53
4.0 Introduction.....	53
4.1 Reliability Test.....	53
4.2 Descriptive Analysis.....	55
4.2.1 Demographic Profiles	55
4.2.2 Analysis on Screening Questions.....	57
4.3 Hypotheses Testing.....	58
4.3.1 Multiple Regression Analysis.....	58
4.3.2 Linear Regression Analysis	63
4.3.3 Pearson’s Correlation.....	65
4.3.4 Point-Biserial Correlation	67
4.4 Summary of Hypotheses Testing.....	69
4.5 Conclusion	70
Chapter 5: Discussion and Conclusion	71
5.0 Introduction.....	71
5.1 Discussion of Major Findings.....	71
5.1.1 H1 (a).....	71
5.1.2 H1 (b).....	72
5.1.3 H1 (c).....	73
5.1.4 H1 (d).....	74
5.1.5 H1 (e).....	74
5.1.6 H1 (f).....	75
5.1.7 H2.....	76
5.1.8 H3.....	77
5.2 Implications.....	77
5.2.1 Usefulness	78
5.2.2 Ease of Use	78
5.2.3 Social Influence	79

5.3 Limitations of Study	80
5.4 Recommendations for Future Research	81
5.5 Conclusion	81
REFERENCES	83
Appendices.....	92

LIST OF TABLES

	Page
Table 1: The Questionnaire Items.....	46
Table 2: Rule of Thumb about the Strength of Correlation Coefficients	50
Table 3: Theoretical Constructs and Their Cronbach's Alpha Coefficients.....	53
Table 4: Theoretical Constructs and Their Cronbach's Alpha Coefficients.....	54
Table 5: Demographic Information of Respondents.....	55
Table 6: Descriptive Analysis on Screening Question	58
Table 7: Model Summary	59
Table 8: ANOVA.....	60
Table 9: Coefficients.....	61
Table 10: Model Summary (2).....	63
Table 11: ANOVA (2)	63
Table 12: Coefficients (2).....	64
Table 13: Correlations.....	66
Table 14: Correlations (2).....	67
Table 15: Summary of Results for Hypotheses Testing	69

LIST OF FIGURES

	Page
Figure 1: TAM	23
Figure 2: Conceptual Framework of Consumers' Actual Usage of E-Grocery	24

Abstract

E-grocery has been around since the late 1980s and it has been adopted in regions such as Europe, Australia and Asia. The e-grocery trend ignited with the growth of the Internet and now, the smart device era. There are many factors that influence the consumers' actual usage of e-grocery. This dissertation studies Malaysian consumers and why some of them are willing to use e-grocery, while some do not. The purpose of this research study is to understand the factors that will influence the consumers' acceptance towards e-grocery in Malaysia. The variables that will be examined in this study are perceived usefulness, perceived ease of use, perceived risk, social influence, attitude towards using e-grocery, behavioural intention to use e-grocery and actual usage of e-grocery. The quantitative survey has been carried out and a total of 281 usable responses were collected. It can be concluded that perceived ease of use and perceived usefulness plays an imperative role that leads to the consumers' actual usage of e-grocery.

Chapter 1: Introduction

1.0 Introduction

This chapter proposes a research on the consumers' acceptance towards e-grocery in Malaysia. The research focuses on the factors – perceived usefulness, perceived ease of use, perceived risk, social influence, attitude towards using e-grocery and behavioural intention to use e-grocery. The areas covered in this chapter include – background of the research, problem statement, research objectives, research questions, hypotheses of the study, significance of the study and a short conclusion of this chapter.

1.1 Research Background

The Internet is a very powerful and influential communication medium connecting people around the globe. As of December 2015, the Internet served 3,366 million consumers around the world, which is an estimate of 46.4% of the global population (Miniwatts Marketing Group, 2016). Besides changing the way people communicate, the Internet also changes the way business is conducted.

According to Econsultancy.com Ltd (2014), it is tough for companies globally to migrate their businesses to an online platform. Based on the statistical study by Econsultancy.com Ltd (2014), there are a few holdbacks to start an online store in the South-East Asia market. Some of the holdbacks include consumers' preference for a nice and cooling environment in physical stores, the availability of other shops and restaurants in physical stores and the opportunity to socialise with friends and family. However, technology has its way to creep up on businesses that are reluctant to

change. With an increasing number of Internet users, businesses will eventually migrate or open up online stores to keep up with the trend.

The Internet has created a new opportunity for different industries. According to Malaysian Communications and Multimedia Commission (as cited in Lim, Osman, Romle, & Haji-Othman, 2015), in pursuit to promote Internet usage in Malaysia, the government has even set up 1Malaysia Internet Centre, mini community broadband Centre, 1Malaysia Community Broadband Library and 1Malaysia Wireless Village. One of the embarking trends growing in Malaysia online grocery shopping or e-grocery (Kurnia & Chien, 2003). According to Sherah (2003), online grocery shopping can be defined as the consumers' use of the retailers' websites to purchase grocery products. Around the 1980s, consumers were still oblivious to online shopping (Chadwick, 2013). According to Chadwick (2013), Tesco and Asda experimented with online home shopping services in the mid-1980s when the World Wide Web (WWW) was invented. Since then, the Internet has changed the way we shop.

E-grocery was first offered in the United States (US) in the late 1980s (Kurnia & Chien, 2003). It has then been adopted in other regions such as Europe, Australia and Asia (Cosseboom, 2015; Galante et al., 2013; Kurnia & Chien, 2003). E-grocery provides consumers with benefits such as time saving and convenience. This trend is ignited by the increasing usage of mobile devices that can connect to the Internet, namely laptops, smartphones and tablets. Kurnia and Chien (2003) stated that there is no substantial evidence that the public widely accepts e-grocery. At this stage, there are very limited studies conducted on the acceptance and actual use e-grocery and the consumers' perception of e-grocery. However, a more current research in Europe by Galante et al. (2013) revealed that many of the consumers love the idea of saving time by being able to do grocery shopping at home. Indonesia has also been seen supporting the e-grocery industry in Asia. An Indonesia-based grocery delivery mobile application, HappyFresh, has raised up to US\$12 million to boost e-grocery in Asia with plans to expand to Thailand and Taiwan (Cosseboom, 2015).

In the current era, consumers can buy everything online, but consumers still get fast-moving consumer goods (FMCG) from a physical grocer (Conroy, Nanda & Narula, 2013). Although there are still consumers who prefer traditional grocery shopping, the research done by Conroy et al. (2013) revealed that e-grocery sales are expected to grow from 67% to 158% in 2016. According to Wong (2015), based on the Consumer Barometer by Google, an online shopping survey was conducted in December 2013 on Malaysian's most popular online shopping categories. The result returns 86% on flights, 75% on hotels, 42% on apparels, 37% on cinema, 26% on insurance, 11% on appliances, 9% on television sets and 6% on groceries. Malaysian's are also found to be keen researchers before making actual purchases. Based on the Barometer result by Google (Wong, 2015), 56% of consumers are found to have done research on groceries. This result shows that the consumers have a growing crave to understand the e-grocery market and perhaps a desire to explore the available e-grocery in the country.

One of the pioneers of e-grocery in Malaysia is Tesco. Tesco Stores (Malaysia) Sdn Bhd first launched its e-grocery services on April 2013 (Nair, 2014). The service began at Tesco Extra Mutiara Damansara, which allowed purchasing of groceries by consumers from home. The move by Tesco was a big game changer in the industry. The first stage of e-grocery by Tesco was on a website platform. However, considering the domination of smartphone (67%) as the most often used device to go online (Consumer Barometer by Google, 2016), Tesco Online Malaysia mobile application was created. The e-grocery system by Tesco Malaysia is available on both website and mobile application. It was an eye-opener for other grocers in Malaysia and the e-grocery services paved ways for smaller players in the country (Nair, 2014).

1.2 Problem Statement

In Malaysia, not many grocers have taken the leap into e-grocery. There are many doubts and risks in e-grocery as there are not many successful examples in the country. In Malaysia, there are not more than 15 well-known online grocers. Some of them includes Redtick, You Beli, Food World, Grocer Express and Sibana Fox, There are many factors or reasons on why the consumers accept or reject the concept of e-grocery. This research is conducted to study and understand the consumers' acceptance towards e-grocery. The relation of consumers' Internet use, consumers' online shopping habits, perceived risk, perceived trustworthiness and perceived benefits on consumers' acceptance towards e-grocery is studied. Consequently, the research problem is to examine whether the relation factors will have a significant impact on the consumers' actual use of e-grocery.

Although e-grocery is gaining momentum in the industry, it is not widely used by Malaysians. E-grocery has shown success in other countries. Henry (2015) found that British the number e-grocery shoppers grew from 20% in January 2011 to 26% in January 2015. Tesco is the clear winner in the e-grocery market on the Internet in the United Kingdom (UK) (Silverwood, 2014). Tesco dominated the online grocery spend a whopping 50% of 5.6 billion pounds of the market share (Silverwood, 2014). Even though Tesco showed great success in the UK, similar results were not achieved in Malaysia.

The hypotheses are identified and the variables will be put to the test by collecting responds from consumers through survey method. Lastly, measurement analyses are used to justify the relationships between the variables in this study.

1.3 Research Objective(s)

1.3.1 General Objective

The general objective of this research study is to understand the factors that will influence the consumers' actual use of e-grocery in Malaysia.

1.3.2 Specific Objectives

The following are the specific objectives of the study derived from the general goal stated above:

- (a) To determine the perceived usefulness and attitude towards using e-grocery
- (b) To examine the perceived ease of use and behavioural intention of consumers towards using e-grocery
- (c) To compare the behavioural intention of consumers to use e-grocery and actual usage of e-grocery
- (d) To study the perceived risk and social influence towards using e-grocery

1.4 Research Questions

After identifying the objectives, the following research questions are raised:

- (a) What affects the consumers' acceptance towards e-grocery?
- (b) What are the factors influencing the consumers' decision?
- (c) What is the e-grocery purchasing patterns and behaviour?

1.5 Hypotheses of the Study

H1 (a): There is a positive relationship between Perceived Usefulness and Attitude Towards Using E-Grocery.

H1 (b): There is a positive relationship between Perceived Ease of Use and Attitude Towards Using E-Grocery.

H1 (c): There is a positive relationship between Perceived Ease of Use and Perceived Usefulness.

H1 (d): There is a positive relationship between Perceived Usefulness and Behavioural Intention to Use E-Grocery.

H1 (e): There is a positive relationship between Attitude Towards Using E-Grocery and Behavioural Intention to Use E-Grocery.

H1 (f): There is a positive relationship between Behavioural Intention to Use E-Grocery and Actual Usage of E-Grocery.

H2: There is a negative relationship between Perceived Risk and Attitude Towards Using E-Grocery.

H3: There is a positive relationship between Social Influence and Attitude Towards Using E-Grocery.

1.6 Significance of the Study

Most researches conducted in Malaysia also focused on e-commerce. There are many studies conducted on the usage and acceptance of e-commerce, but not many are narrowed down to e-grocery – Exploratory study of buying fish online: Are Malaysians ready to adopt online grocery shopping? by Ghazali, Mutum & Mahbob (2006), E-Commerce: A Study on Online Shopping in Malaysia by Chua, Khatibi and Ismail (2006), Factors Affecting Students' Online Shopping Attitude and Purchase

Intention by Delafrooz, Paim, Haron, Sidin and Khatibi (2009), Attitude towards Online Shopping Activities in Malaysia Public University by Yi Jin, Osman, Romle and Haji-Othman (2015).

This type of research on e-grocery is especially uncommon in Malaysia. There are a small number of researches on e-grocery in Malaysia as there are very little grocers in Malaysia that provide e-grocery services. Studies, on the other hand, are done in other countries – The Acceptance of Online Grocery Shopping by Kurnia and Chien (2003) in Australia, The role of Trustworthiness by Conroy, Nanda and Narula (2013) in US, The future of online grocery in Europe by Galante, Lopez and Monroe (2013) in Europe.

Therefore, the result of this study will provide useful insight for the grocers in Malaysia to venture into e-grocery. This study can determine the factors that lead to the consumers' actual usage of the e-grocery. The grocer selected for this study is Tesco Malaysia. Tesco is selected mainly due to Tesco's e-grocery system success in UK and Tesco being one of the pioneers and leading e-grocer in Malaysia.

The result can guide grocers, supermarkets and even hypermarkets towards understanding the consumers' behaviours and thoughts towards e-grocery. Moreover, the result can help identify the issues on implementing e-grocery. By understanding the fears and doubts of the consumers on the e-grocery system, grocers can come out with better solutions to gain the confidence of the customers.

It is also important to educate the consumers on how to make full use of the e-grocery system. Most consumers are too comfortable with traditional grocery shopping, which is by visiting the grocery store and being present to view and select the groceries on their own. Hence, it is important to understand how consumers feel about e-grocery and how they compare the system to the traditional grocery shopping.

If e-grocery continues to grow in Malaysia, the experience in buying groceries will ultimately change, creating a new competitive experience for grocers all around Malaysia.

1.7 Conclusion

Chapter one explained the foundation of the research project. It describes the problem statement, which shall be answered in this project with consent to the research objectives and research questions. The hypotheses established shall be tested and tallied to the results of the survey carried out.

The next chapter will focus on the review of concomitant literature related to the research project.

Chapter 2: Literature Review

2.0 Introduction

This chapter comprises of reviews of secondary data on the topic of consumers' acceptance towards e-grocery. The proposed independent variables are studied and discussed. In later part of this chapter, a conceptual model will be developed to fit the research objectives and research questions. Hypothesis on each of the components will be formed and tested to reviews the actual use of e-grocery.

2.1 Review of Literature

2.1.1 E-Grocery

McClelland (as cited in Hui & Wan, 2009) defined supermarket as a large self-service food store and slowly into a store with basic household items as well. Technology has transformed the way many industries operate. In FMCG industry, technology is redefining the shopping experience. Benn, Webb, Chang, and Reidy (2015) also agreed that e-grocery is rapidly growing in popularity although it is a rather new environment.

Bellamy, Kellogg, Richards and Swart (n.d.) described grocery shopping as an omnipresent activity in the current era and something that everyone frequently does on a regular basis. Kurnia and Chien (2003) defined e-grocery shopping as consumers using supermarkets' websites to purchase grocery products. The line between brick-and-mortar and online stores are slowly fading away. Consumers are slowly growing to understand the benefits of online grocery shopping as well (The Nielson Company, 2015). UK's best supermarket

chain, Tesco, has witnessed the fall of their competitors' e-grocery attempt (Hui & Wan, 2009). According to Shopper Vista (as cited in Benn et al., 2015), one fifth of UK households are purchasing groceries online every month. There is a mixed success of e-grocery and hence, it is important for supermarkets to understand the consumers' acceptance towards using the system.

However, physical stores are here to stay for now (The Nielson Company, 2015). There is the obvious benefit of immediate purchase, no shipping fee and sensory experiences – smell, sight, touch. The grocery shopping experience is also very different when shopping online. An online store needs to convince the potential customers with pictures and text of the product (Mastercard, 2008). In certain cases, a video is provided for instructions on the usage. On the other hand, shopping in a physical store allows the shoppers to examine the actual product on the spot. Moreover, customers can seek help from employees directly in the physical store, whereas online shoppers have to rely on telephone calls, live chats or email for any questions they have on the product. Furthermore, the respond time for enquiry online is not always immediate. Shopping online is dependent on the delivery service of the store. It is unlike traditional shopping whereby consumers can immediately get the products after payment. Moreover, it is harder for consumers to complain or demand compensation if the product received is not as expected than if they had purchased from the physical store (Mastercard, 2008). There is a high likelihood that the unsatisfied online shoppers will accept the items as it is or travel to the physical store to complain and be compensated.

However, online shoppers also get to experience some perks that are not available in a physical store. Online shoppers can access to reviews and comments on products, which are usually not available to physical store shoppers. They can rate the products and provide reviews for new shoppers. Moreover, if there are any updates on promotions and discounts, online

shoppers can be notified immediately by email, notifications through mobile apps or website, whereas bricks-and-mortar shoppers will only find out through medias such as flyers, leaflets, magazines, television advertisement, radio announcement and billboards advertising.

Furthermore, online stores provide the ability to compares prices between two or more items quickly. This ability is a huge advantage as shoppers have access to a wide selection of goods and can compare them without the need to search physically and examine the products (Mastercard, 2008). The research by Galante et al. (2013) also found that the attractive convenience to be able to do grocery shopping from home without having to travel, pushing a shopping cart or queuing at the checkout line has spurred the interest of the consumer to try out e-grocery. However, the convenience may not be able to convince all consumers to switch from the traditional grocery shopping to e-grocery. E-grocery can succeed, but varies in different countries and depends on many other factors such as current markets shares, profit margins and manpower (Galante et al., 2013).

One-quarter of the online respondents in the Nielsen Global E-commerce and the New Retail Survey, Q3 2014 (as cited in The Nielsen Company, 2015) are found to be ordering grocery online and more than half the respondents are willing to use e-grocery in the future. Asia-Pacific especially is demonstrated great willingness to purchase grocery online. The growth of e-grocery is driven by the maturation of the digital world. The growth is also predicted to increase by 15% per annum (Benn et al., 2015).

2.1.2 Perceived Usefulness

Davis (1989) defined perceived usefulness as “the degree to which a consumer believes that by using a particular system would improve his or her task performance.” In the study by Sulistiyarningsih, Tambotoh and Tanaamah (2014), perceived usefulness is also described as the extent the consumers are satisfied that using the new technology will improve their performance. Similarly, Malhotra and Galletta (1999) also described perceived usefulness as the extent to which a user thinks that by using a particular technology would enhance the his or her performance. In other studies, perceived usefulness is also defined as “the prospective users’ subjective probability of using a particular system will increase the users’ job performance within a specific context” (Mohd, Ahmad, Samsudin, & Sudin, 2011). Perceived usefulness is also one of the belief structures of the Technology Acceptance Model (TAM) (Malhotra & Galletta, 1999; Park, 2009).

Yuadi’s (as cited in Sulistiyarningsi et al., 2014) findings showed that the e-resources of the technology have no impact on the users’ perceived usefulness on the technology. On the other hand, characteristics of the new technology are found to be highly influential on the perceived usefulness of the technology by users (Park, 2009). Other studies by Venkatesh and Davis, Grandon, Alshare and Kwan, and Mungania and Reio (as cited in Park, 2009) have found e-learning self-efficacy to be the determinant of perceived ease of use. Hence, the party responsible for guiding the use of the technology should find ways to improve its self-efficacy with consideration of the characteristic of the targeted users.

A study by Novita (as cited in Sulistiyarningsi et al., 2014) on the acceptance level of a programming language (Java) found that the easier the users have higher perceived usefulness if the technology is easier to use. Another theory suggested by Alharbi and Drew (2014) stated that job relevance affects the

perceived usefulness of the users as well. Venkatesh and Davis (1989) defined job relevance as a user's perception on the degree to which the technology is relevant to the user's job. It also is believed that a consumer is more certain of the usefulness of the technology when the technology is used more frequent and for a longer period (Sulistiyaningsih et. al, 2014). The study by Kurnia and Chien (2003) stated that perceived usefulness of the e-grocery to have impacts on the attitude towards using the system. In conclusion, perceived usefulness is found to be a significant factor which can affect the user's intention to use the new technology system.

2.1.3 Perceived Ease of Use

Davis (1989) described perceived ease of use as the degree to which a consumer believes by using a certain technology, the consumer would be free from effort. Davis (1989) also defined ease as "freedom from difficulty or great effort". Raman (2011) stated that effort is an exertion of physical or mental strength to perform an activity. Furthermore, Sulistiyaningsih et al. (2014) interpreted perceived ease of use as to what extent in which the user perceived the technology to be easy to use. Perceived ease of use is very popular in new technology adoption studies (Lennon et al., 2008, Alharbi and Drew, 2014, Klopping and McKinney, 2004, Mohd, Ahmad, Samsudin, and Sudin, 2011, and Park, 2009).

Lee and Park (as cited in Limayem, Cheung, & Chan, n.d.) stated that in the case of online shopping environment, the perceived ease of use refers to the website's ease of navigation. The study by Park (2009) on understanding university students' behavioural intention to use e-learning defined perceived ease of use as the extent to which the students believes there is very little or no

cognitive effort needed to use the e-learning system. Hence, the perceived ease of use in this research refers to the grocery shoppers' beliefs that using the e-grocery system requires minimal effort.

Mohd et al. (2011) mentioned that perceived ease of use can affect perceived usefulness and factor analyses suggest that both the variables are distinct dimensions. A study by Venkatesh and Davis (as cited in Park, 2009) concluded that the self-efficacy of the technology strongly affects the perceived ease of use of the consumers both before and after using the technology. However, the research by Grandon, Alshare and Kwan (as cited in Park, 2009) concluded that the technology's self-efficacy has an indirect effect on the consumers' intention to use the technology through perceived ease of use. A study by Kurnia and Chien (2003) suggest that perceived ease of use can affect the perceived usefulness, but not vice versa. The explanation is that an easy-to-use technology can be more useful than a hard-to-use technology, but a useful one may not be easy to use.

On the other hand, Lin and Lu (2000) reported that higher perception of ease of use is promoted by the information accessibility of the technology. If potential users trust that a particular technology is useful, they may also believe that the technology is not that hard to use (Davis, 1989). Davis (1989) claimed that users are more likely to accept a technology which higher perceived ease of use.

2.1.4 Perceived Risk

Perceived risk is stated as the uncertainty of possible negative consequences using a product or services (Featherman & Pavlou, 2002). Gronhaug and

Stone (1995) stated that the concept of perceived risk was introduced by Raymond A. Bauer in 1960. Knight (1921) defined quantifiable uncertainty to be a risk. On top of that, Gronhaugh and Stone (1995) also explained that risk or uncertainty are related to the scenario of choice, whereby an individual will need to make a decision. Anytime consumers consider making a purchase, they will face a set of uncertainty about the product or services and this is referred to as perceived risk (Dontigney, 2016). Limayem et al. (n.d.) explained that perceived risk refers to the consumers' perceptions of uncertainty and consequences of purchasing a product. The choice of behaviour is based on the specific consequences resulted from an action. In other words, perceived risk is the potential for loss in obtaining the desired result of using a system (Featherman & Pavlou, 2002).

According to Lee, Park and Ahn (as cited in Osman et al., 2010), there are two main categories of perceived risk in the process of online shopping. The first category is associated with the product and services, functional loss, time loss, product risk, opportunity loss and financial loss (Osman, Yin-Fah & Choo, 2010). The second associated with privacy risk, security and reputation of the system. Dogtigney (2016) suggested that there are six types of perceived risk that every business needs to face, namely functional risk, social risk, financial risk, physical risk, time risk and psychological risk. Cox (as cited in Featherman & Pavlou, 2002) summed up the two major categories of perceived risk into performance and psychosocial. He then broke performance into economic, temporal and effort, and broke psychosocial into psychological and social. Cunningham (as cited in Featherman & Pavlou, 2002) on the other hand, split perceived risk into six dimensions, namely performance, financial, time, safety, social and psychological loss.

The research by Osman et al. (2010) believed that perceived risk can be reduced with higher trust in the shop. The higher trust can then generate a more favourable attitude in choosing a particular shop. The analysis by

Limayem et al. (n.d.) also found that perceived consequences affect the consumers' attitude and intention to purchase a product. This means that an individual may not repeat the decision if that individual perceives negative consequences or risk. Hoffman et al. (as cited in Featherman & Pavlou, 2002) stated that consumers display a reluctance to make online transaction mainly due to perceived risk. In a nutshell, many kinds of literature support the usage of risk factors to understand the consumers' action.

2.1.5 Social Influence

Subjective norm refers to the consumers' perceptions that people that matter to them think a certain behaviour should be performed or not (Raman, 2011). Mohd et al. (2011) defined subjective norms as the consumers' beliefs that a particular individual or group approve or disapprove the behaviour of the consumers. Most tend to perform a specific behaviour with beliefs that it would create positive results. Thus, the subjective norm will lead to the use of the actual system. In this research, the effect of the subjective norm was assessed in social influence.

Davis (1989) stressed on the importance of social influences in technology acceptance. Social influence refers to the perceived social pressure to carry or not carry out a certain behaviour (Park, 2009). Grenny (as cited in Wang & Chou, 2014) defined social influences as how the people around can affect a person's behavioural decisions. Wang and Chou (2014) found that social influences are related to external pressure, namely friends, family and colleagues at work. They further elaborate that social influence includes the extent to which social networks can affect people's behaviour using messages and signals. It plays a very important role in understanding, explaining and

predicting the usage of the new technology and the acceptance behaviour (Malhotra & Galletta, 1999).

Kelman (as cited in Mohd et al., 2011) suggested that the changes in attitude are produced at different “levels”. These level of changes then take place corresponding to the different processes in which the consumers accept the influence. Kelman (as cited in Malhotra & Galletta, 1999) distinguished three different social influence processes in affecting the consumer’s behaviour. The first one is compliance – when consumers adopt the behaviour with the expectation to avoid loss or gain incentives, not for the belief in its content. The second process is identification – when consumers accept the influence solely due to the purpose to create or maintain a relationship with a particular individual or group. The third one is internationalisation – when the consumers accept the influence because it fits into their value systems. Malhotra and Galletta (1999) further explained that the social influence processes help determine the consumers’ commitments or psychological attachment to use the new technology.

2.1.6 Attitude Towards Using E-Grocery

Wu, Lee, Fu and Wand (as cited in Lim et al., 2015) defined attitude as a psychological inclination which can be explained through assessment of a specific entity with some degree of approval or disapproval. Attitude can also be built through behavioural, cognitive and affective assessment. Lai and Wang (2012) stated that attitude can be the positive or negative cognitive appraisal, emotional feeling and behavioural tendency experienced by consumers during their purchase. Research also stated that attitude can affect the consumers’ judgement when purchasing items and hence, affect the

perception towards the retailer (Lai & Wang, 2012). Grandom and Mykytyn (as cited in Delafrooz et al., 2009) refer attitude towards a certain behaviour to “the degree to which a person has a favourable and unfavourable evaluation of the behaviour of the question”.

A study by Armstrong and Kotler (as cited in Delafrooz et al., 2009) mentioned that a consumer’s purchasing choice are affected by four main psychological factors – motivation, perception, learning, beliefs and attitude. According to Boundless (2015), attitude is a psychological variable known to influence purchase decision process of consumers and can be measured by the consumers’ facial expressions, vocal changes or body gestures. Attitude compromise of a positive or negative assessment of the purchasing activity (Boundless, 2015).

Chiu, Lin and Tang (as cited in Delafrooz et al., 2009) explained that attitude towards online purchasing is the consumers’ feelings when completing a purchasing behaviour over the Internet. This statement is further supported by the literature and models of attitude by Fishbein and Ajzen (as cited in Osman et al., 2010) which believed that the consumers’ attitude will affect their intention to make a transaction online. The models refer to three dimension – consumers’ acceptance of the online shopping channel, the consumers’ attitude towards the online store and consumers’ perceived risk. There is also a study that investigates the characteristics of online shoppers and their attitude in online shopping and concluded that the product’s quality will not play any role if the right users are not able to go online by (Delafrooz et al., 2009).

In this study, attitude refers to a consumer’s evaluation of the consequences of performing an e-grocery behaviour. Most Information Technology adoption research also found that attitude plays a very significant role in promoting the consumers’ intention to shop online (Delafrooz et al., 2009, Osman et al.,

2010, Lai and Wang, 2012, Lim et al., 2015, Limayem et al., n.d., and Kurnia and Chien, 2003).

2.1.7 Behavioural Intention to Use E-Grocery

The TAM by Davis (1989) defined behavioural intention as the actual usage of a technology and hence, determines the technology acceptance. On the other hand, Engel et al. (as cited in Limayem, n.d.) defined online consumer behaviour as the activities related to obtaining, consuming and disposing of certain products or services online. It also included the decision processes that follows. Fishbein and Ajzen (as cited in Malhotra and Galletta, 1999) described behavioural intention as the measures of one's intention strength to carry out a certain behaviour. According to Park (2009), there are four categories of variables related to the behavioural intention to use a new technology, namely individual context, system context, social context and organisational context.

The study by Delafrooz et al. (2009) mentioned that the personalities of the consumers may influence the behavioural intention. One of the personalities is utilitarian shopping orientation. These type of consumers are goal-oriented and shop online based on the rational necessity of their goals. Time and efficiency of the systems play a big role in the behavioural intention. Another type of consumers is hedonic shopping oriented. Besides gathering information for online shopping, they also seek for fun and joy. Menon and Kahn (as cited in Delafrooz et al., 2009) showed that hedonic-oriented websites can influence the consumers' shopping behaviour.

Fishbein and Ajzen (as cited in) stated that "intentions are jointly determined by the person's attitude and subjective norm concerning the behaviour." Venkatesh (as cited in Sulistiyaningsih et al., 2014) explained that motivation

is a form of predicted behavioural intention expected to play a role in the perceived ease of use of the system. The behavioural intention leads to the actual system usage (Mohd et al., 2011). Hansen (as cited in Hui & Wan, 2009) surveyed 1058 online consumers and found that behavioural intention can be explained by perceived information accessibility, perceived advantage, perceived ease of use, perceived risk and also attitude towards the e-grocery system.

Hui and Wan (2009) found that although it is more difficult to predict the use of the e-grocery system if the system has yet to exist. Likewise, social psychology research found that behavioural intention can be predicted by studying the individual's attitude and perception. Furthermore, Osman et al. (2010) found that the attitude and behaviours during service strongly affect the behavioural intention of the technology. This means that the customer service can influence the purchase decisions of the consumers.

2.1.8 Actual Usage of E-Grocery

TAM is one of the most used theories in Information System literature (IGI Global, 2016). This theory by Davis (1989) focus on two beliefs that are used to predict the attitude of the users which then affect the behavioural intention of the users. The actual usage of the technology is then affected by the behavioural intention.

According to Davis (1989), an individual's actual use of the technology is influenced by the individual's behavioural intention, attitude, perceived usefulness and perceived ease of use of the technology. However, Davis (1989) also proposed that there are also external factors which could affect the actual use of the system. Actual use can be measured in terms of how often

the system is used and how much it is used by the consumers (Malhotra & Galletta, 1999). These measures on the frequency and volume of system use have been used in most research on TAM (Alharbi & Drew, 2014; Galletta, 1999; Khorasani & Zeyun, 2014; Kurnia & Chien, 2003; Malhotra & Sulistiyaningsih et al. 2014; Mohd et al., 2011; Park, 2009).

Sulistiyaningsih et al. (2014) concluded if the system shows signs of further improvement and the consumer is satisfied, the satisfaction can reflect onto the actual usage of the technology. On the other hand, the study by Alharbi and Drew (2014) supported the behavioural intention as the influence on the actual use of the system and hence, determines the technology acceptance. Malhotra and Galletta (1999) also supported the theory that behavioural intention predicts the actual use of the system upon adapting Davis' TAM into their study.

On top of that, the study by Kurnia and Chien (2003) revealed that perceived ease of use influenced the perceived usefulness of the system which in turn affect the attitude. The attitude then influenced the behavioural intention which affects the consumers' actual usage of the system. Their study also revealed that the visibility of the e-grocery system plays an important role in studying the actual usage of the system. Wan and Chao's (2014) research pointed out that the key elements that affect the actual usage are the external variables that affect the perceived usefulness and perceived ease of use of the system. One of the suggested external factors is the individual's shopping orientation. This is in line with Davis's model. To sum it up, most researches that adopted the TAM pointed out that perceived usefulness and perceived ease of use played very important roles which lead to the actual usage of the technology.

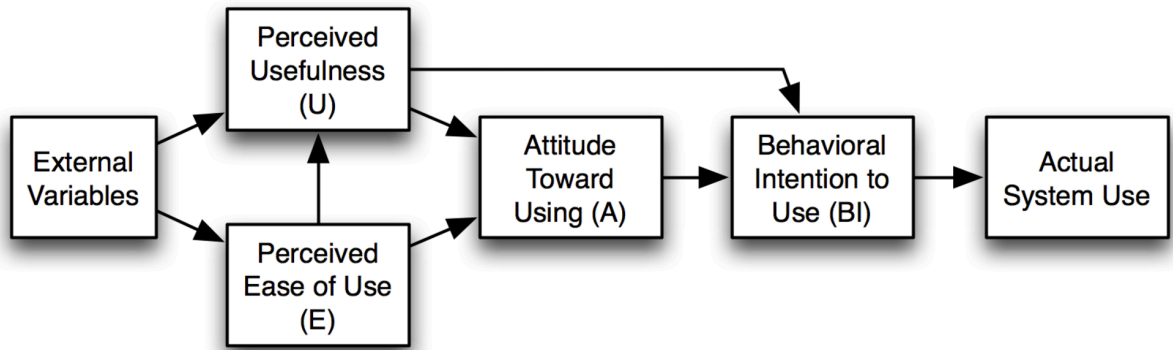
2.2 Proposed Theoretical/Conceptual Framework

Various frameworks and models were developed to explore the technology acceptance's determinants and its adoptions. This includes Theory of Reasoned Action (TRA), Theory of Planned Behaviour (TPB), Unified Theory of Acceptance and Use of Technology (UTAUT) and the TAM and various extended models of the TAM (Surendran, n.d.). Saga and Zmud (as cited in Kurnia & Chien, 2003) claimed that among the adoption models, TAM is the most influential and adopted models to study the acceptance of the technology.

In this study, the TAM is used as a guideline for the consumers' acceptance. The model was proposed by Davis (1989) based on Fishbein and Ajzen's TRA (MBASkool.com, 2008) to explain the technology usage behaviour (Kurnia & Chien, 2003). The goal of the TAM is "to provide an explanation of the determinants of computer acceptance that is general, capable of explaining user behaviour across a broad range of end-user computing technologies and user populations while at the same time being both parsimonious and theoretically justified" (Davis, 1989). The acceptance of a new technology depends on two factors (Davis, 1989):

- Perceived usefulness – defined as the degree to which an individual believes that using a particular new technology would improve the job performance.
- Perceived ease of use – defined as the degree to which an individual believes that using a particular new technology would be effort-free.

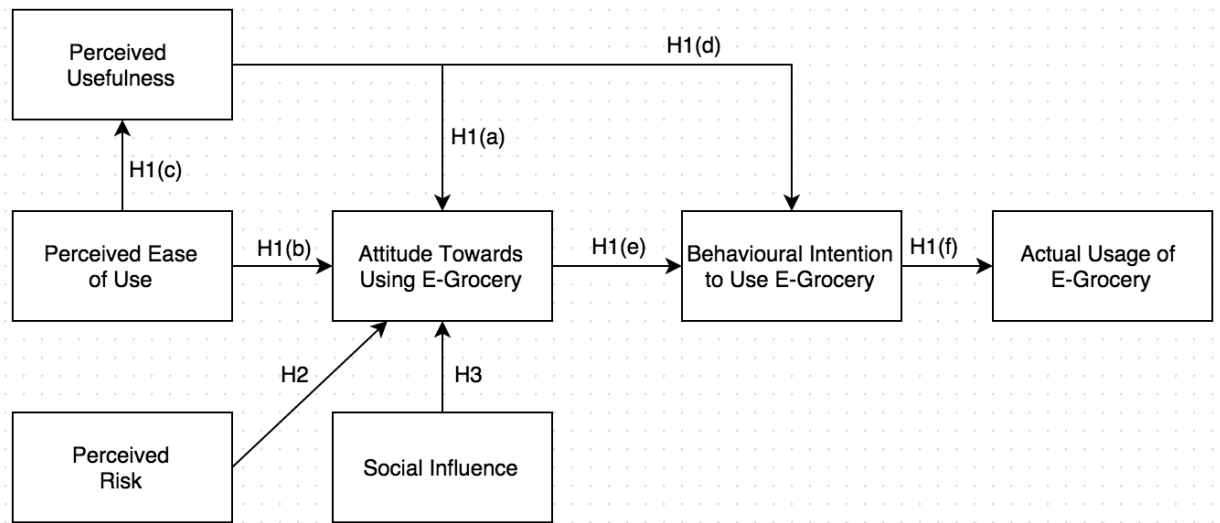
Figure 1: TAM



Note. Adapted from Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13(3).

These two factors are the most imperative determinants of the actual use of the technology. They are affected by external factors such as social factors, cultural factors and political factors (Surendran, n.d.). According to TAM, the behavioural intention to use the technology defines the actual system use and hence, determines the technology acceptance. Attitude towards using and perceived usefulness jointly affect the behavioural intention. Behavioural intention is also influenced by perceived usefulness indirectly. Attitude is affected by both perceived usefulness and perceived ease of use. On the other hand, perceived usefulness is directly influenced by perceived ease of use.

Figure 2: Conceptual Framework of Consumers' Actual Usage of E-Grocery



Source: Developed for the research study.

The model in Figure 2 shows the proposed conceptual framework that serves as the foundation of this research. The model is adopted from TAM with additional constructs, namely 'Perceived Risk' and 'Social Influence' (derived from the TRA). Eight hypothetical relationships between various constructs in Figure 2 were established. The conceptual framework is developed to identify the independent and dependent variables and understand their relationship with one another. The variables were discussed in the previous section and the hypotheses will be presented in the following section.

2.3 Hypotheses Development

2.3.1 Perceived Usefulness and Attitude Towards Using E-Grocery

In the context on e-grocery, usefulness refers to the degree to which the consumers believe using the e-grocery system as a medium to purchase groceries will improve their performance or productivity, therefore improving the shopping experience. On the other hand, attitude is the desirability to use a system (Shin, 2010). It is necessary to allow the consumers to believe that they can benefit from the system to promote a consumers' desirability to use the e-grocery system. For experienced users with very little free time for grocery shopping, the accessibility and speed of the e-grocery system may be very useful features (Cho, 2015).

Davis (1989) pointed out the perceived usefulness is a very important determinant for the actual usage of the system. Tsai (2012) stated that attitude can be determined by perceived usefulness. According to Aboelmaged, through the realisation that the system is useful in improving the user's performance or efficiency, the user's attitude towards using the system is positively affected (as cited in Wang & Chou, 2014). TAM also proposed that there is a direct relationship between perceived usefulness and the behavioural intention to use the system (Mohd et al., 2011). The study on understanding students' behavioural intention to use e-learning by Park (2009) also concluded that perceived usefulness has a positive relationship with attitude towards using the system. Perceived usefulness typically has a stronger direct effect on attitude towards using a new technology (Çelik & Yılmaz, 2011). In fact, perceived usefulness has the largest effect on the user's attitude in Park's study.

Previous researches (Delafrooz et al., 2009; Kurnia & Chien, 2003; Malhotra & Galleta, 1999; Mohd et al., 2011; Raman, 2011; Suki & Suki, 2011; Wang & Chou, 2014) also proved that perceived usefulness influence the technology usage of a person. There is also a study by Venkatesh and Morris (2000) which found that men consider perceived usefulness to a greater extent as compared to women in driving their decision to use the technology.

In earlier research studies on TAM, perceived usefulness usually has a stronger direct influence on perceived usefulness and attitudes than perceived ease of use (Çelik & Yılmaz, 2011). The more positive the perceived usefulness, the higher the attitude (Tsai, 2012). In contrast, a more negative perceived usefulness leads to a lower attitude.

In this study, perceived usefulness is defined as the degree to which the use of the e-grocery system will benefit the consumer. Therefore, the following is proposed:

H1 (a): There is a positive relationship between Perceived Usefulness and Attitude Towards Using E-Grocery.

2.3.2 Perceived Ease of Use and Attitude Towards Using E-Grocery

Applying the definition of perceived ease of use to that of e-grocery shopping, ease of use refers to the consumers' perception that purchasing grocery online requires minimal effort. To promote the consumers' willingness to use the system, it is necessary to notify the potential consumers that it is easy to be used. Similar to perceived benefits, if the perceived ease of use is more positive, the attitude is also higher (Tsai, 2012). In contrast, if perceived ease of use is more negative, the attitude is lower.

The study by Medyawati, Christiyanti and Yunanto (2011) revealed that there is a significant relationship between perceived ease of use and attitude of the user to use a new system. This suggests that the ease of use perceived by the consumers in using the system will affect the customers' consideration to use the system. On top of that, Tsai's (2012) study revealed that the effect of perceived ease of use on the attitude is more apparent than other factors. If the users believe that the e-grocery system is easy to use, their attitude towards using e-grocery is also higher.

Suki and Suki (2011) stated that the linkage between perceived ease of use and attitude in the TAM theory is verified in various literature. Different studies have employed different usage measures and found consistent results as TAM, that perceived ease of use have a close correlation to the attitude (Davis, 1989; Medyawati et al., 2011; Suki & Suki, 2011; Tsai, 2012).

Wang and Chou (2014) also stated that the realisation of the minimal effort required for the new technology in enhancing the user's performance or efficiency positively influence the user's attitude towards the technology. This is because users are usually concerned with the effort required to utilise the technology and solving these concerns can enable them to have a favourable perception. Some studies also have validation this relationship (Wang & Chou, 2014; Çelik & Yılmaz, 2011).

The study by Alharbi and Drew (2014) also supported the correlation between the perceived ease of use and attitude towards using a new system. In the study, when the users perceived the new system as easy to use, the users developed a positive attitude towards using it. Medyawati et al. (2011) found that due to the ease felt by the consumers in using the system, the consumers intend to use the system which is expected to promote a lot of benefits. In the case of online stores, the ease of registration and ease of payment will contribute to the consumers' attitude to use it.

In this study, perceived ease of use is defined the consumers' perception that the usage of the e-grocery system is very easy to be used. Therefore, the following is proposed:

H1 (b): There is a positive relationship between Perceived Ease of Use and Attitude Towards Using E-Grocery.

2.3.3 Perceived Ease of Use and Perceived Usefulness

In addition to the model of TAM, Davis (1993) suggested that perceive ease of use affects the perceive usefulness of the technology. This relationship is not vice versa because the technology that is easy-to-use are more useful than technology that is hard-to-use. Novita (as cited in Sulistiyaningsih et al., 2014) also stated that the easier the technology, the higher the usefulness of it. This means that when consumers perceived that the new technology could provide benefits to them, the higher the usefulness. This positive relationship will then lead to usage of the new technology.

Medyawati et al. (2011) explained that the ease of the processes of using the new system is expected to provide many benefits for the customers. Their study further explained that customers will view the benefits of the technology based on how easy it is to use the technology. These benefits may include effectiveness and efficiency in terms of time, effort, cost and other perceived benefits by the customers.

In other literature, it was found that perceived ease of use significantly influence perceived usefulness and shown that perceived ease of use explains perceived usefulness (Çelik & Yılmaz, 2011). The study by Çelik and Yılmaz

(2011) on e-shopping in Turkey verified that perceived ease of use has a positive effect on perceived benefit. This is due to the information quality, service quality and system quality of the e-shopping. Since there are many external variables contributing to the ease of use, the consumers believed that using the e-shopping brings a lot of advantages as well. In this study on e-grocery, the ease of placing an order, making transactions and revising orders are expected to help the customers save travelling time and cost.

This relationship has been confirmed in various studies (Davis, 1989; Kurnia & Chien, 2003; Medyawati et al., 2011; Mohd et al., 2011; Çelik & Yılmaz, 2011). Therefore, the following is hypothesised:

H1 (c): There is a positive relationship between Perceived Ease of Use and Perceived Usefulness.

2.3.4 Perceived Usefulness and Behavioural Intention to Use E-Grocery

Behavioural intention toward a new technology is widely supported by the TAM (Davis, 1989). Davis (1989) also mentioned that the perceived usefulness plays an important role to change the customers' behaviours. TAM proposed that there is a direct relationship between the perceived usefulness and the behavioural intention to use the system.

Kurnia and Chien (2003) also stated that perceived usefulness may generate the behavioural intention to use a technology and supported the relationship. The behavioural intention will then lead to the actual usage of the system (Davis, 1989). However, in Kurnia and Chien's (2003) study on TAM, perceived usefulness has a smaller impact on behavioural intention as compared to attitude towards using the technology. Malhotra and Galletta's

(1999) study found that perceived usefulness is also weaker than perceived ease of use in influencing the behavioural intention. Even though the influence is not as strong perceived ease of use, perceived usefulness also plays an important role in affecting the behavioural intention to use the system (Malhotra & Galletta, 1999).

On the other hand, the study by Suki and Suki (2011) found perceived usefulness as the key factor to influence the users' behavioural intention to use the new technology. Khorasani and Zeyun's findings (2014) found that perceived usefulness has the strongest impact on the intention to use a new system. Further studies by Bandura (as cited in Raman, 2011) proved the importance of perceived usefulness in predicting a person's behaviour. The research by Mohd et al. (2011) on the acceptance of pervasive computing environment also found that perceived usefulness affects the behavioural intention of the users.

On top of that Alharbi and Drew (2014) proved that the relationship between perceived usefulness and behavioural intention has a strong correlation. Their study also found that perceived usefulness positively affect the attitude towards using the new system. This subsequently affected the consumer's behavioural intention to use the new system.

This relationship in examined in the context of e-grocery using the following hypothesis:

H1 (d): There is a positive relationship between Perceived Usefulness and Behavioural Intention to Use E-Grocery.

2.3.5 Attitude Towards Using E-Grocery and Behavioural Intention to Use E-Grocery

The TAM is a theory mainly used to explore the relationship between attitude and behavioural intention towards using a new technology (Tsai, 2012). According to the definition of TRA, an individual's attitudes towards a certain behavioural intention are affected by the individual's evaluation of the consequences of the behaviour (Lezin, 2016). According to TAM, attitude the positive or negative feelings when a person uses a new technology (Tsai, 2012). Behaviour intention, on the other hand, is defined as a person's willingness to use new technology.

Hence, attitude is defined as an individual's evaluation of executing a certain behaviour. In the theory of TAM, when individuals develop a positive attitude towards e-grocery, their intentions towards adopting the system will be stronger (Davis, 1989). Thus, the individuals are more likely to use the system. Applying the theory to that of e-grocery, if the consumer's attitude towards accepting e-grocery is higher, the consumer will use e-grocery more frequently.

When consumers sense positive evaluation, they may believe that using e-grocery is a good experience and increase their willingness to use them. Furthermore, if friends or relatives promote the technology as a convenient and useful tool and recommend it, the consumers' attitude towards using it will also be affected (Tsai, 2012).

Consistent with literature of attitude and behavioural, consumers' attitudes will influence the intention to use the new technology and then either make or not make a transaction (Osman et al., 2010). Kim and Park suggested that if the users who are feeling favourable towards a technology is more willing to

gather information about it and therefore, confirming that the attitude positively affects the behavioural intention of the users (as cited in Wang & Chao, 2014). In other words, if a user has a positive attitude towards the new system, he or she will have a stronger behavioural intention to use it.

Many previous and recent researches that adopt TAM have supported this relationship (Kurnia & Chien, 2003; Lexi, 2016; Suki & Suki, 2011; Tsai, 2012;). Therefore, the following is proposed for this study:

H1 (e): There is a positive relationship between Attitude Towards Using E-Grocery and Behavioural Intention to Use E-Grocery.

2.3.6 Behavioural Intention to Use E-Grocery and Actual Usage of E-Grocery

According to Raman (2011), an individual's actual use of a technology system is influenced by the individual's intention. Davis (1989) defined behavioural intention as the measure of strength of an individual's intention to perform a certain behaviour. System acceptance is defined as the potential user's inclination towards using a particular system (Davis, 1989). The system acceptance then leads to the actual usage. TAM is a great model in predicting the behavioural intention to use an information system before the actual implementation of it (Alharbi & Drew, 2014).

According to Çelik and Yılmaz (2011), various studies on web technology proved that consumers' intentions to engage in the system are significant forecasters of the actual usage of the system. Behavioural intention defines the actual use of an information system and hence, defines the technology acceptance (Davis, 1989). The individual's attitude will affect the behavioural

intention of the individual which in turn affects the actual usage of the system (Çelik & Yılmaz, 2011).

In the context of e-grocery, if the consumers have positive attitudes towards e-grocery, they will have stronger behavioural intentions. The strong behavioural intentions will, in turn, encourage the actual usage of the e-grocery.

The study by Malhotra and Galletta (1999) which implemented TAM also found significant relationship between behavioural intention and actual usage of the technology system. Park (2009) also concluded that behavioural intention affects the actual use of a new technology through the study on students' behavioural intention to use e-learning using TAM. On top of that, Çelik and Yılmaz (2011) also supported the relationship between behavioural intention and the actual usage of e-shopping. Furthermore, a study by Shih and Huang (2009) on the actual usage of enterprise resource planning (ERP) systems supported the hypothesis which states that behavioural intention positively and directly affected the actual usage of the systems.

TAM is used and endorsed by the past and also new studies. Through TAM, the relationship between behavioural intention and actual usage of a technology system has been tested and validated in various studies. Therefore, the following hypothesis is formed and tested against the use of the e-grocery system:

H1 (f): There is a positive relationship between Behavioural Intention to Use E-Grocery and Actual Usage of E-Grocery.

2.3.7 Perceived Risk and Attitude Towards Using E-Grocery

According to Cho (2015), one of the most frequently cited reasons consumers refuse to make online purchases is the perceived risk and lack of trust. Perceived risk is the uncertainty about the possible negative effects of using a particular service (Featherman & Pavlou, 2002). Bauer (as cited in Featherman & Pavlou, 2002) defined perceived risk as the “combination of uncertainty plus seriousness of outcome involved.” In the context of e-grocery, perceived risk is the possible consequences and disadvantages of using the e-grocery system.

Risk is one of the biggest concerns for the e-grocer. According to Hoofman et al. (as cited in (Featherman & Pavlou, 2002), this is because risk is one of the biggest reasons that cause consumers to refrain from making online purchases. Compared to traditional shopping method, online shoppers are worried about the security of the transaction system with regards to the credit card and personal information given to make the online purchase. Thus, perceived risk is identified as a clear barrier to the consumers’ acceptance of the system.

The concern about the chances of losing money through low-security transactions and losing time spent on understanding the system hinder the consumers from using e-grocery system. In an online store, a physical salesperson is replaced by a website with various features, hence removing the traditional consumer trust in the shopping experience (Cho, 2015). When the consumers shop for groceries online, they cannot physically examine the quality of the product and the safety and security of the financial transaction.

If the consumers’ have high-perceived risk towards the online shop, it means that they have low trust in the system. Çelik and Yılmaz (2011) stated that the increase in the level of trust or the decrease in the level of perceived risk directly affects the attitude towards online shopping. Their study on adoption

of e-shopping in Turkey found that the perceived trust positively affects the attitude towards e-shopping. In other words, the perceived risk negatively influences the attitude towards e-shopping.

This relationship has been confirmed in various studies (Cho, 2015; Featherman & Pavlou, 2002; Tan & Teo, 2000; Vijayasarathy & Jones, 2000). Therefore, the following is hypothesised:

H2: There is a negative relationship between Perceived Risk and Attitude Towards Using E-Grocery.

2.3.8 Social Influence and Attitude Towards Using E-Grocery

According to Athuyaman (as cited in Limayen et al., n.d.), social norms is one's perception of social pressure to perform or not to perform a behaviour. Mohd et al. (2011) defined social norms as the individual's beliefs that important individuals or groups approve or disprove the individual's behaviour. In the context on online shopping, social norm refers to the perception of social influence to make online purchases.

Ajzen (as cited in Kurnia & Chien, 2003) stated that subjective norm is affected by normative beliefs and motivation to perform a certain action. Therefore, a person may choose a consumer may choose a certain behaviour even though it might not be favourable towards the behaviour and the results. The TAM proposed by Davis (1989) also proposed the relationship of subjective norm on the behavioural intention of the consumers.

The study by Kurnia and Chien (2003) tested the construct with the believes of the consumers' superiors, colleagues or relatives on the usefulness of the e-

grocery system. Depending on the parties believes, the consumers might establish an intention to use it. Wang and Chou (2014) also explained that social influences are related to external pressure by family, friends, supervisors or any important people in the consumer's life. However, since the e-grocery system is still new in Malaysia, it is hypothesised that social influence the attitude towards e-grocery instead of the intention to use it.

Park (2009) stressed on the importance of determining how social influences affect the consumer's commitment towards the technology. This relationship can help understand, predict and explain the acceptance behaviour and actual usage of the system. Marcinkiewicz and Regstad (as cited in Raman, 2011) found that social influence is the most predictive construct when it comes to technology usage.

Some of the researchers found that social influence plays a role in affecting the attitude towards using a new technology system (Chen, Chen & Chen, 2009; Limayen et al., n.d.; Mohd et al., 2011; Wang & Chou, 2014). On top of that, Mohd et al. (2011) found that social influence has the highest correlation values towards the attitude towards using the system.

In this study, subjective norm is assessed in a construct named social influence and hence, the following hypotheses was constructed.

H3: There is a positive relationship between Social Influence and Attitude Towards Using E-Grocery.

2.4 Conclusion

The relationship between the dependent variable with each of the independent variable is clearly defined in hypotheses form. In the next chapter, the hypotheses will be tested with quantitative research method.

Chapter 3: Research Method

3.0 Introduction

This chapter will explain and lay out the quantitative method used in this study. This study aims to understand the factors which influence the consumers' acceptance towards e-grocery. This chapter is split into 8 sections where section 3.1 justifies research design approach, section 3.2 explains the data collection method, section 3.3 describes the sampling design, section 3.4 suggests the research instrument, section 3.5 shares the result of the pilot test, section 3.6 attempts to address the data scale measurements, section 3.7 highlights the data analysis techniques and section 3.8 concludes this chapter.

3.1 Quantitative Approach

Before establishing a model, a research design first needs to be produced. The function of the research objectives is known as research design. Burns and Bush (2006) defined research design as a set of advanced decisions which creates the master plan. The master plan then specifies the approaches and ways to gather and analyse data. Hair, Bush and Ortinau (2006) also explained that the research design helps plan the approaches and ways required for the data collection and analysis by the researcher. The data type, design technique, sampling methodology, sampling procedures, schedule and budget must be considered for the planning (Hair et al., 2006). In a nutshell, the research design helps align the planned methodology to the research problems (Churchill & Iacobucci, 2000).

This study uses the quantitative approach to measure the variables that would affect the consumers' actual use of e-grocery. A quantitative approach is the best choice to

identify the factors affecting the use of e-grocery (Creswell, 2003). According to Creswell (2003), a quantitative approach uses post-positivist claims to develop knowledge, deploy inquiry strategies and collect data on a specific instrument for data analysis. The study specifies hypotheses and collects data to support or disprove the hypotheses. The collected data and information are analysed using statistical procedures and hypothesis testing.

Hair et al., (2006) stated that the main goal of quantitative research is to stipulate facts for the researcher to make predictions about the relationship between the independent and dependent variables, obtain meaningful understandings about the relationships and finally, to validate the relationships.

Quantitative strategies involve many variables and measure designs (Creswell, 2003). Hair et al. (2006) explained that quantitative research emphasises heavily on using formalised standard questions and pre-set response options in surveys. The strategy of inquiry selected for this study is survey. Surveys commonly use structured interviews or questionnaires to collect data. It is used to administer large numbers of respondents (Hair et al., 2006). The intent is to generalise a sample to a population (Creswell, 2003).

3.2 Data Collection

Hox and Boeije (2005) defined primary data as data collected for a specific set of research problems and using procedures that best fit the problems. One of the established primary data collection methods is survey (Hox & Boeije, 2005). For this study, a survey was used as the method of primary data collection. Hox and Boeije (2005) also explained that by nature, a large number of questions are asked and the responses are designed in a predefined standardised answer category. Surveys allow the researchers to create information to answer the who, what, where, when and how questions concerning the independent and dependent variables (Hair et al., 2006).

An online survey was conducted to explore the consumers' acceptance of e-grocery. An online questionnaire was developed using Google Forms to collect the data required for the study. The online questionnaire was distributed via electronic mail to potential respondents. On top of that, the researcher stationed at Tesco, Kepong for three days to collect data from targeted respondents – grocery shoppers at Tesco. Portable smart devices were prepared for respondents to complete the survey on the spot. Due to time and resources constraints for this study, the researcher was unable to cover other Tesco branches in Malaysia.

Online surveys were used because it is less expensive, reduce human-error, and can reach the respondents in less time as compared to paper-and-pencil survey (Roztocki, 2001). Another major advantage is their ability to cover large sample sizes which can increase the geographical flexibility of the research (Hair et al., 2006).

The questionnaire was divided into four sections. The first section covers the demographic variables – gender, age, marital status, level of education and employment status. The second section contains the screening question to filter out the targeted respondents. The third section identifies the respondents who have used the e-grocery system. The fourth section covers the measure for the constructs used for this study. The responses ranged from one being strongly disagree to seven being strongly agree.

3.3 Sampling Design

3.3.1 Target Population

According to Hair et al. (2006), a population is the identifiable total set of elements – people, products, physical entities, organisations – of interest being

studied by the researcher. Sampling designs begin with defining the target population. A defined target population consists of the identified element to be studied for the research objectives (Hair et al., 2006).

Since the objective of this study is to explore and understand the consumers' acceptance towards e-grocery, the targeted respondents for this study are Tesco grocery shoppers in Malaysia. The respondents do not necessarily need to have experience in e-grocery. The sampling location is in Malaysia. The online questionnaire was distributed through electronic mail and the online surveys were also given to targeted respondents at Tesco, Kepong. The respondents at Tesco, Kepong were randomly selected and their participations are voluntary.

3.3.2 Sampling Elements

In most researches, the element is a particular product or group of individuals (Hair et al., 2006). Element is the product or individual from which information are excreted from. Elements can be viewed as the target population frame whereby samples will be drawn. Hair et al. (2006) explained that target population element may include a particular product, specific group of individual or a specific organisation. As described in section 3.3.1, the targeted population are individuals who have purchase groceries at Tesco in Malaysia. Since this study is to understand the consumers' acceptance towards e-grocery, the Tesco groceries shoppers who may or may not have used the Tesco e-grocery system are targeted.

3.3.3 Sampling Units

Narrowing down from sampling elements, sampling units are the target population elements that are available for selection during the sampling process (Hair et al., 2006). The sampling units may or may not be the same as the sampling elements. In this study, the sampling units and sampling elements are the same. The targeted population are grocery shoppers in Tesco in Malaysia. Even if the distributed online questionnaire did not meet the targeted sample size, the researcher can always collect data at the physical store since this group of individuals are always available during the sampling research.

3.3.4 Sampling Technique

There are two types of sampling techniques – probability and nonprobability (Hair et al., 2006). In probability sampling, the sampling units have a known, nonzero probability of being part of the sample. On the other hand, nonprobability sample, the probability is unknown. Nonprobability sampling is used for this study because it is less time consuming and cheaper as compared to probability sampling. According to Hair et al. (2006), there are four types of nonprobability sampling – convenience sampling, judgement sampling, quota sampling and snowball sampling.

The selected nonprobability sampling for this study is quota sampling. This is because quota sampling can generate a sample containing subgroups in a size desired by the researchers. The quota sampling involves selection the prospective respondents to pre-specified quotas such as demographic characteristics, specific attitudes or specific behaviours (Hair et al., 2006). Surveys use quotas that have been decided by the researcher based on the

research objectives. This research targets Tesco grocery shoppers and hence, the quota is that respondents must have experience in purchasing groceries at Tesco.

3.3.5 Sampling Size

The sample size for a research depends on many factors. Some of them include research budget, research deadlines, minimum level of precision, confidence level and sampling method (Stat Trek, 2016). The target sample size is 300, with regards to the time and resources constraints for this study. Once the data has been completed, the unusable ones will be discarded and the Cochran's formula will be used to calculate if the number of responses collected is sufficient for the study. The formula is as such:

$$n = [Z^2 * p * (1-p)] / e^2$$

Where

n = number to sample

$Z^2 = 1.96^2$ (Z value for 95% confidence with $\alpha=0.05$)

p = 0.5 (percentage picking a choice, expressed as decimal)

e = margin of error

Rumsey (2011) stated that confidence level determines the standard errors you add and deduct to acquire the desired confidence percentage. The higher the confidence level, the more standard errors need to be added and deducted, leading to a higher Z value. In this study, the confidence percentage selected is 95%. For 95% confidence, the Z value is 1.96.

0.5 is used for the percentage picking a choice, with assumption that 0.5 normal distribution is sufficient (Bartlett, II, Kortlik and Higgins, 2001). The margin of error expresses the amount of random samplings error in the responses collected. The larger the margin of error, the less accurate the results (Bartlett, II et.al, 2001). Kerjcie and Morgan (as cited in Bartlett, II et.al, 2001) stated that a 5% margin of error is typically acceptable in educational research. However, some other sources mentioned that for sample size ranging from 200 to 300, the acceptable margin of error is 6% to 7% (Hunter, 2016; Riley Research Associated; n.d.). Therefore, the acceptable margin of error for this study is 5% to 7%.

A total of 305 responses were collected. Out of the 305 responses collected, 281 were usable and 24 were not qualified. The 24 responses were not used as these respondents have not purchase groceries in Tesco. Reverting back to section 3.3.1, the target population is Tesco grocery shoppers. Hence, the 281 responses were used for this research study. The sample size for this study is justified with the marginal error of 5.8% ($e = 0.058$).

$$n = [Z^2 * p * (1-p)] / e^2$$
$$281 = [1.96^2 * 0.5 * (1-0.5)] / e^2$$
$$e^2 = 0.9604 / 281$$
$$e = 0.058$$

3.4 Research Instrument

According to Hair et al. (2006), a research instrument can be a microscope, ruler, scale, questionnaires or any other devices used to measure something specific. Hair et al. (2006) also mentioned that there are typically four survey methods – person-administered, self-administered, telephone-administered and automatic or computer-assisted survey techniques.

Self-administered survey is used for the primary data collection of this study. The respondents read the survey questions and input their own responses without the researcher's presence. The main advantage is the low cost and less bias as the interviewer is not there to probe for responses. The questionnaires are distributed through electronic mail. On top of that, the online surveys were also given to grocery shoppers at Tesco Kepong. The grocery shoppers are given portable smart devices and about five minutes to complete the questionnaires. The researcher provided personal space for the respondents during the survey to recreate a self-administered survey experience.

The questionnaire is available in English. The questionnaires are derived from previous studies and researches related to consumers' acceptance towards e-grocery and online shopping. The survey design, questionnaire format and outline are powered by Google Forms.

3.5 Pilot Test

Pilot test or study is a small study before the full blown one (Rumsey, 2011). It can help the study identify the weaknesses of the data collection design and the research instrument. Kurnia and Chien (2003) believed that pilot test can help improve the questionnaires validity and reliability.

The questions were designed and asked in the simplest way possible to prevent misinterpretations. On top of that, the pilot test was conducted in four different phase. In the first phase, five participants were involved. The participants were friends and family members who have purchased groceries at Tesco. Confusing terms were identified and then simplified for easier understanding. After improving the first version, the questionnaire was tested again with five different friends and family members who have purchased groceries at Tesco. Further improvements were made

to reduce ambiguous questions and improve the questionnaire's layout. The third phase involved another five different friends and family members. The participants did not face any problem when answering the questionnaire. During the fourth phase of pilot testing, 30 sets of questionnaire were distributed to friends and family. Similar to the third phase, there were no problems faced when answering the questionnaire. These 30 sets of data were then used for reliability testing to ensure that the items in the questionnaire all reliably measure their constructs.

The questionnaire items were developed based on various sources that have tested the validity and reliability of the questionnaires. Table 1 is the summary of the questionnaire items used for each construct of this study:

Table 1: The Questionnaire Items

Code	Item Description	Sources
Perceived Usefulness		
PU1	Using e-grocery can improve my efficiency in purchasing groceries.	Wang & Chou (2014)
PU2	Using e-grocery is/might be time-saving.	Kurnia & Chien (2003)
PU3	Using e-grocery can/might make my grocery shopping easier.	Davis (1989), Alharbi & Drew (2014)
PU4	Using e-grocery is/might be convenient for my grocery shopping.	Kurnia & Chien (2003)
Perceived Ease of Use		
PEOU1	E-grocery is/might be easy-to-use.	Davis (1989), Wang & Chou (2014), Park (2009), Malhotra & Galletta (1999)
PEOU2	It is/might easy to become skillful at using e-grocery.	Alharbi & Drew (2014), Park (2009)

PEOU3	My interaction with the processes of e-grocery is/might be clear and understandable.	Davis (1989), Wang & Chou (2014), Malhotra & Galletta (1999)
PEOU4	It is/might be easy for me to follow the procedures when ordering groceries online.	Kurnia & Chien (2003)
Perceived Risk		
PR1	I am concerned with the payment security aspects of e-grocery.	Kurnia & Chien (2003)
PR2	I am concerned with the privacy of my information provided when using e-grocery.	
PR3	I am concerned with the punctuality of the delivery time of e-grocery.	
PR4	I am concerned with the quality of the products delivered when ordering from e-grocery.	
Social Influence		
SI1	I will use e-grocery if the service is widely used by people in my community.	Kurnia & Chien (2003)
SI2	I will adopt e-grocery if my colleagues uses it.	Kurnia & Chien (2003)
SI3	I will adopt e-grocery if my friends/relatives use it.	Osman et al. (2010)
Attitude Towards Using E-Grocery		
ATT1	Using e-grocery is a good idea.	Alharbi & Drew (2014), Wang & Chou (2014), Park (2009)
ATT2	Using e-grocery is beneficial to me.	Wang & Chou (2014)
ATT3	I believe e-grocery will eventually be more popular than traditional grocery shopping.	Klopping & McKinney (2004), Osman et al. (2010)
Behavioural Intention to Use E-Grocery		

BI1	I intend to use e-grocery when the service becomes widely available.	Kurnia & Chien (2003)
BI2	Whenever possible, I intend to use e-grocery to purchase groceries.	Alharbi & Drew (2014)
BI3	I intend to use e-grocery when there is free home delivery.	Kurnia & Chien (2003)
BI4	I intend to use e-grocery when the price is competitive.	

Source: Developed for the research study.

3.6 Data Scale Measurement

Likert scale is an ordinal scale format in which the respondents need to indicate the extent to which they agree or disagree with the belief about a particular object (Hair et al., 2006). This scale was developed by Rensis Likert in 1932 to measure attitudes by asking respondents to respond to a series of statements about a topic (McLeod, 2008). The original scale consists of five scale descriptors: “strongly agree,” “agree,” “neither agree or disagree,” “disagree,” and “strongly disagree.” Likert scales have the advantage of not expecting a clear yes or no from the participants. Instead, the scales allow for a degree of opinion or no opinion at all (McLeod, 2008). On top of that, the quantitative data obtained can also be analysed easier. Therefore, the Likert scale is used for the questionnaire for this study.

During the pilot test, a five-point Likert scale was used. However, some of the respondents had difficulty choosing between agree and neutral. Thus, a seven-point Likert scale is used in the final version. Foddy concluded that a minimum of seven-point Likert scale can produce higher scale validity and reliability (as cited in Pearse, 2011).

In this study, the participants were required to indicate whether they agree or disagree for each item. A seven-point Likert scale – “Strongly Disagree,” “Disagree,” “Somewhat disagree,” “Neutral,” “Somewhat Agree,” “Agree” and “Strongly Agree” – was used to measure the items.

3.7 Data Analysis Techniques

The data collected from the questionnaire is analysed using Statistical Package for Social Sciences (SPSS). IBM SPSS Statistics 20 is used to perform the analysis on the data collected for this study.

3.7.1 Reliability Test

Reliability is concerned with the consistency of the findings related to multi-item scales (Hair et al., 2006). According to Burn and Bush (2006), reliability measures is used when a participant responded to a fixed or near-identical question. The reliability of each construct is measured with Cronbach’s alpha. Cronbach’s alpha is the most common measure for internal consistency and reliability (Laerd Statistics, n.d.).

For the purpose of understanding whether the items in the questionnaire all reliably measure their respective constructs (Laerd Statistics, n.d.), Cronbach’s alpha was run on the sample size of 30 participants for the pilot test. The desired alpha value for a construct is at or greater than 0.7 to be considered reliable (Pallant, 2001). In most cases, any value less than 0.6 indicate low internal consistency (Hair et al., 2006).

3.7.2 Pearson's Correlation

The Pearson's correlation coefficient measures the degree of linear association between two variables (Burns & Bush, 2006). It has a few assumptions – the two variables were measured using interval or ratio-scaled measures, the relationship to be measured is linear and the variables to be analysed come from a bivariate normally distribution population (Hair et al., 2006).

In this study, Person's correlation coefficient is used to measure the relationship between the consumers' acceptance towards e-grocery with the various construct stated in the previous sections. The significant of the relationship between two or more variables are crucial in interpreting the result of the variables.

According to Laerd Statistics (2013), Person's correlation coefficient is the measure of the strength of the linear association between two variables. The measure is denoted by "r." The value of r can range from +1 to -1. If the value is zero, there is no association between the two variables. If the value is positive, there is a positive association. This means that if the value of one variable increases, so will the other variables. If the value is negative, the association is, therefore, negative. As one variable's value increases, the other one decreases. Laerd Statistics (2013) also mentioned that the stronger the relationship between the two variables, the closer the value of r to +1 or -1.

The table below shows the correlation coefficient size:

Table 2: Rule of Thumb about the Strength of Correlation Coefficients

Range of Coefficient	Description of Strength
$\pm .81 - \pm 1.00$	Very Strong

± .61 - ± .80	Strong
± .41 - ± .60	Moderate
± .21 - ± .40	Weak
± .00 - ± .20	None

Note. Adapted from Hair, J. F., Bush, R. P., & Ortinau, D. J. (2006). *Marketing research: Within a changing information environment*. Boston, MA: McGraw-Hill/Irwin.

3.7.3 Multiple Regression Analysis

Higgins (2005) defined multiple regression as a statistical tool which examines how multiple independent variables are related to one dependent variable. Hair et al. (2006) stated that multiple regression is a great technique to measure. The relationship between the dependent variable and multiple independent ones can be analysed by estimating the coefficients for the equation for a straight line. By identifying how the multiple variables affect the dependent variable, more powerful and accurate predictions can be made in the future.

The general multiple regressions equation for this study can be written as follows (Faizal & Palil, 2015):

$$y = \beta_0 + \beta_1\chi^1 + \beta_2\chi^2 + \beta_3\chi^3 + \varepsilon$$

Where

y = Dependent variable

β = Regression coefficients

χ = Independent variable

ε = Error

Burns and Bush (2006) mentioned that with multiple regression, the conceptual model specifies several independent variables are to be used and it is required to identify which ones are significant. In other words, it helps identify the independent variables, which have greater impact on the dependent variable.

3.7.4 Linear Regression Analysis

According to Nau (2016), linear regression analysis is a widely used statistical technique. It is used to predict the value of a variable based on the value of another. Linear regression is similar to multiple regression except that it is used to measure the relationship between one independent variable and one dependent variable.

3.8 Conclusion

This chapter described the research methodology adopted for this study. Chapter three provided a linkage to this chapter. The following chapter will reveal the result and analysis from the data collected using the proposed methodology and analysed using the proposed test. The hypotheses are interpreted and discussed based on the results.

Chapter 4: Research Results

4.0 Introduction

This chapter presents the results and analysis of 281 responses gathered for this research study. The results are obtained using IBM SPSS Statistics version 20. This chapter highlights the reliability procedure, key descriptive statistics of the respondents' characteristics and assessment of hypotheses.

4.1 Reliability Test

Reliability test is conducted to check the accuracy, relevancy and reliability of the questionnaire and data collected. Cronbach's alpha test is conducted to ensure that the research study's instrument is consistent. Pallant (2001) stated that the construct is considered reliable if the alpha value is at or greater than 0.7. According to Hair et al. (2006), any value less than 0.6 indicates low internal inconsistency.

For the purpose of understanding whether the items in the questionnaire all reliably measure their respective constructs (Laerd Statistics, n.d.), Cronbach's alpha was first run on the sample size of 30 participants for the pilot test and the results are tabulated below:

Table 3: Theoretical Constructs and Their Cronbach's Alpha Coefficients

Construct	Cronbach's Alpha
Perceived Usefulness	0.889
Perceived Ease of Use	0.837
Perceived Risk	0.795

Social Influence	0.900
Attitude Towards Using E-Grocery	0.808
Behavioural Intention to Use E-Grocery	0.838

Source: Developed for the research study.

Based on the result in Table 3, all the constructs produce Cronbach's alpha values that are greater than 0.7. Hence, the constructs are considered reliable and no items were removed from the questionnaire.

After finalising the questionnaire, a total of 281 usable data were collected. The reliability test is then carried out again on the final data collected. The results are tabulated in the table below:

Table 4: Theoretical Constructs and Their Cronbach's Alpha Coefficients

Construct	Cronbach's Alpha
Perceived Usefulness	0.869
Perceived Ease of Use	0.896
Perceived Risk	0.822
Social Influence	0.893
Attitude Towards Using E-Grocery	0.802
Behavioural Intention to Use E-Grocery	0.826

Source: Developed for the research study.

From Table 4 above, the reliability test results show that the Cronbach's alpha values for the all the constructs are more than 0.7. The result reveals that "perceived ease of use" has the highest Cronbach's alpha value of 0.896, followed by "social influence" with 0.893, "perceived usefulness" with 0.869, "behavioural intention to use e-grocery" with 0.826, "perceived risk" with 0.822 and "attitude towards using e-grocery" with 0.802. According to Pallat (2001), all the items are considered reliable since the Cronbach's alpha value is higher than 0.7.

4.2 Descriptive Analysis

After collecting the data, the next step includes summarising them to get a better picture. This can be done using descriptive analysis which involves charts, graphs or numbers (Rumsey, 2011).

4.2.1 Demographic Profiles

A total of 305 questionnaires were collected, but only 281 sets are usable for this research study. The demographic profiles of the respondents are shown in the table below:

Table 5: Demographic Information of Respondents

Respondents (N=281)			
Variable	Category	Number	Percentage (%)
Gender	Male	141	50.2
	Female	140	49.8
Age	18-24 years old	91	32.4
	25-29 years old	60	21.4
	30-34 years old	42	14.9
	35-39 years old	22	7.8
	Age 40 or older	55	19.6
	Under 18 years old	11	3.9
Marital Status	Divorced	9	3.2
	Married	113	40.2
	Single	155	55.2

	Widowed	4	1.4
Education Level	Bachelor's Degree	103	36.7
	Master's Degree	23	8.2
	PhD	3	1.1
	Post Graduate Diploma	1	0.4
	Professional Degree	1	0.4
	PT3	1	0.4
	SPM	71	25.3
	Standard 3	1	0.4
	STPM/Pre-U/Diploma	77	27.4
Occupation	Associate/Executive	52	18.5
	Director	1	0.4
	Homemaker	17	6.0
	Intern	13	4.6
	Managerial/Professional	63	22.4
	Retired	8	2.8
	Self-Employed	41	14.6
	Student	77	27.4
	Unemployed	9	3.2
Experience Using E-Grocery	1-3 months	39	13.9
	3-5 months	12	4.3
	Have not used e-grocery	172	61.2
	Less than a month	49	17.4
	More than 5 months	9	3.2

Source: Developed for the research study.

The general characteristics of the respondents are analysed and the results are tabulated in Table 5. From a total of 281 respondents, 50.2% are male and 49.8% are female.

The results also showed that majority of the respondents are 18 to 24 years with 32.4%. Derived from the total of 281 respondents, 21.4% are 25 to 29 years old, 14.9% are 30 to 34 years old, 7.8% are 35 to 39 years old, 19.6% are 40 years old and above, and 3.9% are under 18 years old.

Out of 281 respondents, 55.2% are singles, followed by married (40.2%), divorced (3.2%) and widowed (1.4%).

Referring to Table 5, 36.7% of the respondents hold a Bachelor's degree, 27.4% hold either STPM, Pre-U or Diploma, 25.3% hold SPM certification, 8.2% hold Master's Degree, 1.1% hold Ph.D., 0.4% hold Post Graduate Diploma, 0.4% hold professional degree, 0.4% did not graduate from primary school (Standard 3) and 0.4% did not graduate from secondary school (PT3).

Furthermore, the results show that 27.4% of the respondents are students, followed by managers and professionals (22.4%), associates and executives (18.5%), self-employed (14.6%), homemakers (6.0%), interns (4.6%), unemployed (3.2%), retirees (2.8%) and directors (0.4%).

The results show that 61.2% have not used e-grocery, 17.4% have used e-grocery for less than a month, 13.9% have used it for one to three months, 4.3% have used it for three to five months and 3.2% have used it for more than five months.

4.2.2 Analysis on Screening Questions

Table shows the result of screening questions for this research study:

Table 6: Descriptive Analysis on Screening Question

Respondents (N=305)			
Variable	Category	Number	Percentage (%)
Purchased Grocery at Tesco	Yes	24	7.9
	No	281	92.1

Source: Developed for the research study.

Table 6 shows that 7.9% of the respondents have not made any grocery purchased at Tesco and 92.1% have. This target audience for this study is Tesco grocery shoppers. Hence, the data from 281 respondents were used and the remaining 24 were discarded.

4.3 Hypotheses Testing

In this study, H1 (a), H1 (b), H2 and H3 are tested using Multiple Regression Analysis while H1 (d) and H1 (e) are tested using Linear Regression Analysis. On the other hand, H1 (c) is tested using Point-Biserial Correlation and H1 (f) is tested using Pearson Correlation analysis.

4.3.1 Multiple Regression Analysis

H1 (a): There is a positive relationship between Perceived Usefulness and Attitude Towards Using E-Grocery.

H1 (b): There is a positive relationship between Perceived Ease of Use and Attitude Towards Using E-Grocery.

H2: There is a negative relationship between Perceived Risk and Attitude Towards Using E-Grocery.

H3: There is a positive relationship between Social Influence and Attitude Towards Using E-Grocery.

H1 (a), H1 (b), H2 and H3 were tested using Multiple Regression Analysis. For this analysis, the dependent variable was Attitude Towards Using E-Grocery and the independent variables were Perceived Usefulness, Perceived Ease of Use, Perceived Risk and Social Influence.

Table 7: Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.711 ^a	.506	.499	.74644

a. Predictors: (Constant), Social Influence, Perceived Risk, Perceived Ease of Use, Perceived Usefulness
Source: Developed for the research study.

The above table summarises the descriptive statistics and analysis results. R Square (R^2) is the coefficient of determination. It is the proportion of variance in the dependent variable that can be explained using the independent variables (Statistics Solutions, 2016). The R^2 value obtained is 0.506, which means that the independent variables – social influence, perceived risk, perceived ease of use, perceived usefulness – explains 50.6% of the dependent variable, attitude towards using e-grocery. The other 49.4% of the total variation in the dependent variable remains unexplained.

Standard Error of the Estimate is the standard deviation of the residuals. The result shows 0.74644 of Standard Error of the Estimate. When the R^2 increases, the Standard Error of the Estimate decreases. This is because a better fit model will have a lower estimation error.

Table 8: ANOVA

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	157.646	4	39.411	70.735	.000 ^b
	Residual	153.778	276	.557		
	Total	311.423	280			

a. Dependent Variable: Attitude Towards Using E-Grocery

b. Predictors: (Constant), Social Influence, Perceived Risk, Perceived Ease of Use, Perceived Usefulness

Source: Developed for the research study.

The F-ratio in the ANOVA table checks if the overall regression model is a good fit for the data. The multiple regression model with the four predictors produced $F(4, 276) = 70.735, p < 0.05$.

The F-statistics determines the statistical significance of the regression model and a large value of F-statistics means that the regression model has more variance explained than error variance (Hair et al., 2006).

P values are used to describe statistical significance and the general acceptable value to be considered statistically significant is $p < 0.05$. Else, the hypothesis is rejected (Statistics Solutions, 2016). Based on the table above, the P value 0.000, which is significant ($p < 0.05$). This shows that the independent variables statistically significantly predict the dependent variable (Statistics Solutions, 2016). In other words, the regression model is a good fit of the data.

Table 9: Coefficients

Coefficients ^a						
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
	(Constant)	.272	.344		.792	.429
1	Perceived Usefulness	.347	.061	.331	5.728	.000
	Perceived Ease of Use	.275	.060	.250	4.578	.000
	Perceived Risk	.077	.045	.077	1.728	.085
	Social Influence	.246	.041	.284	6.052	.000

a. Dependent Variable: Attitude Towards Using E-Grocery

Source: Developed for the research study.

The general form of the equation to predict attitude towards using e-grocery (dependent variable) from perceived usefulness, perceived ease of use, perceived risk and social influence (independent variables), is:

$$\text{predicted Attitude Towards Using E-Grocery} = 0.272 + 0.347 \text{ Perceived Usefulness} + 0.275 \text{ Perceived Ease of Use} + 0.077 \text{ Perceived Risk} + 0.246 \text{ Social Influence}$$

From the equation above, the intercept of the equation is 0.272, which means that the dependent variable = 0.272 when the independent variables = 0. The dependent variable is expected to:

- i. Increased by 0.347 units if one unit is increased in Perceived Usefulness;
- ii. Increased by 0.275 units if one unit is increased in Perceived Ease of Use;
- iii. Increased by 0.077 units if one unit is increased in Perceived Risk; and

-
- iv. Increased by 0.246 units if one unit is increased in Social Influence.

The “Beta” column helped identified the variable which contributed the most to the outcome of the analysis. The result shows that perceived usefulness has the highest contribution in explaining the dependent variable, followed by social influence, perceived ease of use and perceived risk.

T-statistics is used to examine the significance of each regression coefficient. If the regression coefficient is not statistically significant, the independent variable does not have a relationship with the dependent variable. If it is significant, the independent variable contributes to the prediction of the dependent variable.

Based on the Coefficients table, perceived usefulness, perceived ease of use and social influence are significant ($p < 0.05$) and have relationships with the dependent variable. On the other hand, perceived risk are not significant ($p = 0.085$) and do not have a relationship with the dependent variable.

Therefore, H1 (a), H1 (b) and H3 are accepted, while H2 is rejected in this study.

H1 (d): There is a positive relationship between Perceived Usefulness and Behavioural Intention to Use E-Grocery.

H1 (e): There is a positive relationship between Attitude Towards Using E-Grocery and Behavioural Intention to Use E-Grocery.

4.3.2 Linear Regression Analysis

H1 (d) and H1 (e) were tested using Linear Regression Analysis. For this analysis, the dependent variable was behavioural intention to use e-grocery and the independent variables were perceived usefulness and attitude towards using e-grocery.

Table 10: Model Summary (2)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.683 ^a	.466	.462	.68306

a. Predictors: (Constant), Attitude Towards Using E-Grocery, Perceived Usefulness

Source: Developed for the research study.

The R^2 value obtained is 0.466, which means that the independent variables – perceived usefulness, attitude towards using e-grocery – explain 46.6% of the dependent variable, behavioural intention to use e-grocery. The other 53.4% of the total variation in the dependent variable remains unexplained.

Standard Error of the Estimate is the standard deviation of the residuals. The result shows 0.68306 of Standard Error of the Estimate. When the R^2 increases, the Standard Error of the Estimate decreases. This is because a better fit model will have a lower estimation error.

Table 11: ANOVA (2)

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	113.243	2	56.621	121.356	.000 ^b

Residual	129.707	278	.467		
Total	242.950	280			

- a. Dependent Variable: Behavioural Intention to Use E-Grocery
b. Predictors: (Constant), Attitude Towards Using E-Grocery, Perceived Usefulness
Source: Developed for the research study.

The linear regression model with the two predictors produced $F(2, 278) = 121.356, p < 0.05$. Based on the table above, the P value 0.000, which is significant ($p < 0.05$). This shows that the independent variables statistically significantly predict the dependent variable.

Table 12: Coefficients (2)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	1.897	.235		8.065	.0
	Perceived Usefulness	.224	.052	.242	4.333	.0
	Attitude Towards Using E-Grocery	.447	.049	.506	9.049	.0

- a. Dependent Variable: Behavioural Intention to Use E-Grocery
Source: Developed for the research study.

The general form of the equation to predict behavioural intention to use e-grocery (dependent variable) from perceived usefulness and attitude towards using e-grocery (independent variables), is:

$$\text{predicted Behavioural Intention to Use E-Grocery} = 1.897 + 0.224 \text{ Perceived Usefulness} + 0.447 \text{ Attitude Towards Using E-Grocery}$$

From the equation above, the intercept of the equation is 1.897, which means that the dependent variable = 1.897 when the independent variables = 0. The dependent variable is expected to:

- i. Increased by 0.224 units if one unit is increased in Perceived Usefulness; and
- ii. Increased by 0.447 units if one unit is increased in Attitude Towards Using E-Grocery.

Referring to the “Beta” column, it shows that attitude towards using e-grocery has a higher contribution as compared to perceived usefulness. Based on the Coefficients table, attitude towards using e-grocery and perceived usefulness are significant ($p < 0.05$) and have relationships with the dependent variable.

Therefore, H1 (d) and H1 (e) are accepted.

4.3.3 Pearson’s Correlation

H1 (c): There is a positive relationship between Perceived Ease of Use and Perceived Usefulness.

H1 (c) was tested using Pearson’s Correlation. It measures two continuous variables, perceived ease of use and perceived usefulness.

Table 13: Correlations

Correlations			
		Perceived Usefulness	Perceived Ease of Use
Perceived Usefulness	Pearson Correlation	1	.618**
	Sig. (2-tailed)		.000
	N	281	281
Perceived Ease of Use	Pearson Correlation	.618**	1
	Sig. (2-tailed)	.000	
	N	281	281

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

Source: Developed for the research study.

The Pearson's Correlation measures the linear relationships' strength and direction between pairs of continuous variables (Kent State University, 2014). In other words, it evaluates the linearity of relationships of pairs of variables in a population. The strength is denoted by "r", which is between +1 and -1. A value of 0 shows that the two variables have no association.

Referring to the table above, the result demonstrated a strong positive relationship between perceived usefulness and perceived ease of use. The result shows $r = 0.618$ and $p = 0.000$.

The r value is positive and close to 1. This indicates positive associations and there is a strong relationship between perceived usefulness and perceived ease of use. Furthermore, the Sig. (2-tailed) value is 0.000 ($p < 0.05$). This means that there is a statistically significant correlation between the two variables. As the value of perceived usefulness increases, the value of perceived ease of use increases.

Therefore, H1 (c) is accepted.

4.3.4 Point-Biserial Correlation

H1 (f): There is a positive relationship between Behavioural Intention to Use E-Grocery and Actual Usage of E-Grocery.

Pearson's Correlation was also employed to test H1 (f). A point-biserial correlation is used to measure the strength and direction of the relationship that exists between one continuous variable and one dichotomous variable. This is a special case of Pearson's correlation and data were analysed using the same method.

Table 14: Correlations (2)

Correlations			
		Actual Usage of E-Grocery	Behavioural Intention to Use E-Grocery
Actual Usage of E-Grocery	Pearson Correlation	1	.205**
	Sig. (2-tailed)		.001
	N	281	281
Behavioural Intention to Use E-Grocery	Pearson Correlation	.205**	1
	Sig. (2-tailed)	.001	
	N	281	281

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

Source: Developed for the research study.

To measure the actual usage of e-grocery, the respondents were asked how long they have been using the e-grocery system. The collected responses were then recomputed into a two-point scale: 0 = never used and 1 = used. The analysis was performed with actual usage of e-grocery (dichotomous variable) and behavioural intention to use e-grocery (continuous variable). Point-

Biserial Correlation was calculated using Pearson's correlation, as shown in the table above.

Referring to the table above, the point-biserial correlation coefficient, r is 0.205 and $p = 0.001$ ($p < 0.05$). There is a weak positive correlation between the actual usage of e-grocery and behavioural intention to use e-grocery, which is statistically significant. As the behavioural intention to use e-grocery increases, the actual usage of e-grocery increases.

Therefore, H1 (f) is accepted.

4.4 Summary of Hypotheses Testing

Table 15: Summary of Results for Hypotheses Testing

Hypothesis	Supported ($p < 0.05$)	Not Supported ($p > 0.05$)
H1 (a): There is a positive relationship between Perceived Usefulness and Attitude Towards Using E-Grocery.	✓	
H1 (b): There is a positive relationship between Perceived Ease of Use and Attitude Towards Using E-Grocery.	✓	
H1 (c): There is a positive relationship between Perceived Ease of Use and Perceived Usefulness.	✓	
H1 (d): There is a positive relationship between Perceived Usefulness and Behavioural Intention to Use E-Grocery.	✓	
H1 (e): There is a positive relationship between Attitude Towards Using E-Grocery and Behavioural Intention to Use E-Grocery.	✓	
H1 (f): There is a positive relationship between Behavioural Intention to Use E-Grocery and Actual Usage of E-Grocery.	✓	
H2: There is a negative relationship between Perceived Risk and Attitude Towards Using E-Grocery.		✓
H3: There is a positive relationship between Social Influence and Attitude Towards Using E-Grocery.	✓	

Source: Developed for the research study.

4.5 Conclusion

This chapter presents the detailed interpretation of the quantitative analysis. These results will be carried forward to the next chapter for further analyse the relationships between the variables.

Chapter 5: Discussion and Conclusion

5.0 Introduction

In this chapter, the quantitative results will be discussed. The findings provide valuable insights, implications and also suggestions to better promote the usage of e-grocery in Malaysia.

5.1 Discussion of Major Findings

The purpose of this study is to examine the factors that leads to the actual usage of e-grocery in Malaysia. The variables studied include perceived usefulness, perceived ease of use, perceived risk, social influence, behavioural intention to use e-grocery, attitude towards using e-grocery and actual usage of e-grocery.

The findings of this study demonstrated the TAM's applicability in accessing the acceptance of e-grocery in Malaysia. Most of the constructs proposed and their relationships were found to be relevant.

5.1.1 H1 (a)

H1 (a): There is a positive relationship between Perceived Usefulness and Attitude Towards Using E-Grocery.

The study confirmed that there is a positive influence of perceived usefulness on the attitude towards using e-grocery as suggested by the TAM. This

relationship is also inline with the TAM and previous studies (Delafrouz et al., 2009; Kurnia & Chien, 2003; Malhotra & Galleta, 1999; Raman, 2011; Suki & Suki, 2011; Wang & Chou, 2014). This means that when the consumers believe that using the system can improve their grocery shopping experience, they will have the desirability to use it. Therefore, consumers need to be convinced that using the system has a lot of benefits to promote desirability. On the other hand, negative perceived usefulness leads to a lower attitude. In general, if the consumers do not find the new technology useful or beneficial to them, they will not have the desire to use the system. Hence, it is important for the system to convince the consumers of its benefits to contribute to the positive attitude to use the system.

5.1.2 H1 (b)

H1 (b): There is a positive relationship between Perceived Ease of Use and Attitude Towards Using E-Grocery.

The findings of the study revealed that the attitude towards using e-grocery is positively affected by the perceived ease of use. This shows that the consumers who precept that the system requires minimal effort to use will have a stronger desirability to use the system. Similar to perceived usefulness, a positive perceived ease of use creates a positive attitude to use the system. When the user believes that the system is easy to use or do not require much effort, he or she will have a higher attitude to use it. In contrast, if the system is complicated and indirect, the users may automatically lose their desirability to use the system. Hence, it is important to design the system effectively so that it is easy to understand. The users range from baby boomers to generation z and hence, the system needs to sophisticated enough to attract the attention

of the younger generation, but yet simple enough for the older generation to pick it up easily.

5.1.3 H1 (c)

H1 (c): There is a positive relationship between Perceived Ease of Use and Perceived Usefulness.

Perceived usefulness is positively influenced by perceived ease of use. This is inline with many past studies using TAM (Davis, 1989; Kurnia & Chien, 2003; Medyawati et al., 2011; Mohd et al., 2011; Çelik & Yılmaz, 2011). The findings suggest that when the system is easy to use, it will be perceived as useful. If a user undergoes a lot of effort to use or understand the new technology, the user will assume that the technology is not that useful. On the contrary, if the technology is perceived to be hard to use, the user will automatically assume it is not very useful. In the case of e-grocery, the system needs to be easy to understand for the user to pick up the skills easily. Once the users find it easy, the chances of concluding the system as useful will be higher. The perceived usefulness or benefits may include saving time, cost and effort. This will then indirectly affect the users' decision to use the system. The e-grocery system now exists on not only websites but also on mobile applications. As compared to websites, mobile applications have smaller viewing screens and less flexibility. Hence, it is important for the system to be designed in a manner that allows it to be perceived as easy to use to create perceived usefulness. In a nutshell, users are more likely to perceived the system as useful when the system is perceived to be easy to use.

5.1.4 H1 (d)

H1 (d): There is a positive relationship between Perceived Usefulness and Behavioural Intention to Use E-Grocery.

This relationship is widely supported by the TAM. This study revealed that there is a direct positive relationship between perceived usefulness and behavioural intention to use e-grocery. Besides directly affecting the behavioural intention, perceived usefulness also positively affects the attitude towards using the system, which subsequently affect the behavioural intention to use it. When a user perceived that the system will benefit them, it will promote the user's likelihood or subjective probability to use the system. In general terms, when the consumer believes that there are benefits in using the e-grocery system, there is a high likelihood that the consumer will use the system. However, if the consumer does not find any potential benefits in adopting the system, there is a high probability that the consumer will not have any behavioural intention to use it. Therefore, it is important to demonstrate the advantages in using the system to encourage users to use it. This significant relationship also tallies with some past researches (Davis, 1989; Kurnia and Chien 2003; Malhotra & Galletta, 1999; Suki & Suki, 2011).

5.1.5 H1 (e)

H1 (e): There is a positive relationship between Attitude Towards Using E-Grocery and Behavioural Intention to Use E-Grocery.

The study found that the behavioural intention to use e-grocery is positively influenced by the attitude towards using e-grocery. This relation is strongly emphasised in studies that adopt TAM (Kurnia & Chien, 2003; Lexi, 2016; Tsai, 2012). The theory of TAM explained that when a user develops a positive attitude towards a new technology, the intention to adopt the technology will be stronger. In other words, when the consumers desire to use e-grocery, there is a high likelihood that they will use the system. The consumers who perceived benefits and ease of using the system have a more positive attitude to give the system a try. The positive attitude will then create a stronger behavioural intention to use e-grocery. This shows the importance of creating a positive attitude to encourage the users to use the new system. The positive attitude can be created through the system's usefulness, clear and concise instructions and good experience.

5.1.6 H1 (f)

H1 (f): There is a positive relationship between Behavioural Intention to Use E-Grocery and Actual Usage of E-Grocery.

The findings found that the behavioural intention to use e-grocery positively affect the actual usage of e-grocery. This is expected as many studies on technology proved that consumers' intention to engage a new technology can significantly forecast the actual usage of it (Huang, 2009; Malhotra & Galletta, 1999; Park, 2009). According to the results, grocery shoppers who have the higher intention to use e-grocery will use the actual system. Regarding behavioural intention, respondents were questioned on their intention to use the system when the service is widely available, cheap and delivers for free. The result confirms that behavioural intention to use e-grocery is positive. In addition, perceived usefulness, perceived ease of use

and social influence positively influence attitude towards using e-grocery which in turn, affects behavioural intention and the actual usage of e-grocery.

5.1.7 H2

H2: There is a negative relationship between Perceived Risk and Attitude Towards Using E-Grocery.

The survey questioned the respondents on the security and privacy of the e-grocery system, punctuality of the delivery and quality of the goods delivered. Intriguingly, perceived risk do not negatively affect the attitude towards using e-grocery even though it has been found to be one of the obstacles to the acceptance of new technology in previous studies (Cho, 2015; Featherman & Pavlou, 2002; Tan & Teo, 2000). The hypothesis was rejected. One of the possible reason for this finding is that e-grocery is still quite new to grocery shoppers in Malaysia. As a result, the grocery shoppers do not have sufficient understanding of the risks involved when using e-grocery. On top of that, the consumers may have a strong brand trust on Tesco's physical store which led them to trust the e-grocery system. As the physical store provide satisfying services, the e-grocery is expected to perform the same. Not forgetting that some of the respondents have not use e-grocery and they might not be aware of the private information that needs to be provided when purchasing with e-grocery.

5.1.8 H3

H3: There is a positive relationship between Social Influence and Attitude Towards Using E-Grocery.

The findings of this study suggest that social influence plays an important role in determining the attitude towards using e-grocery. This shows that the consumers' desirability to use the system is affected by the people around them. This is because e-grocery is not widely adopted by the public and consumers can only build trust on the system if someone they know have a positive experience using it. Recommendations and even observations of friends and family using the system can trigger the consumer to have the desire to use it. Based on the findings, it is found that the respondents can be affected by the community, colleagues, friends and family's experience on the actual usage of e-grocery. Hence, the consideration of the social influence and how it affects the consumers' commitment to use e-grocery is important to predict the attitude towards using it. The attitude in return can help predict the behavioural intention which then predict the actual usage of the system.

5.2 Implications

The study provides important insights for grocers to succeed in e-grocery. The results found that perceived usefulness, perceived ease of use and social influence have a significant influence on their dependent variables which in term affect the actual usage of e-grocery. The strategies that can be implemented as discussed below.

5.2.1 Usefulness

Most consumers are unaware of the perks of using the e-grocery system. Grocers need to include the information in their marketing media and promote it to the existing grocery shoppers. The findings showed that users believe that by using e-grocery they can shop for groceries more efficiently, it is more convenient to shop online and it is more time-saving. Hence, grocers need to focus on these points to deliver the grocery shopping experience that the shoppers desired. The e-grocery system needs to be designed to ease the shopping experience. For example, the items available needs to be categorised accordingly and contains keywords that consumers will usually search with. The categorisation can be done based on the type of product and even brands for consumers to choose. Not only that, paying through e-grocery is more time-saving as there is no queue. The grocers need to promote the readily available benefits to the consumers as the study already proved that perceived usefulness affects the usage of the system.

5.2.2 Ease of Use

The design of the user interface and user experience are very important factors to attract the grocery shoppers to use e-grocery. The grocery shoppers range from 18 to over 40 years old. Hence, the system needs to be as user-friendly as possible to ensure that users of all ages can understand it easily. The grocers need to seek professional opinions on optimising the interface of the e-grocery system on both webs and also the mobile application. The experience on both platforms are very different and requires different attention.

Besides that, the e-grocery needs to replace a real shop assistance with a virtual one. The current e-grocery system by Tesco does not provide effective

guidance for the uses. The help available includes dull text guidance, link to their email and a phone number for their helpline. The helpline is available from 9.00am to 11.00pm and emails are replied during working hours. One of the most important selling points of the system is shopping anywhere and anytime as it is an online service. The lack of instant service is not helpful in promoting the ease of use. It is difficult to commit in 24 hours live servicing, although users are not expected to shop at the middle of the night. Therefore, the e-grocery system should have a virtual assistance guiding the users that are shopping. Rather than looking through the question and answer panel, users can chat with the virtual assistance which provides more “human” feedbacks. This is a warmer and friendly approach to help grocery shoppers of all ages. By using a virtual assistance, the e-grocery can appear efficient, but yet remain its “human touch,” which is one of the most important aspects in servicing.

5.2.3 Social Influence

The studies also found that users will incline towards using the actual e-grocery if their colleagues, community, friends and family uses it. Most grocers already have their loyalty cards which allow shoppers to collect points after each purchase. In the case of Tesco, it is known as Tesco Clubcard and points can be exchanged for vouchers and discounts in the future. Since social influence plays a role, grocers should encourage users to invite their friends and family to use e-grocery. Those who successfully convinced the friends and family to actual try out the system will be rewarded. This will be a win-win situation for both parties. The grocers will gain new users for their system, the recommender will be gain points and the new user gets to enjoy the system and also invite others to join to gain points.

5.3 Limitations of Study

There are several limitations in this research study. It should be studied to improved future research.

The residing area of the respondents was not captured in the survey and thus, the areas covered by this study is unknown. The result could be biased towards Klang Valley grocery shoppers as Tesco stores are mostly available in Klang Valley. The grocery shoppers from other parts of the country may behave differently. On top of that, some of the respondents may not be regular Tesco grocery shoppers. Therefore, it is not advisable to use the result to represent the overall Malaysian grocery shoppers.

Secondly, the demographic factors are not taken into consideration to study the consumers' acceptance towards e-grocery. The demographics information was collected during the survey – gender, education level, occupation, age, marital status. However, they were not utilised for this study. These factors may help obtain a better understanding of the conundrum of e-grocery usage.

Thirdly, the only hypermarket studied is Tesco. This research study only focused on grocers with existing e-grocery system. There are many other emerging and existing, although not so popular, grocers with an e-grocery system. Recently, e-grocery mobile applications which do not have any physical stores also rose into the e-grocery market. The study should have kept up with all the existing or potential e-grocery system instead of focusing on the big player in the market, Tesco.

5.4 Recommendations for Future Research

Further research could be performed on the survey data to study the differences in the perception of e-grocery by consumers based on demographic factors such as genders, age ranges, income level and education. These factors may help obtain a better understand of the conundrum on the usage of e-grocery.

This research is only conducted for Tesco grocer shoppers and majority of Tesco malls are located in Klang Valley. Thus, future research should expand and cover a larger geographical area. This is because consumers from different places have different behaviour and perceptions on e-grocery. Furthermore, the sample size could also be increased to obtain more reliable results.

Future researches should include more grocers and businesses implementing e-grocery. It can provide an overall better understanding of the usage of e-grocery in Malaysia. Moreover, future researchers can also collaborate with grocers to carry out the study. Researchers could obtain useful information of the grocery shoppers from the grocer's database and identify more specific respondents who could provide better input for the study.

This research study only included quantitative elements. It is recommended for future researches to include qualitative elements which could provide a better understanding of the consumers' opinions. The thorough data from qualitative methods can, in turn, provide a better understanding on the consumers' acceptance towards e-grocery.

5.5 Conclusion

This research study investigates the direct and indirect effects of perceived usefulness, perceived ease of use, perceived risk, social influence, attitude towards

using e-grocery and behavioural intention to use e-grocery on the actual usage of e-grocery. Based on the findings, perceived usefulness, perceived ease of use and social influence has a positive relationship with attitude towards using e-grocery. Moreover, perceived usefulness is affected positively by perceived ease of use. On the other hand, both perceived usefulness and attitude towards using e-grocery have a positive relationship with the behavioural intention to use e-grocery and the behavioural intention, in turn, affects the actual usage of e-grocery. Intriguingly, the negative relationship between perceived risk and attitude towards using e-grocery is not reflected in the study.

Overall, the results are consistent with past literature. Some of the major findings of the study are that perceived usefulness impacts the attitude towards using e-grocery the most as compared to the other variables. Besides that, it is also found that there is a strong relationship between perceived usefulness and perceived ease of use. For these reasons, e-grocers should focus on the usefulness and ease of use of the e-grocery system to attract more consumers and encourage the use of the system.

This research study, therefore, will enrich the literature on new technology or system adoption which employs the TAM.

REFERENCES

- Alharbi, S., & Drew, S. (2014). Using the Technology Acceptance Model in Understanding Academics' Behavioural Intention to Use Learning Management Systems. *International Journal of Advanced Computer Science and Applications*, 5(1), 143-156. doi:10.14569/ijacsa.2014.050120
- Bartlett, H. J. E., Kotlik, J. W., & Higgins, C. C. (2001). Organizational Research: Determining Appropriate Sample Size in Survey Research. *Information Technology, Learning, and Performance Journal*, 19(1), 43-50. Retrieved from <http://www.opalco.com/wp-content/uploads/2014/10/Reading-Sample-Size.pdf>
- Bellamy, R. K., Kellogg, W. A., Richards, J. T., & Swart, C. B. (n.d.). Exploring A New Paradigm for E-Groceries.
- Benn, Y., Webb, T. L., Chang, B. P., & Reidy, J. (2015). What information do consumers consider, and how do they look for it, when shopping for groceries online? *Appetite*, 89, 265-273. doi:10.1016/j.appet.2015.01.025
- Boundless. (2015). Boundless Marketing. Retrieved from <https://www.boundless.com/marketing/textbooks/boundless-marketing-textbook/consumer-marketing-4/influences-of-personality-on-the-consumer-decision-process-41/attitude-208-4118/>
- Burns, A. C., & Bush, R. F. (2006). *Marketing research* (5th ed.). Upper Saddle River, NJ: Prentice Hall.
- Çelik, H. E., & Yılmaz, V. (2011). EXTENDING THE TECHNOLOGY ACCEPTANCE MODEL FOR ADOPTION OF E-SHOPPING BY CONSUMERS IN TURKEY. *Journal of Electronic Commerce Research*, 12(2), 152-164.
- Chadwick, F. E. (2013, October 14). History of online retail. Retrieved from <http://www.open.edu/openlearn/money-management/management/business-studies/history-online-retail>

-
- Chen, S., Chen, H., & Chen, M. (2009). Determinants of satisfaction and continuance intention towards self-service technologies. *Industr Mngmnt & Data Systems*, 109(9), 1248-1263. doi:10.1108/02635570911002306
- Cho, Y. C. (2015). Exploring Factors That Affect Usefulness, Ease Of Use, Trust, And Purchase Intention In The Online Environment. *International Journal of Management & Information Systems*, 19(1), 21-36.
- Chua, A., Khatibi, A., & Ismail, H. B. (2006). *E-Commerce: A Study on Online Shopping in Malaysia*, 3(13), 231-242.
- Chuan-Chuan Lin, J., & Lu, H. (2000). Towards an understanding of the behavioural intention to use a web site. *International Journal of Information Management*, 20(3), 197-208. doi:10.1016/s0268-4012(00)00005-0
- Churchill, G. A., & Iacobucci, D. (2000). *Marketing Research: Methodological Foundations*. Mason, OH: Thomson.
- Conroy, P., Nanda, R., & Narula, A. (2013). Digital commerce in the supermarket aisle: Strategies for CPG brands. Retrieved from <http://dupress.com/articles/supermarket-digital-commerce-cpg-strategies/>
- Consumer Barometer by Google. (2016). The Online & Multiscreen World (MY). Retrieved February 21, 2016, from <https://www.consumerbarometer.com/en/insights/?countryCode=MY>
- Cosseboom, L. (2015, September 14). Jakarta's HappyFresh gets \$12M more in the bag to boost grocery delivery in Asia. Retrieved from <https://www.techinasia.com/happyfresh-asia-funding-news>
- Creswell, J. W. (2003). A Framework for Design. In *Research design: Qualitative, quantitative, and mixed method approaches* (pp. 1-26). Retrieved from http://isites.harvard.edu/fs/docs/icb.topic1334586.files/2003_Creswell_A%20Framework%20for%20Design.pdf
- Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13(3), 319-340. doi:10.2307/249008

-
- Davis, F. D. (1993). User acceptance of information technology: system characteristics, user perceptions and behavioral impacts. *International Journal of Man-Machine Studies*, 38(3), 475-487. doi:10.1006/imms.1993.1022
- Delafrooz, N., Paim, L. H., Haron, S. A., Sidin, S. M., & Khatibi, A. (2009). *Factors Affecting Students' Online Shopping Attitude and Purchase Intention*, 3(5), 200-209. Retrieved from http://psasir.upm.edu.my/5673/1/FEM_2009_3.pdf
- Dontigney, E. (2016). Types of Perceived Risk. Retrieved from <http://smallbusiness.chron.com/types-perceived-risk-71594.html>
- Econsultancy.com Ltd. (2014). State of Ecommerce in South-East Asia. Retrieved from http://hybris.com/medias/sys_master/8805671829534/econsultancy-state-of-ecommerce-in-south-east-asia.pdf
- Faizal, S. M., & Palil, M. R. (2015). STUDY ON FAIRNESS AND INDIVIDUAL TAX COMPLIANCE IN MALAYSIA: PRELIMINARY FINDINGS. *International Journal of Business, Economics and Law*, 8(1), 74-79. Retrieved from <http://ijbel.com/wp-content/uploads/2016/01/Acc-35.pdf>
- Featherman, M. S., & Pavlou, P. A. (2002). Predicting e-services adoption: a perceived risk facets perspective. *Human-Computer Interaction Studies in MIS*, 1034-1046. Retrieved from http://melody.syr.edu/hci/amcis02_minitrack/CR/Featherman.pdf
- Galante, N., Lopez, E. G., & Monroe, S. (2013). The future of online grocery in Europe. Retrieved from <http://www.mckinsey.com/~media/mckinsey/industries/retail/our%20insights/how%20to%20win%20in%20online%20grocery%20advice%20from%20a%20pioneer/the%20future%20of%20online%20grocery%20in%20europe.ashx>
- Ghazali, E., Mutum, D., & Mahbob, N. A. (2006). Exploratory study of buying fish online: are Malaysians ready to adopt online grocery shopping? *International Journal of Electronic Marketing and Retailing*, 1(1), 67. doi:10.1504/ijemr.2006.010096
- Gronhaug, K., & Stone, R. N. (1995). WHY PERCEIVED RISK FAILED TO ACHIEVE MIDDLE RANGE THEORY STATUS: A RETROSPECTIVE RESEARCH NOTE. *European Advances in Consumer Research*, 2, 412-417. Retrieved from <http://acrwebsite.org/volumes/11142/volumes/e02/E-02>

-
- Hair, J. F., Bush, R. P., & Ortinau, D. J. (2006). *Marketing research: Within a changing information environment*. Boston, MA: McGraw-Hill/Irwin.
- Henry, V. (2015, February 10). The rise and rise of online grocery shopping. Retrieved from <https://www.igd.com/Research/Shopper-Insight/Channels-and-In-store/25717/The-rise-and-rise-of-online-grocery-shopping/>
- Higgins, J. (2005). The Radical Statistician.
- Hox, J. J., & Boeije, H. R. (2005). Data collection, primary versus secondary. In *Encyclopedia of social measurement* (Vol. 1, pp. 593 - 599). Retrieved from <http://dspace.library.uu.nl/handle/1874/23634>
- Hui, T., & Wan, D. (2009). Who are the online grocers? *The Service Industries Journal*, 29(11), 1479-1489. doi:10.1080/02642060902793334
- Hunter, P. (2016). Margin of Error and Confidence Levels Made Simple. Retrieved from <http://www.isixsigma.com/tools-templates/sampling-data/margin-error-and-confidence-levels-made-simple/>
- IGI Global. (2016). What is Technology Acceptance Model (TAM). Retrieved from <http://www.igi-global.com/dictionary/technology-acceptance-model-tam/29485>
- Kent State University. (2014). Pearson Correlation. Retrieved from <http://libguides.library.kent.edu/SPSS/PearsonCorr>
- Khorasani, G., & Zeyun, L. (2014). Implementation of Technology Acceptance Model (TAM) in Business Research on Web Based Learning System. *International Journal of Innovative Technology and Exploring Engineering*, 3(11), 112-116.
- Klopping, I. M., & McKinney, E. (2004). *Extending the technology acceptance model and task-technology fit model to consumer e-commerce*, 22(1), 35-49.
- Knight, F. H. (1921). *Risk, uncertainty and profit* (1st ed.). Boston: Houghton Mifflin Company.
- Kurnia, S., & Chien, A. J. (2003). *The Acceptance of Online Grocery Shopping*, 219-233.

-
- Laerd Statistics. (2013). Pearson Product-Moment Correlation - When you should run this test, the range of values the coefficient can take and how to measure strength of association. Retrieved from <https://statistics.laerd.com/statistical-guides/pearson-correlation-coefficient-statistical-guide.php>
- Laerd Statistics. (n.d.). Cronbach's Alpha Using SPSS Statistics. Retrieved January 18, 2016, from <https://statistics.laerd.com/spss-tutorials/cronbachs-alpha-using-spss-statistics.php>
- Lai, E., & Wang, Z. (2012). An empirical research on factors affecting customer purchasing behavior tendency during online shopping. *Institute of Electrical and Electronics Engineers*, 583-586.
- Lennon, S. J., Ha, Y., Johnson, K. K., Jasper, C. R., Damhorst, M. L., & Lyons, N. (2008). Rural Consumers' Online Shopping for Food and Fiber Products as a Form of Outshopping. *Clothing and Textiles Research Journal*, 27(1), 3-30. doi:10.1177/0887302x07313625
- Lezin, N. (2016). Theories & Approaches: Theory of Reasoned Action (TRA). Retrieved from <http://recapp.etr.org/recapp/index.cfm?fuseaction=pages.TheoriesDetail&PageID=517>
- Limayem, M., Cheung, C. M., & Chan, G. W. (n.d.). A Meta-Analysis of Online Consumer Behavior Empirical Research.
- Lim, Y. J., Osman, A., Romle, A. R., & Haji-Othman, Y. (2015). Attitude towards Online Shopping Activities in Malaysia Public University. *Mediterranean Journal of Social Sciences*, 6(2), 456-462. doi:10.5901/mjss.2015.v6n2s1p456
- Malhotra, Y., & Galletta, D. F. (1999). *Extending the Technology Acceptance Model to Account for Social Influence: Theoretical Bases and Empirical Validation*, 1-13.
- Malhotra, Y., & Galletta, D. F. (1999). Extending the Technology Acceptance Model to Account for Social Influence: Theoretical Bases and Empirical Validation.
- Mastercard. (2008). *Online shopping in Asia-Pacific – patterns, trends and future growth*. Retrieved from http://www.mastercard.com/us/company/en/insights/pdfs/2008/Asia_Pacific_Online_Shop.pdf

-
- MBASKOOL.COM. (2008). Technology Acceptance Model (TAM) Definition | IT & Systems Dictionary. Retrieved from <http://www.mbaskool.com/business-concepts/it-and-systems/7560-technology-acceptance-model-tam.html>
- McLeod, S. (2008). Likert Scale. Retrieved from <http://www.simplypsychology.org/likert-scale.html>
- Medyawati, H., Christiyanti, M., & Yunanto, M. (2011). The Influence of Computer Self Efficacy, Computer Experience and Interface Design to Acceptance of Electronic Banking: Empirical Study of Bank Customers in Bekasi City. *IJEEEE*, 14, 91-95. doi:10.7763/ijeeee.2011.v1.50
- Miniwatts Marketing Group. (2016). Internet Growth Statistics - the Global Village Online. Retrieved February 21, 2016, from <http://www.internetworldstats.com/emarketing.htm>
- Mohd, F., Ahmad, F., Samsudin, N., & Sudin, S. (2011). Extending the Technology Acceptance Model to Account for Social Influence, Trust and Integration for Pervasive Computing Environment: A Case Study in University Industry. *American Journal of Economics and Business Administration*, 3(3), 552-559. doi:10.3844/ajebasp.2011.552.559
- Nair, N. (2014, November 5). Clicking for consumables. Retrieved from <http://www.thestar.com.my/News/Community/2014/11/05/Clicking-for-consumables-Online-grocery-shopping-starts-to-make-waves-in-Malaysia/>
- Nau, R. (2016). Introduction to linear regression analysis. Retrieved from <http://people.duke.edu/~rnau/regintro.htm>
- Osman, S., Yin-Fah, B. C., & Choo, B. H. (2010). Undergraduates and Online Purchasing Behavior. *Asian Social Science*, 6(10), 133-146. doi:10.5539/ass.v6n10p133
- Pallant, J. (2001). *SPSS survival manual: A step-by-step guide to data analysis using SPSS for Windows (Version 10)*. Crows Nest, N.S.W: Allen & Unwin.
- Park, S. Y. (2009). An Analysis of the Technology Acceptance Model in Understanding University Students' Behavioral Intention to Use e-Learning. *An Analysis of the Technology Acceptance Model in Understanding University Students' Behavioral Intention to Use e-Learning. Educational Technology & Society*, 12(3), 150-162.

-
- Pearse, N. (2011). Deciding on the Scale Granularity of Response Categories of Likert type Scales: The Case of a 21-Point Scale. *Electronic Journal of Business Research Methods*, 9(2), 159-171. Retrieved from <http://www.ejbrm.com/issue/download.html?idArticle=265>
- Raman, A. (2011). The usage of technology among education students in University Utara Malaysia: An application of extended Technology Acceptance Model. *International Journal of Education and Development using Information and Communication Technology*, 7(3), 4-17. doi:10.5296/jse.v1i1.990
- Riley Research Associates. (n.d.). Sample Calculator. Retrieved from www.rileyresearch.com/research_sample_calculator.html
- Roztock, N. (2001). USING INTERNET-BASED SURVEYS FOR ACADEMIC RESEARCH: OPPORTUNITIES AND PROBLEMS. Retrieved from <http://www2.newpaltz.edu/~roztockn/alabam01.pdf>
- Rumsey, D. J. (2011). *Statistics for dummies* (2nd ed.). Hoboken, NJ: Wiley.
- Shih, Y. Y., & Huang, S. S. (2009). The Actual Usage of ERP Systems: An Extended Technology Acceptance Perspective. *Journal of Research and Practice in Information Technology*, 41(3), 263-276. Retrieved from https://www.acs.org.au/__data/assets/pdf_file/0008/14588/JRPIT41.3.263.pdf
- Shin, D. (2010). Analysis of online social networks: a cross-national study. *Online Information Review*, 34(3), 473-495. doi:10.1108/14684521011054080
- Silverwood, S. (2014, May 15). How SEO helps Tesco to dominate the online grocery market. Retrieved from <https://econsultancy.com/blog/64841-how-seo-helps-tesco-to-dominate-the-online-grocery-market/>
- Sobri, D. (2015, April 30). 15 online grocery shopping / supermarkets in Malaysia (updated). Retrieved from <http://jewelpie.com/15-local-online-groceries-with-home-deliveries/>
- Stat Trek. (2016). Sample Size Calculation: Simple Random Sample. Retrieved from <http://stattrek.com/sample-size/simple-random-sample.aspx>

-
- Statistics Solutions. (2016). The Multiple Linear Regression Analysis in SPSS. Retrieved from <https://www.statisticssolutions.com/the-multiple-linear-regression-analysis-in-spss/>
- Suki, N. M., & Suki, N. M. (2011). EXPLORING THE RELATIONSHIP BETWEEN PERCEIVED USEFULNESS, PERCEIVED EASE OF USE, PERCEIVED ENJOYMENT, ATTITUDE AND SUBSCRIBERS' INTENTION TOWARDS USING 3G MOBILE SERVICES. *Journal of Information Technology Management*, 22(1), 1-7. Retrieved from <http://jitm.ubalt.edu/XXII-1/article1.pdf>
- Sulistiyaningsih, M., Tambotih, J. J., & Tanaamah, A. R. (2014). TECHNOLOGY ACCEPTANCE MODEL AND ONLINE LEARNING MEDIA: AN EMPIRICAL STUDY OF ONLINE LEARNING APPLICATION IN A PRIVATE INDONESIAN UNIVERSITY. *Journal of Theoretical and Applied Information Technology*, 69(1), 136-144.
- Surendran, P. (n.d.). Technology Acceptance Model: A Survey of Literature. Retrieved from <http://www.thejournalofbusiness.org/index.php/site/article/download/161/160>
- Tan, M., & Teo, T. S. (2000). Factors Influencing the Adoption of Internet Banking. *Journal of Association for Information Systems*, 1(1).
- The Nielsen Company. (2015). *The Future of Grocery*. Retrieved from [http://www.nielsen.com/content/dam/niensenglobal/vn/docs/Reports/2015/Nielsen%20Global%20E-Commerce%20and%20The%20New%20Retail%20Report%20APRIL%202015%20\(Digital\).pdf](http://www.nielsen.com/content/dam/niensenglobal/vn/docs/Reports/2015/Nielsen%20Global%20E-Commerce%20and%20The%20New%20Retail%20Report%20APRIL%202015%20(Digital).pdf)
- Tsai, W. C. (2012). A study of consumer behavioral intention to use e-books: the Technology Acceptance Model perspective. *Innovative Marketing*, 8(4), 55-66. Retrieved from http://businessperspectives.org/journals_free/im/2012/im_en_2012_04_Tsai.pdf
- UC Regents. (2016). Annotated SPSS Output: ttest. Retrieved from http://www.ats.ucla.edu/stat/spss/output/Spss_ttest.htm
- Venkatesh, V., & Morris, M. G. (2000). Why Don't Men Ever Stop to Ask for Directions? Gender, Social Influence, and Their Role in Technology Acceptance and Usage Behavior. *MIS Quarterly*, 24(1), 115-139. doi:10.2307/3250981

-
- Vijayasathy, L. R., & Jones, J. M. (2000). Print and Internet catalog shopping: assessing attitudes and intentions. *Internet Research*, 10(3), 191-202. doi:10.1108/10662240010331948
- Wang, E. S., & Chou, N. P. (2014). *CONSUMER CHARACTERISTICS, SOCIAL INFLUENCE, AND SYSTEM FACTORS ON ONLINE GROUP-BUYING REPURCHASING INTENTION*, 15(2), 119-134.
- Wong, C. (2015, January 14). Malaysian online shopping trend. Retrieved from <http://www.ecommercemilo.com/2015/01/malaysian-online-shopping-trend.html#.Vh4R7xOqqkr>
- Yi Jin, L., Osman, A., Romle, A. R., & Haji-Othman, Y. (2015). Attitude towards Online Shopping Activities in Malaysia Public University. *MJSS*, 6(2), 456-462. doi:10.5901/mjss.2015.v6n2s1p456

Appendices

APPENDIX A

ONLINE SURVEY QUESTIONNAIRE

Consumers' Acceptance Towards E-Grocery

Good day! My name is Jo Yee and I am a student working on a master's dissertation under the guidance of Ms Farah Waheeda at UTAR. This survey is part of the master's research to understand the consumers' acceptance towards e-grocery.

Your participation in this research is absolutely voluntary and confidential.

Thank you for your time.

* Required

Section A: Demographics

What is your gender? *

- Male
- Female

What is your age? *

- Under 18 years old
- 18 - 24 years old
- 25 - 29 years old
- 30 - 34 years old
- 35 - 39 years old
- Age 40 or older

What is your marital status? *

- Single
- Married
- Widowed
- Divorced
- Separated

What is the highest level of education you have completed? *

- SPM
- STPM/Pre-U/Diploma
- Bachelor's Degree
- Master's Degree
- Other : _____

Which of the following most closely matches your employment status? *

- Intern
- Student
- Associate/Executive
- Managerial/Professional
- Self-employed
- Unemployed
- Retired
- Homemaker
- Other :

Section B: Screening

Have you ever purchased groceries in Tesco? *

- Yes
- No

Section C: Actual Usage of E-Grocery

Example of E-Grocery (Tesco)

The screenshot displays the Tesco e-grocery website interface. At the top, the Tesco logo is visible with the tagline "Because we care". Navigation links include "Tesco Homepage", "My Account", "Sign in or Register", "Send Feedback", "Privacy & Cookies", and "Help". The main navigation bar features categories: "Groceries", "Favourites", "Promotions", and "My Orders". Below this, sub-categories are listed: "Fresh Food", "Grocery", "Baby", "Chilled & Frozen", "Drinks", "Health & Beauty", "Household", "Pets", and "Non-Food". A search bar contains the text "Search for 'organic' returned 65 results". A magnifying glass icon is next to the search bar. Below the search bar, there are filter options: "Filter by" (Clear all), "Showing 1 - 24 of 65", and "Sort By" (Relevance). A list of products is displayed, including "LTK Organic Selenium Plus 10pcs" (RM5.55), "Nutriplus Organic Selenium Medium Eggs 10pcs" (RM5.39), and "Arzon Organic Smooth Tofu 300g" (RM2.60). On the right side, there is a "Shopping Trolley" section with a "Sign in" button and a "View full trolley" link.

How long have you used, or have been using e-grocery? *

- Have not used e-grocery
- Less than a month
- 1-3 months
- 3-5 months
- More than 5 months

Section D: Factors that affect the consumers' acceptance towards e-grocery.

Perceived Usefulness

Using e-grocery can improve my efficiency in purchasing groceries. *

	1	2	3	4	5	6	7	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

Using e-grocery is/might be time-saving. *

	1	2	3	4	5	6	7	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

Using e-grocery can/might make my grocery shopping easier. *

	1	2	3	4	5	6	7	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

Using e-grocery is/might be convenient for my grocery shopping. *

	1	2	3	4	5	6	7	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

Perceived Ease of Use

E-grocery is/might be easy-to-use. *

	1	2	3	4	5	6	7	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

It is/might be easy to become skillful at using e-grocery *

	1	2	3	4	5	6	7	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

My interaction with the processes of e-grocery is/might be clear and understandable. *

	1	2	3	4	5	6	7	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

It is/might be easy for me to follow the procedures when ordering groceries online. *

	1	2	3	4	5	6	7	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

Behavioural Intention to use E-Grocery

I intend to use e-grocery when the service becomes widely available. *

	1	2	3	4	5	6	7	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

Whenever possible, I intend to use e-grocery to purchase groceries. *

	1	2	3	4	5	6	7	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

I intend to use e-grocery when there is free home delivery. *

	1	2	3	4	5	6	7	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

I intend to use e-grocery when the price is competitive. *

	1	2	3	4	5	6	7	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

SUBMIT

Never submit passwords through Google Forms.