FACTORS THAT INFLUENCE CONSUMERS' ACCEPTANCE TOWARDS SELF-CHECKOUT SYSTEM (SCS) IN HYPERMARKET MALAYSIA

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DECLARATION

We hereby declare that:

(1) This undergraduate research project is the end result of our own work and that due acknowledgement has been given in the references to ALL sources 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) Equal contribution has been made by each group member in completing the research project.

(4) The word count of this research report is 10,661

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DEDICATION

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LIST OF ABBREVIATIONS

ATT	Attitude towards Technology
AU	Actual Usage
AVE	Average Variance Expected
CR	Composite Reliability
DV	Dependent Variable
et al	and others
HTMT	Hetertrait-monotrait
ITU	Intention to Use
IV	Independent Variable
PEOU	Perceived Ease of Use
PLS	Partial Least Square
PU	Perceived Usefulness
SCS	Self-checkout System
SEM	Structural Equation Modeling
SST	Self-service Technology
TAM	Technology Acceptance Model
VIF	Variance Indicator Factor

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PREFACE

This research study is conducted to fulfill the requirement for the degree of Bachelor of Marketing (Hons) under Faculty of Business and Finance in Universiti Tunku Abdul Rahman (UTAR).

Hypermarket is one of the retailing formats that is widely accepted by consumers. It offers a wide variety of groceries and household products for consumers. Customer service and speed of service delivery at checkout counter are essential for hypermarket as it lead to the visitation of consumer and their loyalty. Self-checkout system **(SCS)** is being studied in this research to understand the acceptance level of consumers in hypermarket in Malaysia context. Thus, the topic study is factors that influence consumers' acceptance towards self-checkout service (**SCS**) in hypermarket Malaysia.

Technology acceptance model **(TAM)** is adopted in this research study to understand the factors that influence consumers' acceptance towards **SCS** in hypermarket Malaysia. Variables such as perceived usefulness **(PU)**, perceived ease of use **(PEOU)**, attitude towards technology **(ATT)** and intention to use **(ITU)** are being adopted in this research study to understand the acceptance level of consumers and how it will lead to the actual usage **(AU)** of **SCS**.

ABSTRACT

Self-checkout system **(SCS)** is a self-service technology **(SST)** that allows consumers to scan their purchases and pay by themselves or without assistance of service provider. In fact, number of hypermarket in Malaysia has been increased over years; causing the service quality of provider and speed of service delivery become the essential elements in determining customer satisfaction. To ensure high customer satisfaction level, concept of **SCS** is starting to employ in hypermarket. Unfortunately, this self-checkout concept is a relatively new phenomenon for Malaysians. Hence, topic of **SCS** is being studied to examine the acceptance level of Malaysians. Technology acceptance model (**TAM**) is adopted in our research and the investigated variables are perceived usefulness (**PU**), perceived ease of use (**PEOU**), attitude towards technology **(ATT)**, intention to use (**ITU**) and actual usage of technology **(AU).** Quantitative method was used, where 250 set of questionnaires were distributed to consumers who have patronage to IOI City Mall. Data collected were analyzed and findings were discussed. Also, implications of study, limitations and its recommendations were discussed in this study. Hence, our findings and discussions in this study will able to contribute benefits to retailers, researchers and marketers.

CHAPTER 1 RESEARCH OVERVIEW

1.0 Introduction

This chapter outlines the overall of research that is being studied. It discusses about background of research, problem statement, objectives, hypothesis and research significance.

1.1 Research Background

Hypermarket is the retailing store that offers the combination of food (60-70 percent) and general merchandise (30-40 percent) like groceries, electrical equipment, sport equipment and hardware (Retailing Management, 9th edition). It is one of the retailing formats that is extensively accepted by consumers (Hassan, Rahman & Sade, 2014). Due to its wide variety and depth assortment of product offering, consumers select hypermarket as their choice to purchase groceries and domestic products (Hassan & Rahman, 2012). In hypermarket, consumers are required to self-service; they take the basket or trolley, choose the merchandise on shelf and make payment at the checkout station (Hassan et al., 2014). Some of the hypermarkets have started self-checkout concept by adopting self-checkout system (**SCS**) to substitute traditional checkout operation in the past few years. **SCS** is the technology that allows consumers to scan their purchases and pay by themselves or without assistance of service provider (Jackson, Parboteeah & Poulton, 2014).

In hypermarket, consumers are being provided with fully customer service only when they are paying at checkout station (Hassan et al., 2014). Cashiers will assist consumers in their checkout process in hypermarket and consumers are being fully served in this process. Cashiers at checkout counter will be the service provider at the point of sale that deals with customers' payment in hypermarket (Ahmad Zuhaidi & Abdol Rahman, 2017). Generally, cashiers require to use low force to service consumers who are paying for their purchases at checkout counter. They repeat the same job tasks by scanning the bar code of products, bagging the groceries for consumers and receive payment from consumers. To increase productivity and effectiveness of customer service at checkout counter, cashiers in hypermarket are required to speed up the checkout process due to the pressure from customers in line (Hassan et al., 2014). Consumers spend time in waiting line for payment in hypermarket. As a result, they demand for efficient and faster customer service when they are paying at checkout counter. Consumers will abandon their shopping basket or trolley when the service provided at checkout counter is inconvenient and do not satisfy them, especially when there is a long waiting line.

Thus, the topic study is to have deep understanding on consumers' acceptance towards self-checkout system (**SCS**) in hypermarket Malaysia. Detailed discussion will be outlined on following chapters.

1.2 Problem Statement

Some research studies have been conducted to study how **SCS** affects consumers and retailing sector. According to Retail Banking Research, it was recorded that international self-checkout market has grew by 25% and this technology will increase from 191,000 in year 2013 to approximately 325,000 in year 2019. It shows that SST will become more popular in future retail businesses. Another study conducted by NPD Group (2014), among 2,803 consumers which include consumers in Australia, France, Germany, Italy, Japan, Russia, Spain, UK and US has revealed that 90% of respondents are the users of **SCS** regardless of the number of items purchase.

Unfortunately, the concept of self-checkout in hypermarket Malaysia is still new to consumers. According to NCR Corporation (2015), one of the Tesco store at IOI City Mall in Putrajaya has being the first hypermarket that employed **SCS** in Malaysia in 2015. It provides a simple and faster solution for shoppers in their checkout process. With **SCS** in hypermarket, consumers are able to save time on the checkout process and thus it enhances their shopping experience. According to NCR, self-checkout technology in hypermarket is able to reduce long waiting time for checkout process by 40 percent and approximately two thirds of consumers claim that **SCS** provides better customer service.

Waiting line in checkout process is an issue for hypermarket business. The long waiting line results consumers to give up their purchases (Hassan et al., 2014). Consumers perceived time differently, time constrain results them to be more bothered on the waiting line and speed of service delivery when they are paying at checkout counter in hypermarket. Consumers would like to have a more flexible

in checkout process and better customer service. Generally, degree of customer satisfaction decreases (as cited in Kwak, 2017) when customers' average waiting time increases. Customer satisfaction level will be relatively low if they have wait for more than 5 minutes at checkout counter; whereas it will be high satisfaction if the waiting time is between 1 to 3 minutes (Kwak, 2017).

Besides waiting line, speed of service delivery at checkout counter is another issue for hypermarket operations. In customers' perspectives, there are 3 essential elements in purchasing process, which are selection time, queue time and transaction time (Hassan et al., 2014). Scanning, packing and payment transaction are tasks that are time consuming at the checkout counter. Thus, it reduces the speed of service delivery of service provider at checkout counter. The longer consumers have to wait for checkout process; their satisfaction will decrease along with the waiting time (Fernandes & Pedroso, 2017). In contrast, customer satisfaction is relatively high when speedily service is provided at checkout process. Speed of service delivery at checkout counter in hypermarket is able to be solved by adopting **SCS**.

Since it is a new phenomenon for executing **SCS** in hypermarket Malaysia, thus, the topic of **SCS** in hypermarket Malaysia is a highly interesting and relevant topic to research. Furthermore, studying the factors affect consumers' acceptance towards **SCS** enables Malaysia retailers to provide an excellent **SCS** which is desired by consumers. Besides, it is expected that most of the hypermarkets will implement **SCS** in future given that the possible economic efficiencies for retailers and also increased convenience for consumers. Therefore, the topic of **SCS** is being studied in Malaysia circumstance and study focus on factors that influence consumers' acceptance towards **SCS** in hypermarkets.

1.3 Research Objectives

1.3.1 General Research Objective

To examine factors that influence acceptance level of Malaysians consumers towards **SCS** in hypermarket Malaysia.

1.3.2 Specific Research Objectives

(a) To examine the relationship between **perceived usefulness (PU)** and **attitude towards SCS (ATT)** towards consumers' acceptance of **SCS** in hypermarket Malaysia.

(b) To examine the relationship between **perceived ease of use (PEOU)** and **attitude towards SCS (ATT)** towards consumers' acceptance of **SCS** in hypermarket Malaysia.

(c) To examine the relationship between **attitude towards SCS (ATT)** and **intention to use SCS (ITU)** towards consumers' acceptance of **SCS** in hypermarket Malaysia.

(d) To examine the relationship between **intention to use SCS (ITU)** and **actual usage of SCS (AU)** towards consumers' acceptance of **SCS** in hypermarket Malaysia.

1.4 Research Questions

Several questions are issued in study:

(a) Does **PU** influences attitude of consumers in acceptance of **SCS**?

(b) Does **PEOU** influences attitude of consumers in acceptance of **SCS**?

(c) Does **ATT** influences intention of consumer in acceptance of **SCS**?

(d) Does **ITU** influences actual usage of consumers in acceptance of **SCS**?

1.5 Hypothesis of Study

H1: **PU** has a positive relationship with **ATT** towards consumers' acceptance of **SCS** in hypermarket Malaysia.

H2: **PEOU** has a positive relationship with **ATT** towards consumers' acceptance of **SCS** in hypermarket Malaysia.

H3: **ATT** has a positive relationship with **ITU** towards consumers' acceptance of **SCS** in hypermarket Malaysia.

H4: **ITU** has a positive relationship **AU** towards consumers' acceptance of **SCS** in hypermarket Malaysia.

1.6 Research Significance

The result of study is significant and important for both practical and theoretical advantages as this research provides a lot of advantages to both applications. For practical application, retailers in Malaysia will able to learn about the factors that may influence consumers' acceptance towards **SCS** in order for them to design the **SCS** that is acceptable and preferable by the consumers in Malaysia. Furthermore, retailers can benefit from this research by delivering advanced customer service with fewer employees while at the same time does not affect the company's productivity. Tung & Tan's studies (as cited in Cho & Fiorito, 2010) agreed that retailers can gain advantages in the competitive market by utilizing SST.

For theoretical applications, the benefit that can gain from this research is to provide more information about consumers' acceptance level of **SCS** in Malaysia towards researchers and marketers. Having this information will encourage marketers to expand or improve **SCS** to others industries such as tourism and hospitality. Besides, there are only a few researchers conducting research on **SCS** in Malaysia and most of them are focusing on banking and airline industries instead of retailing industry.

1.7 Conclusion

This section outlines fundamental comprehension of **SCS** in hypermarket Malaysia. Also, chapter one provided fundamental direction for further development of this research. Detailed explanation will be provided in Chapter two.

CHAPTER 2 LITERATURE REVIEW

2.0 Introduction

This chapter will discuss about past review studies which relevant to the study. **TAM** has been referred in this research to study the consumers' acceptance towards **SCS**. Also, Chapter 2 included discussion on hypothesis development and illustration of conceptual framework.

2.1 Review of Literature

2.1.1 DV: Actual Usage (AU)

Actual usage is the total amount of time that an individual consumes on using a technology or system (Adeyinka, 2014). Actual usage is the result of intention to use (Fathema, Shannon & Ross, 2015). In **TAM** (Davis, 1989), it proposes that **PU, PEOU, ATT** and **ITU** will lead to the **AU** of technology. According to **TAM, ITU** referred as the actual use of an individual towards the technology and thus it determines the technology acceptance (Alhrabi, & Drew, 2014). **ITU** of an individual forms the result of **AU** towards technology. It means that when an individual has an intention to use a technology, eventually he will be the actual user for that technology. Hence, **AU** is the dependent variable (**DV**) to study the consumers' acceptance in this research.

2.1.2 IV: Perceived Usefulness (PU)

PU is the construct variable that underlying in **TAM**, which it relates to technology acceptance. Davis's study (as cited in Fathema, Shannon, & Ross, 2015) stated that **PU** is the degree of an individual thinks that his job task will be enhanced by utilizing technology. **PU** is defined differently in past studies by different researchers. Another past study done by researchers referred **PU** is the subjective views of an individual that utilizes certain system or technology will enhance his task performance (Shanmugam, Savarimuthu, & Teoh, 2014). According to Pantano and Di Pietro (2012) and Teo (2014), **PU** is referred to the belief of an individual on using certain technology application will improve the task performance of an organization. An individual will have high tendency of acceptance and will use it when he perceived it is highly usefulness.

PU is being used by few past studies to study consumers' acceptance towards self-service technology such as **SCS**, kiosk and automated teller machine (ATM). In the study of Kumar and Bose (2013), **PU** is being studied to determine the acceptance of users and their intention to use the SST. Another study done by Yang, Lee, Park (2014), researchers have adopted **PU** as the variable to study the acceptance of SST and its adoption. **PU** is also being adopted in research of Jeong and Yoon (2013) to study the consumers' acceptance towards technology and their adoption. In these past studies, all have shown that **PU** is positively influence consumers' acceptance and their actual usage.

2.1.3 IV: Perceived Ease of Use (PEOU)

Davis's study (as cited in Cho, 2015) stated that **PEOU** is a person's amount of effort required to use new technology will be effortless. In addition, Davis's study (as cited in Banda, 2011) mentioned that an easier application have biggest potential to influence users' acceptance behavior. Similarly, Cheng and Chen's study (as cited in Osman, Alwi & Khan, 2016) pointed out that **PEOU** is one of the factors that motivate users' attitude. A person's attitude toward using technology is examined by the factor of **PEOU**. Besides, Igbaria's study (as cited in Osman, Alwi & Khan, 2016) stated that **PEOU** is a dominant factor which influences users' acceptance and usage behavior towards a certain technology.

Furthermore, Davis's study (as cited in Yang, Liu & Ding, 2012) stated that **PEOU** in **TAM** model is a key element to determine the introduction of a technology. Weijters's study (as cited in Evanschitzky, Iyer, Kening & Schutte, 2015) showed that **PEOU** is positively related to attitude towards SST, which in turn positively related to its actual use of SST. As Dabholkar's study (as cited in Li, 2012) showed that a condition where required high waiting time, ease of use is an essential benefit of expected service quality of using SST, which result positive effect on consumers' intention to use SST option.

2.1.4 IV: Attitude towards Technology (ATT)

Attitude can be a broad concept with different definitions. According to the study of Ajzen & Fishbein (as cited in Nikdavoodi, 2012), attitude defines as an individual's overall favorable or unfavorable attitude toward a particular behavior. Similarity, Davis's study (as cited in Sriwidharmanely & Vina, 2012) stated that attitude can be a negative or positive feeling of someone towards technology who has the intention to perform the desired behavior.

Based on past research, Davis (1989) found that there is significant relationship between attitudes towards SST as it is a direct factor of intention to use SST. Consumers who use a SST are going to form an attitude about their experience whether favorable or unfavorable. SST assisted of dealing with fluctuations of demand without adjusting service provider and standardizing service process. Besides, Collier's study (as cited in Saeid & Macanovic, 2017) stated the benefit of using SST is consumers able to control the transaction such as the engagement level, waiting time and pace of the transaction. Therefore, the function provided by SST could develop favorable attitude toward the SST.

2.1.5 IV: Intention to Use (ITU)

Islam, Low & Hasan's studies (as cited in Miladinovic & Xiang, 2016) pointed that it is a common practice for an individual to accept and utilize modern technologies; individuals increased their willingness to adopt new technologies and making technologies to become part of their life. Ajzen and Fishbein's study (as cited in Ajzen, 1991) defined intention as the degree of effort an individual will like to commit to execute a certain behavior.

Intention to execute certain behavior is believed to be able to predict the actual behavior (Miladinovic & Xiang, 2016). Hence, it is essential to understand intention to use of technology to determine whether an individual will utilize the technology. Fishbein & Ajzen's studies (as cited in Ajzen, 1991) suggested that the level of intention to perform certain behavior is measured by behavioral intention. Warshaw & Davis's studies (as cited in Cigdem & Ozturk, 2016) defined behavioral intention as the degree to which a person has developed certain plans to carry out or not carry out some specified behavior in future.

In this research, **ITU** is referred as the motivation to use **SCS** or the acceptance towards the usage of **SCS**. As such, **ITU** is posited to be influenced by attitude towards technology (Teo, 2011). The relationship between **ATT** and **ITU** will be discussed in details in next section.

2.2 Review of Relevant Theoretical Models

2.2.1 Technology Acceptance Model (TAM)

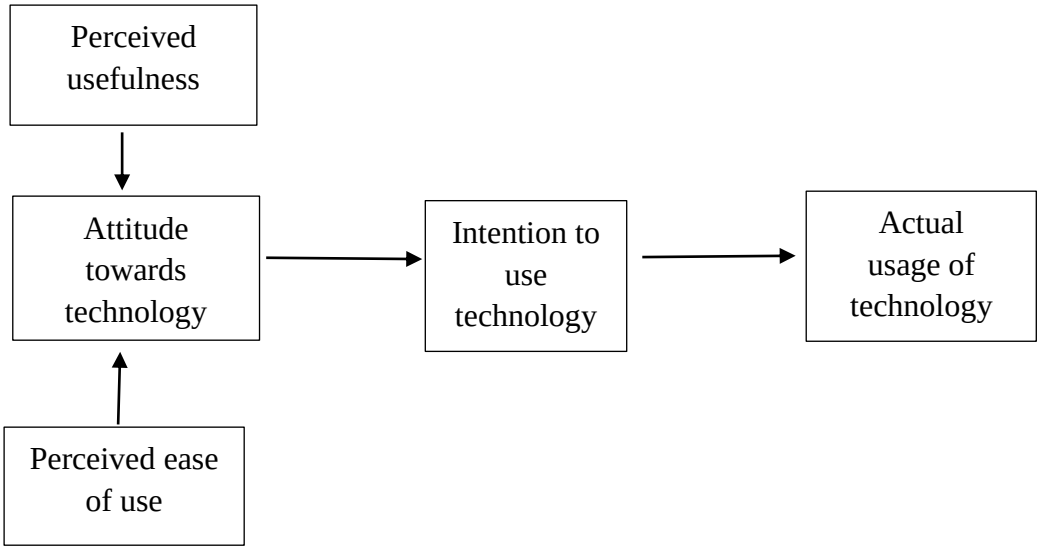
According to Kelly (2010), Technology Acceptance Model (**TAM**) by Davis, Bagozzi and Warshaw (1989) is fundamental theoretical model in discussing SST. It was developed and adapted from Theory of Reasoned Action (**TRA**). Lai (2017) stated that this model is developed to explain and describe the computer usage behaviour and acceptance of information technology. Davis further emphasized that one of the most significant and vital determinant that often decide whether the information system can success or fail is user acceptance (Lai, 2017).

Hartmann, Kerssenfischer, Fritsch & Nguyen (2013) pointed that **TAM** is actually analyse the relationship between external stimuli and three responses which include cognitive, affective and behavioral. They further stated that the two most significant factors of system use are **PU** and **PEOU**. This fact was confirmed by Kelly's study pointed that **TAM** is developed on the belief that **PEOU** and **PU** are served as a crucial factor in establishing attitude towards technology, then forming behavioral intention and ultimately lead to actual usage of technology.

Kim, Kim & Shin's study (as cited in Pantano & Pietro, 2012) defined **PU** as a degree that consumers assume they are able to improve and enhance their performance when using technology. Furthermore, Venkatesh & Bala's study (as cited in Hartmann et al., 2013) referred **PEOU** as a degree to which the consumers believe they will be easy and free of effort when using the new and latest technology.

Both of these variables influence consumers' attitude towards technology which in turn affects their intentions to use and ultimately lead to actual usage of technology. Pantano & Pietro (2012) stated that attitude is referring to the consumers' assessment towards technology; while the **ITU** refers to the degree of willingness consumers to perform the behavior. For instance, when consumers have favorable attitude towards technology, their intention to use of technology will be formed under the condition that the certain technology is available. Moreover, the intention to use new technology is linked to technology acceptance only under the situation when the consumers' intention to use is formed (Lai, 2017).

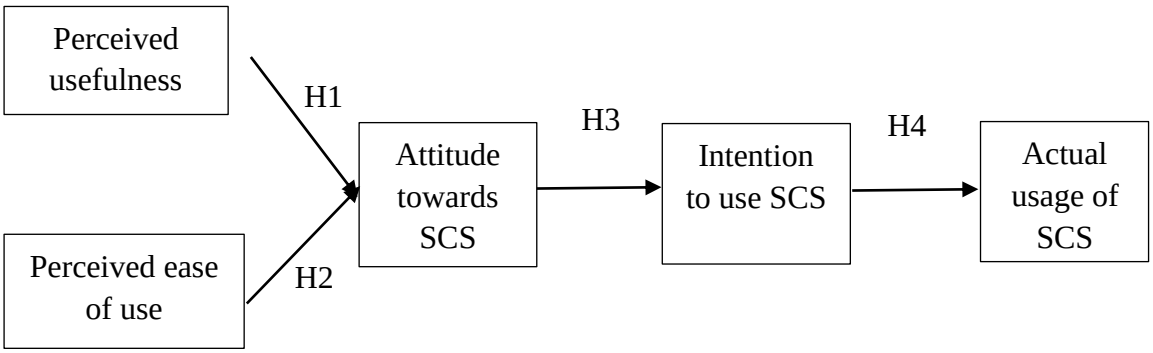
Figure 2.1: Technology Acceptance Model



Sources: Davis, Bagozzi and Warshaw (1989)

2.3 Proposed Conceptual Framework

Figure 2.2: Research Framework of consumers' acceptance towards **SCS** in hypermarket Malaysia



Source: Developed for the research

2.4 Hypothesis Development

H1: PU has a positive relationship with ATT towards consumers' acceptance of SCS in hypermarket Malaysia.

According to **TAM** by Davis (1989), **PU** was found as the key factor that determines the attitude towards using of a technology. An individual will develop positive attitude when he reveals a technology that is useful to him (Fathema et al., 2015). It is same with **SCS**; when an individual perceives **SCS** is highly useful and convenience to him, his attitude towards **SCS** will be positive. There are few past studies showed **PU** will impact **ATT** and lead to its final usage. According to past studies by Adeyinka (2014) and Juniwati (2014), both studies showed that **PU** is positively related to consumers' attitude towards technology. Also, another past study by Zhang, Chen & Ding (2013) showed that **PU** has positive effects on consumers' attitude. Thus, the usefulness of technology influences consumers' attitudes towards it.

H2: PEOU has a positive relationship with ATT towards consumers' acceptance of SCS in hypermarket Malaysia.

PEOU is one of the constructs that has been adopted by Davis (1989) in **TAM** to study acceptance of consumers towards technology. Davis's study (as cited in Adeyinka, 2014) stated that **PEOU** has significant effect on consumers' attitude. It means that individuals will develop favorable attitude towards **SC**S when they perceive **SCS** is relatively easy to use and user friendly. According to past study of Juniwati (2014) and Elkaseh, Wong & Fung (2016), it showed that **PEOU** has significant influence on consumers' attitude. Furthermore, another past study by

Amer Al-Adwan, Amad Al-Adwan and Smedley (2013) showed that **PEOU** has positive relationship on consumers' attitude towards using. Hence, ease of use of technology affects consumers' attitudes towards using it.

H3: ATT has a positive relationship with ITU towards consumers' acceptance of SCS in hypermarket Malaysia.

Attitude is the key factor that determines the behavior of an individual (Juniwati et al., 2014). It is the inner feeling of an individual that portray to show pleasant or unpleasant towards an object (Juniwati et al., 2014). A person will have high intention on using **SCS** when he has positive attitude towards technology. According to Fishbein and Ajzen (2005), attitude leads to intention towards a particular behavior. According to past study of Adeyinka (2014), it showed the result of **ATT** is positively associated to consumers' intention. Similar study done by Elkaseh et al. (2016) also showed the result of **ATT** and **ITU** have significant relationship in technology acceptance. Besides, **ATT** will significantly influence **ITU** (Amer Al-Adwan et al., 2013). Therefore, **ATT** will lead to the intention of an individual towards using technology.

H4: ITU has a positive relationship with AU towards consumers' acceptance of SCS in hypermarket Malaysia.

Venkatesh, Thong & Xu's studies (as cited in Miladinovic & Xiang, 2016) stated that intention to use technology is defined as an individual willingness to utilize a technology system. Surendran (2012) stated that **ITU** is the measure of the likelihood an individual will adopting the application. Adeyinka (2014) defined **AU** as the amount of time an individual spends when utilizing the technology.

Furthermore, Davis's study (as cited in Wong & Liu, 2009) pointed that **ITU** has a positive effect on actual usage of an individual. Also, Szajna's study (as cited in Wong & Liu, 2009) indicated that **AU** might influenced by **ITU**. This is supported by Fishbein & Ajzen's studies (as cited in Durodolu, 2016) stated that the actual behavior of an individual is able to be determined by the previous **ITU**. Besides, Davis' study (as cited in Wahab, Shamsuddin, Abdullah, Lee & Ali, 2013) also indicated that an individual's actual usage can be anticipated by his or her usage intention. Therefore, in this study, it is expected that the intention to use technology affects actual usage of technology positively.

2.5 Conclusion

This chapter discussed independent variables (**PU, PEOU, ATT & ITU**) that influence consumers' acceptance in **SCS**. Also, conceptual framework and hypothesis development of research are explained in this chapter.

CHAPTER 3 RESEARCH METHODOLOGY

3.0 Introduction

In this section, data collection method and analyzing data are outlined. It includes design of research, data collection methods, sampling design, research instrument, construct measurement, data processing and data analysis.

3.1 Research Design

Research design is a set of methods and procedures utilized in collecting information which is useful for the research. There are two types of methods used to collect data which are quantitative and qualitative. Also, there have three categories for research study which include descriptive, casual and exploratory.

3.1.1 Quantitative Research Design

Creswell's study (as cited in Bambale, 2014) stated quantitative research is a type of research that collects numerical data in organized structure. The aim of using this research design is to examine whether hypotheses tested is significant. By using quantitative research design, we able to examine the acceptance level of large number of respondents towards **SCS** in hypermarket Malaysia.

3.1.2 Qualitative Research Design

Cooper's study (as cited in Bambale, 2014) stated that descriptive research specifies description of phenomena, characteristics or estimates of population. It is useful because population's characteristic toward the study is observed based on precise method. As Hair JFJ (as cited in Bambale, 2014) mentioned that descriptive research is structured and specified towards the characteristic design in research question. Therefore, descriptive research is reliable in determining consumers' acceptance towards **SCS**.

3.2 Data Collection Method

Data collection is collecting relevant information and data which needed for the marketing research project. Primary data and secondary data are collected as information of research.

3.2.1 Primary Data

Puvenesvary, Radziah & Sivabala's study (as cited in Murgan, 2015) defined primary data as original data which is collected for the first time such as interview and questionnaire. Questionnaire is being used for this study to obtain primary data. Questionnaire is designed to extract specific personal information of target respondents towards the relevant research topic (Mathers, Fox, & Hunn, 2009). Questionnaire is conducted by an interviewer and answered by target respondents through self-administration structured. Large number of respondents can be reached by using questionnaire.

3.2.2 Secondary Data

Sparrow's study (as cited in Rengasamy, 2017) mentioned that secondary data is collected by someone instead of the researcher himself. There are some classifications of secondary data such as journals, articles, reference books and directories. Furthermore, Prescott's study (as cited in Rengasamy, 2017) stated that secondary data for research purpose is the most widely used method. Secondary data is cost-effective and convenient; it also provides valuable information to assist in research study as compared to primary data (Johnston, 2013). Therefore, secondary data is used to gain better understanding in the research.

3.3 Sampling Design

3.3.1 Target Population

According to Banerjee & Chaudhury (2010), target population refers as selection of respondents or sample units for further study. In this research, we will concern with determinants that influence consumers' acceptance level towards **SCS** in hypermarket Malaysia. Hence, our target population for this study is the consumers who purchase products from hypermarket Malaysia.

3.3.2 Sampling Frame and Sampling Location

Gaining of **SCS** user list is unable as the information is private and confidential. For sampling location, questionnaire is collected at hypermarket of IOI City Mall at Putrajaya. The reason we chose IOI City Mall to collect

data is because of hypermarket Tesco at this mall utilized **SCS** since 2015. Since Tesco store at IOI City Mall is the first hypermarket that adopts **SCS**, therefore there are large numbers of consumers who had utilized the **SCS** before. Thus, we are able to collect the feedback from those consumers who had used **SCS** before and at the same time understand the acceptance of those new users. Hence, questionnaire is distributed in IOI City Mall in order to study their acceptance level towards **SCS**.

3.3.3 Sampling Elements

Students, working adults and anyone who have or never experience **SCS** is considered as target respondents. Different age groups of the respondents will provide different perceptions and opinions towards consumers' acceptance of **SCS** in hypermarket Malaysia. Thus, the age group targeted in this research is from below 18 to above 50 years old.

3.3.4 Sampling Technique

Non-probability sampling technique is used for this study. Based on the Battaglia's study (as cited in Etikan, Musa & Alkassim, 2016) highlighted that the rationale of using non-probability sampling technique is due to cost saving and time saving. Convenience sampling is being utilized for data collection. It is used when the target respondents are easy or convenient to approach, time availability or willing to participate in the study (Alvi, 2016). The study further emphasized that convenience sampling is economical, accessible and respondents are available for data collection. Besides, according to Etikan's study, it mentioned that convenience sampling applied

by researcher is rationale as the population is infinity and it is not possible to reach every subject in the study.

3.3.5 Sampling Size

Sample size refers as the number of respondents chosen by investigators for the need to consider in their research study (Burmeister, Elizabeth, Aitken & Leanne, 2012). Roscoe's study (as cited in Rahim, Jalaludin & Tajuddin, 2011) suggested that sample size should be above 30 and below 500. In Chang's study (2015), sample size of 300 is being employed to study consumers' acceptance in SST. Thus, the sample size is 250 in this research.

3.4 Research Instrument

3.4.1 Questionnaire

Questionnaire is the fundamental and primary tool that was used. Questionnaire is defined as a series of questions designed with the overall purpose of gathering important information from respondents (Abawi, 2013). Furthermore, questionnaire is implemented because it is inexpensive, fast and at the same time it is an efficient means when collecting massive information from a pool of respondents (McLeod, 2014). Besides, Bulmer's study (as cited in Bird, 2009) stated that questionnaire collects data such as respondent's social characteristics, current and former behavior, standard of attitude and belief in a particular research topic.

3.4.2 Questionnaire Design

In research, the design of questionnaire is significant since the quality of research depends on quality of data collected which relies on the questions in the questionnaire. In this study, all questionnaires are adopted from previous studies that suitable for our research. Moreover, closed-ended questions are applied in this study because they can easily administered and analyzed, at the same time, a fully completed questionnaires are obtained by using it (Bird, 2009).

Generally, the questionnaire consists of three sections. 8 questions are allocated in Section A such as respondent's age, how frequent the respondents visit hypermarket and others. This section is to collect a brief demographic description of respondents. Nominal scale and ordinal scale are applied in this section. For nominal scale question, it will be categorized into one or more groups labelling the certain characteristics. Furthermore, those questions that have the characteristics of "greater or lesser" are considered ordinal scale question.

For Section B, there are 20 questions were designed to examine the factors influencing the consumers' acceptance towards **SCS** in hypermarket Malaysia. This section includes **PU, PEOU, ATT** and **ITU**. For this section, we applied 7- point likert scale.

For Section C, 4 questions with 7-point likert scale were prepared to examine the respondents' actual usage of technology regarding to **SCS** in Malaysia hypermarket.

3.4.3 Pilot Test

Before data collection, pilot test is carried out. It is pre-testing of questionnaire on few of respondents who have similar characteristics and interests in study (Dikko, 2016). Some benefits of pilot study are it helps to identify possible flaws in the proposed methods or instruments and whether those concepts applied are appropriate.

The questionnaire was reviewed by our supervisor and amendment was made before give away to target respondents. Then, the revised questionnaire was distributed to 30 respondents and feedbacks about the questionnaire were collected. Most of those feedbacks were about the questionnaire was too long and contained some grammar errors. Corrections have been amended.

3.4.4 Data Collection

Questionnaire was distributed in hypermarket IOI City Mall at Putrajaya. Meanwhile, the self-administered survey method was used to collect data. The purpose of questionnaire was explained to the target respondents before distributed to them.

Ultimately, 250 questionnaires were distributed to different individuals in hypermarket at IOI City Mall. Then, questionnaires were collected after they completed. However, there are only 200 sets of questionnaire were qualified. 50 sets of questionnaire were filtered out due to the incomplete responses. The percentage of 200 sets usable questionnaire is 80% among volunteered participants.

3.5 Construct Management

In this study, 7-point likert scale is applied to each constructs and it is about the extent of agreement. Constructs of **PU** and **PEOU** were adopted from Alharbi, Saleh, Drew & Steve (2014), Wong & Liu (2009). Besides, **ATT** was adopted from Cheng (2009) and Alharbi, Saleh, Drew & Steve (2014).

In addition, **ITU** constructs was adopted from several sources such as Alharbi, Saleh, Drew & Steve (2014), Cheng (2009), Wong & Liu (2009) and Kahila (2013). Finally, the **AU** constructs was adopted from Kahila (2013).

Table 3.1 Origin of Constructs

Constructs	Adapted From
Perceived usefulness (**PU**) Perceived ease of use (**PEOU**)	Alharbi, Saleh, Drew & Steve (2014), Wong & Liu (2009)
Attitude towards **SCS** (**ATT**)	Cheng (2009) and Alharbi, Saleh, Drew & Steve (2014)
Intention to use **SCS** (**ITU**)	Alharbi, Saleh, Drew & Steve (2014), Cheng (2009), Wong & Liu (2009) and Kahila (2013)
Actual usage of **SCS** (**AU**)	Kahila (2013)

Source: Developed for the research

3.5.1 Scale Measurement

3.5.1.1 Nominal Scale

In general, nominal scale is applied for labelling variable without any computable value. It embodies lowest form of measurement. Nominal scale can called as "labels" that simply name and categorized respondents based on characteristics such as gender, age, religion and others (Osherson & Lane, n.d). Figure 3.1 show the nominal scale that applied in Section A.

Figure 3.1 Example of Nominal Scale in Questionniare

1. Gender ☐ Male
☐ Female

3.5.1.2 Ordinal Scale

Ordinal scale indicates an ordering of the measurements. Besides, it has the characteristics of "greater or lesser" and it ranks from the lowest to the highest. Figure 3.2 show the ordinal scale that applied in Section A.

Figure 3.2 Example of Ordinal Scale in Questionnaire

5. Monthly Income (RM) ☐ No income
☐ Less than 1,500
☐ 1,500- 3,000
☐ 3,001- 4,500
☐ 4,501- 6,000
☐ More than 6,000

3.5.1.3 Likert Scale

Warmbrod (2014) defined likert scale includes a set of statements that define the meaning of constructs. Warmbrod (2014) further emphasized that the statement that uses likert scale normally express a belief, judgment or opinion. Furthermore, it is employed to study the extent to which a person agree or disagree on a statement. Section B and C were employed 7-likert scale, which it tests the extent of agreement of respondents. Below is the example of 7-likert scale.

Figure 3.3 Example of 7-likert scale in Questionnaire

Perceived Usefulness

No.	Questions	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
IV1	Perceived Usefulness (PU)							
PU1	I would find self-checkout system in hypermarket is useful in my daily life.	1	2	3	4	5	6	7

3.6 Data Processing

3.6.1 Data Checking

This process required for pilot test because it able to determine any potential flaws in the setting of survey questions such as the questions flows and grammatical errors. Amendments of questions were made before distribute to respondents.

3.6.2 Data Editing

Data editing is necessary due to raw data is collected from respondents. The process of editing, organizing and analyzing of raw data is necessary to obtain a more comprehensive form of data. The editor plays an important role as he or she needs to clarify responses, make omission and avoid bias editing.

3.6.3 Data Coding

Data coding known as process of driving codes from the data collected. The meaning of code in research can be defined as a short word or phrase to describe the meaning of the statement in each construct. One advantage of this coding is it makes the data analysis process easier.

3.6.4 Data Transcription

Data entering into a software application will be occurred after processing of raw data. This is the process of entering data into a software application. Before the data enters to Smart PLS 3 and SAS Enterprise Guide 7.1 for analyzed, the data coded from the data coding must save into computer.

3.6.5 Data Cleaning

Data cleaning is a procedure of checking the accuracy and completeness of data collected. Throughout data cleaning process, it enhances the consistency and accuracy of data. Moreover, consistency can be tested through Smart PLS 3 software in order to determine the mismatch and inconsistent of data.

3.7 Data Analysis

Data will go through process of systematically applied statistical technique after data collection. Smart PLS 3 and SAS Enterprise Guide 7.1 were being employed for data analyze. Diagrams, tables and charts will be presented.

3.7.1 Descriptive Analysis

This analysis able to enhance the understanding and comprehension of readers towards the study that is being conducted (Mehwish Hussain, 2012). Frequency distribution is used and the table of frequency will be presented.

3.7.1.1 Frequency Distribution

Frequency distribution provides the overall statistics structure to researchers with entire picture presentation of study by displaying frequency of occurrence (Manikandan, 2011). It is about summarizing, organizing and interpreting data into a meaningful form. It exhibits the frequency occurrence of certain variables and cumulative percentages of each variable. For example, the frequency distribution of income exhibits the income level of respondents.

3.7.2 Scale Measurement

3.7.2.1 Convergent Validity Test

Lowry & Gaskin (2014) defined convergent validity as an instrument to test the inter-correlations of each items within a construct. Also, it determines that a significant proportion of variance of items is essential towards the indicators of a construct (Wang, French & Clay, 2015). Item loadings, composite reliability **(CR)** and also average variance extracted **(AVE)** are used to evaluate convergent validity of constructs (Peng & Lai, 2012).

Wong (2013) stated that item loadings are used to assess the variables' consistency and indicators' reliability. According to Peng & Lai (2012), item loadings are reliable when the value is greater than 0.70. Hamid, Sami & Sidek (2017) refers the function of **CR** is to determine the reliableness of interrelationship of each items within a construct. Nunnally & Bernstein's study (as cited in Hair, Ringle & Sarstedt, 2011) suggested **CR** values of 0.60 and above is considered as reliable in exploratory research. Henseler, Ringle & Sarstedt (2014) stated that **AVE** refers to how the average amount of

variance of each indicators correspondent to every constructs. According to Ringle, Sarstedt, Mitchell & Gudergan (2018), **AVE** with value 0.50 or above is considered to have significant convergent validity with the construct explains an average of 50% or above of its item's variance.

3.7.2.2 Discriminant Validity

Assessment of discriminant validity is important and essential for a research in order to eliminate the problem of multicollinearity. Discriminant validity refers to degree to which the indicators from latent variable is differing from another latent variables empirically (Wang et al., 2015). Fornall & Larker criterion and cross-loading of indicator are primary way used for assessment of discriminant validity include Fornell & Larcker criterion and cross-loading of indicator (Henseler et al., 2014).

When using cross-loading of indicator, individual indicator loading values have to be greater than all the other constructs under the circumstances of cut-off value of item loading is greater than 0.70 (Hamid et al., 2017). Also, square root of **AVE** of the construct must be higher than the correlations with other latent constructs when evaluating discriminant validity with Fornell & Larcker criterion (Lowry & Gaskin, 2014).

Wang et.al (2015) stated that heterotrait-monotrait (**HTMT**) ratio of correlations is a new method used to evaluate discriminant validity. This method involves comparing it to the predefined threshold. According to Hamid et.al (2017), discriminant validity is inadequate when the **HTMT** value is greater than the threshold. Some researchers suggest the threshold of 0.85. However, based on study from Henseler et.al (2014), **HTMT** value <

0.85 is the most conservative criterion. The authors further suggested that **HTMT** value < 0.90 is more appropriate since the discriminant validity is formed within the two reflective constructs (Henseler et al., 2014).

3.7.3 Inferential Analysis

3.7.3.1 Partial Least Square (PLS)

PLS is utilized for inferential analysis. **PLS** is a variance-based techniques which under the families of structural equation modeling **(SEM)** (Henseler, Ringle & Sinkovics, 2009). Also, **PLS** is an approach used to construct predictive models (Hair et al., 2011).

According to Hair et.al (2011), the path coefficient must be greater than 0.1. Meanwhile, in order to support the path coefficient, the T-statistics must be greater than 1.96 (Nascimento & Macedo, 2016). Furthermore, the variance inflation factor **(VIF)** value is suggested to be lower than 5.0 in order to solve the problem of multicollinearity (Hair et al., 2011). Also, R^2coefficient is used as a predictive precision criterion to examine the predictive power for latent variables (Nascimento & Macedo, 2016). Besides, R^2 values of 0.75, 0.50 and 0.25 for latent variables can be described as significant, moderate and insignificant respectively (Hair et al., 2011).

3.8 Conclusion

Lastly, data analysis and method of data collection has been outlined in chapter 3. Chapter 4 will present the result of data that has been analyzed.

CHAPTER 4 DATA ANALYSIS

4.0 Introduction

200 responses from respondents are presented in this chapter. It is based on primary data collection. Descriptive analysis, reliability analysis and inferential analysis will be conducted by using SAS Enterprise Guide 7.1 and Smart PLS.

4.1 Descriptive Analysis

4.1.1 Respondents Demographic Profile

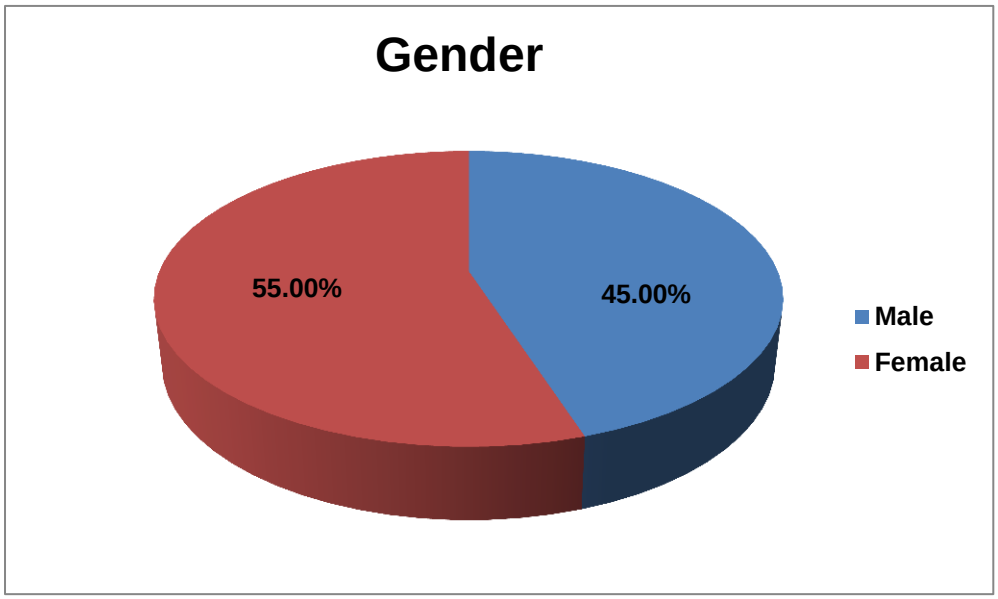
To analyze data that we collected, we applied SAS Enterprise Guide 7.1 in this part. Table below shows the result that was analyzed by SAS Enterprise Guide 7.1.

Table 4.1 Respondents' Gender

Gender	Frequency	Percentage (%)
Male	90	45.00
Female	110	55.00

Source: Developed for the research

Figure 4.1 Respondents' Gender



Source: Developed for the research

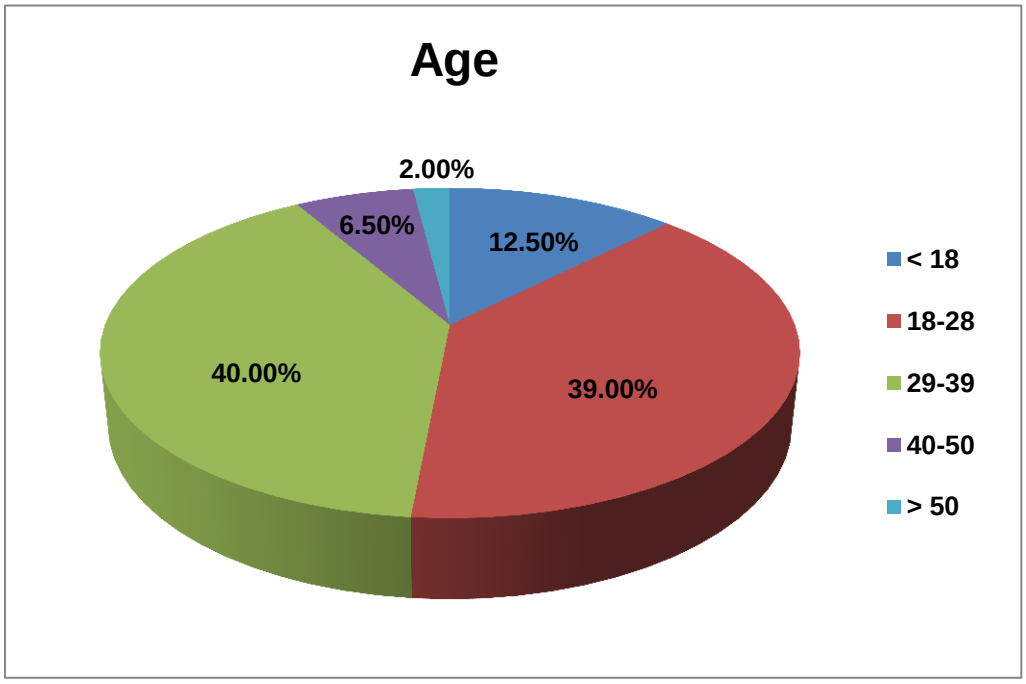
We had 200 sets questions are qualified. Table 4.1 illustrates that 90 (45%) are male respondents and 110 (55%) are female respondents who have participated in our study.

Table 4.2 Respondents' Age

Age	Frequency	Percentage (%)
< 18	25	12.50
18-28	78	39.00
29-39	80	40.00
40-50	13	6.50
> 50	4	2.00

Source: Developed for the research

Figure 4.2 Respondents' Age



Source: Developed for the research

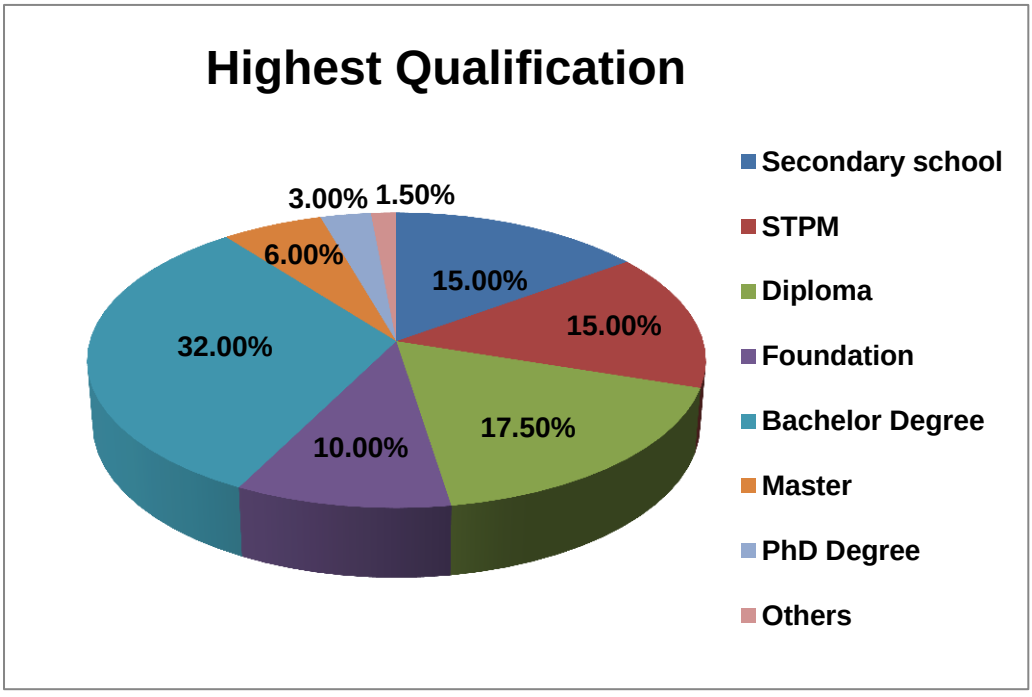
Table 4.2 showed the most popular age range participate this survey was 29 to 39 years old which consists of 80 or 40% of respondents. Besides, 39% or 78 respondents are aged between 18 to 28 years old. Next, there are 12.50% or 25 respondents are aged below 18 years old. Age range between 40 to 50 years old has a total of 13 respondents, which represent 6.5%. The result also showed that 2% of respondents are aged above 50 years old which consists of 4 respondents.

Table 4.3 Respondents' Highest Qualification

Highest Qualification	Frequency	Percentage (%)
Secondary school	30	15.00
STPM	30	15.00
Diploma	35	17.50
Foundation	20	10.00
Bachelor Degree	64	32.00
Master	12	6.00
PhD Degree	6	3.00
Others	3	1.50

Source: Developed for the research

Figure 4.3 Respondents' Highest Qualification



Source: Developed for the research

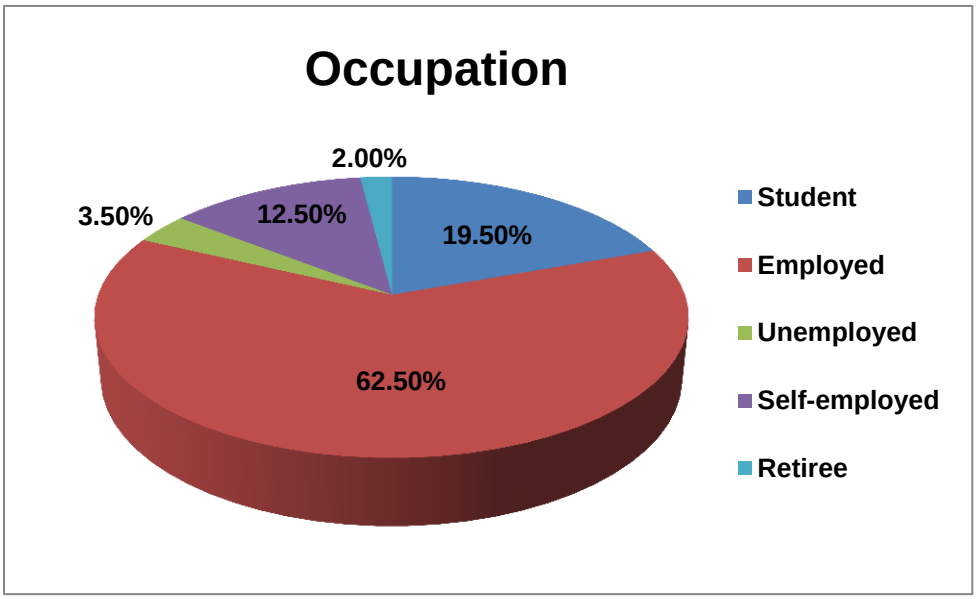
Table 4.3 showed 64 or 32% of respondents' highest qualification is bachelor degree. There are 35 or 17.5% of respondents' highest qualification is diploma. Next, 30 or 15% of respondents' highest qualification is secondary school and STPM respectively. There are 10% of respondents with highest qualification of foundation which consists of 20 respondents. 12 or 6% of respondents' highest qualification is master. Besides, there are 3% of respondents with highest qualification of PhD degree which consist of 6 respondents. Also, the result showed that 3 or 1.5% of respondents with others highest qualification.

Table 4.4 Respondents' Occupation

Occupation	Frequency	Percentage (%)
Student	39	19.50
Employed	125	62.50
Unemployed	7	3.50
Self-employed	25	12.50
Retiree	4	2.00

Source: Developed for the research

Figure 4.4 Respondents' Occupation



Source: Developed for the research

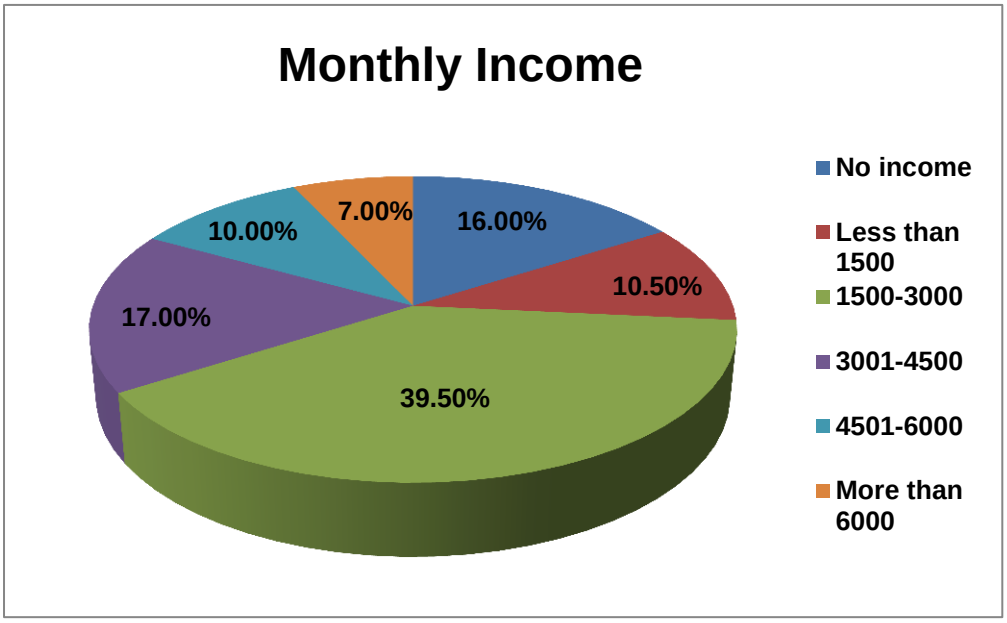
Table 4.4 showed 125 or 62.5% of respondents are employed. There are 39 or 19.5% of respondents are student and 25 or 12.5% of respondents are self-employed. Next, 7 or 3.5% of respondents are unemployed. Also, 4 or 2% of respondents are retiree.

Table 4.5 Respondents' Monthly Income

Monthly Income (RM)	Frequency	Percentage (%)
No income	32	16.00
Less than 1500	21	10.50
1500-3000	79	39.50
3001-4500	34	17.00
4501-6000	20	10.00
More than 6000	14	7.00

Source: Developed for the research

Figure 4.5 Respondents' Monthly Income



Source: Developed for the research

Table 4.5 showed 79 or 39.5% of respondents' monthly income are between RM1500 to RM3000. 21 or 10.5% of respondents' monthly income is less than RM1500. Next, there are 10% of respondents' monthly income are between RM4501 to RM6000 which consists of 20 respondents. Also, there are 17% or 34 respondents with the monthly income of RM3001 to RM4500. The result also illustrated 32 or 16% of respondents with no income, and 14 or 7% of respondents' monthly income are more than RM6000.

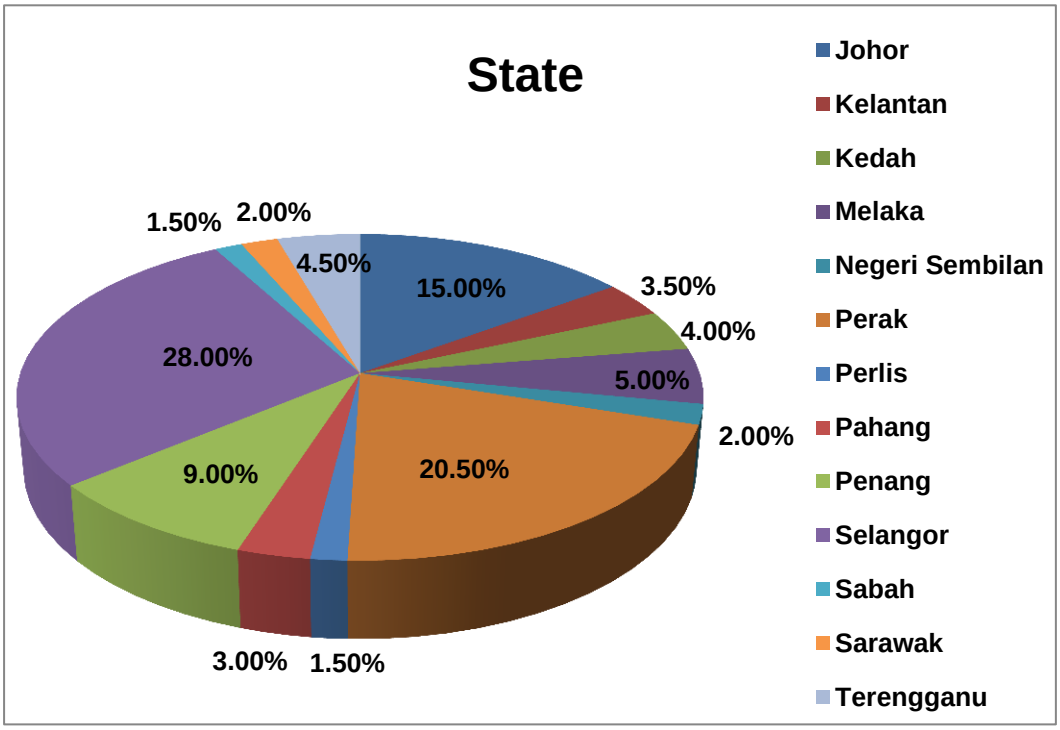
Table 4.6 Respondents' State

State	Frequency	Percentage (%)
Johor	30	15.00
Kelantan	7	3.50
Kedah	8	4.00
Melaka	11	5.50

Negeri Sembilan	4	2.00
Perak	41	20.50
Perlis	3	1.50
Pahang	6	3.00
Penang	18	9.00
Selangor	56	28.00
Sabah	3	1.50
Sarawak	2	2.00
Terengganu	9	4.50

Source: Developed for the research

Figure 4.6 Respondents' State



Source: Developed for the research

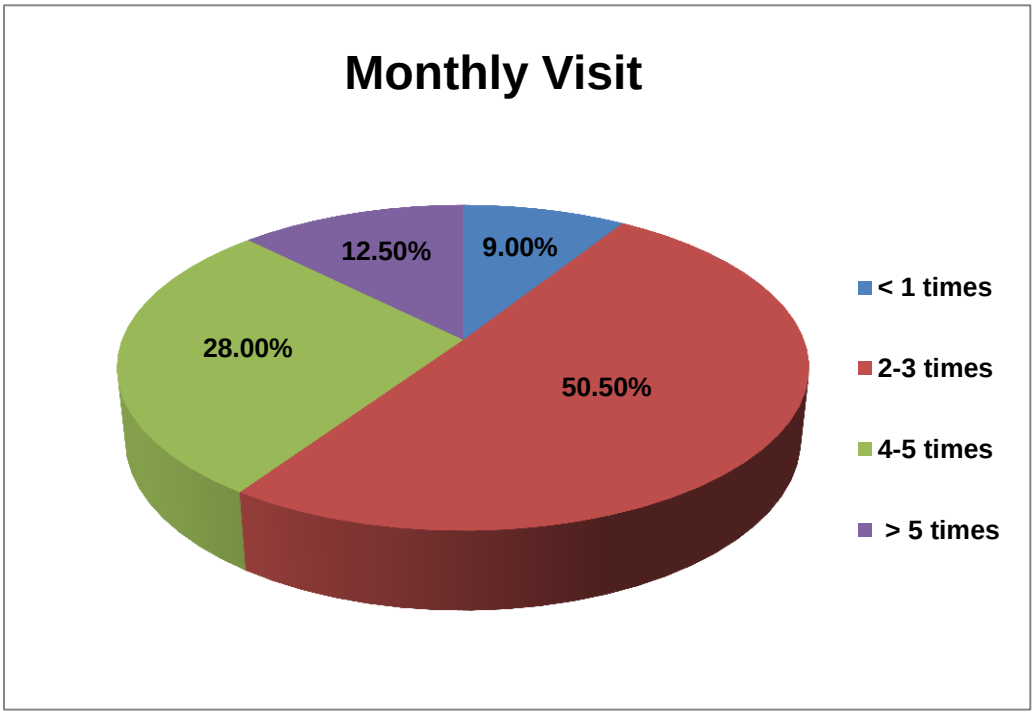
Table 4.6 showed the highest state of respondent participate in this study is Selangor with 56 or 28% of respondents. 41 or 20.50% respondents participate in the study are from Perak. Next, 30 or 15% of respondents that participate in this study are from Johor. Also, 9% of respondents from Penang, which consists of 18 respondents who participate in this study. Melaka state consists of 11 or 5.50% of respondents who participated in this study. Besides, the table showed 9 or 4.50% of respondents from Terengganu, while 8 or 4% of respondents from Kedah who have participated this study. Kelantan consists of 3.5% of respondent participate in this study which consists of 7 respondents. The table showed that 6 or 3% of respondents are from Pahang who participate in this study. 4 or 2% of respondents participate this study are from Negeri Sembilan, while 2 or 2% of respondents are from Sarawak. Also, the result showed that 1.5% of respondents from Perlis and Sabah which consists of 3 respondents respectively.

Table 4.7 Respondents' Monthly Visit

Monthly Visit	Frequency	Percentage (%)
< 1 time	18	9.00
2-3 times	101	50.50
4-5 times	56	28.00
> 5 times	25	12.50

Source: Developed for the research

Figure 4.7 Respondents' Monthly Visit



Source: Developed for the research

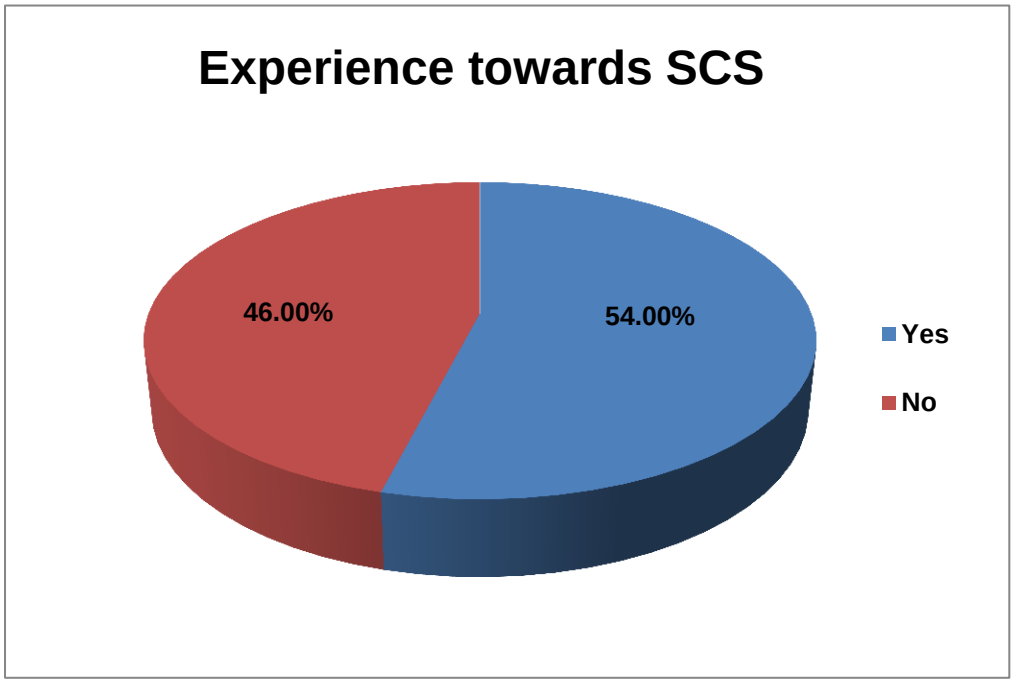
Table 4.7 showed 50.50% of respondents visit hypermarket 2 to 3 times per month which consists of 101 respondents. 28% of respondents visit hypermarket 4 to 5 times per month which consists of 56 of respondents. Next, there are 25 or 12.50% of respondents visit hypermarket more than 5 times per month. The table also showed the result of 9% of respondents visit hypermarket less than 1 time per month which consists of 18 respondents.

Table 4.8 Respondents' Experience towards SCS

Experience towards SCS	Frequency	Percentage (%)
Yes	108	54.00
No	92	46.00

Source: Developed for the research

Figure 4.8 Respondents' Experience towards SCS



Source: Developed for the research

Table 4.8 showed 108 or 54% of respondents have an experience towards **SCS**. However, there are 92 or 46% of respondents do not have experience towards **SCS**.

4.2 Scale Measurement

4.2.1 Internal Consistency Reliability and Convergent Validity

Convergent validity test shows degree that different measures of the same construct converge or strongly interrelated (Engellant, Holland & Piper, 2016).

Table 4.9 Convergent Validity Result

Variables	Items	Outer Loading	CR	AVE
Perceived Usefulness (PU)	PU 1	0.844	0.906	0.658
	PU 2	0.823		
	PU 3	0.824		
	PU 4	0.759		
	PU 5	0.804		
Perceived Ease of Use (PEOU)	PEOU 1	0.759	0.921	0.700
	PEOU 2	0.829		
	PEOU 3	0.869		
	PEOU 4	0.893		
	PEOU 5	0.826		
Attitude towards SCS (ATT)	ATT 2	0.822	0.907	0.662
	ATT 3	0.849		
	ATT 4	0.856		
	ATT 5	0.849		

Intention to Use SCS (ITU)	ITU 1	0.755	0.860	0.553
	ITU 2	0.806		
	ITU 4	0.730		
	ITU 5	0.754		
Actual Usage of SCS (AU)	AU 2	0.726	0.824	0.540
	AU 3	0.786		
	AU 4	0.752		
Deleted items: ATT 1, ITU 3& AU 1				

Source: Developed for the research

Three items (**ATT 1, ITU 3 and AU 1**) were removed from the measurement scale due to the outer loadings generated are lower than 0.70. Based on research, the magnitude of outer loadings must higher than 0.70 (Hair et al., 2011). For outer loadings, all items are greater than 0.70 after removal of three items that values below 0.70, which are **ATT 1** (0.679), **ITU 3** (0.666) and **AU 1** (0.669). After the withdrawal of three items, all variables are being accepted since they are more than 0.70. For **CR** values, each variables are more than 0.60 in which the highest 0.921 for **PEOU**, followed by 0.907 for **ATT**, 0.906 for **PU**, 0.860 for **ITU** and the lowest 0.824 for **AU**. Therefore, the result exhibits that all variables have achieved satisfactory internal consistency reliability. The **AVE** from this study is higher than 0.50, ranging from 0.540 to 0.700. This result shows that convergent validity is valid because all the **AVE** values are greater than 0.50.

4.2.2 Discriminant Validity

Fornell & Larcker criterion, cross-loading of indicator and heterotrait-monotrait (**HTMT**) ratio of correlations are being used in evaluating discriminant validity.

Table 4.10 Factor Matrix

Variables	ATT	AU	ITU	PEOU	PU
Attitude towards SCS (ATT)	**0.814**				
Actual Usage of SCS (AU)	0.465	**0.735**			
Intention to Use SCS (ITU)	0.721	0.464	**0.743**		
Perceived Ease of Use (PEOU)	0.687	0.414	0.600	**0.837**	
Perceived Usefulness (PU)	0.708	0.424	0.636	0.811	**0.840**

Source: Developed for the research

According to Fornell & Larcker criterion, **AVE** of a construct must bigger than its squared correlations with all others constructs in model (Henseler et al., 2015). Bold figures in table 4.10 represented the square root of **AVE**. Those bold figures are determined through diagonal line exhibit a higher number compared to others constructs. This analysis shows that discriminant analysis is confirmed since the **AVE** of a construct is higher than squared correlations with all others constructs in the model.

Table 4.11 Cross Loading

Variables	Attitude towards SCS (ATT)	Actual Usage of SCS (AU)	Intention to Use SCS (ITU)	Perceived Ease of Use (PEOU)	Perceived Usefulness (PU)
ATT 2	**0.822**	0.351	0.591	0.439	0.448
ATT 3	**0.849**	0.358	0.593	0.594	0.645
ATT 4	**0.856**	0.498	0.625	0.693	0.706
ATT 5	**0.849**	0.388	0.681	0.632	0.641
AU 2	0.226	**0.726**	0.204	0.165	0.163
AU 3	0.291	**0.786**	0.282	0.248	0.235
AU 4	0.258	**0.752**	0.242	0.184	0.204
ITU 1	0.670	0.361	**0.755**	0.461	0.486
ITU 2	0.581	0.377	**0.806**	0.554	0.574
ITU 4	0.384	0.346	**0.730**	0.344	0.421
ITU 5	0.547	0.403	**0.754**	0.494	0.495
PEOU 1	0.431	0.316	0.314	**0.759**	0.553
PEOU 2	0.583	0.284	0.499	**0.829**	0.729
PEOU 3	0.509	0.274	0.420	**0.869**	0.739
PEOU 4	0.593	0.352	0.522	**0.893**	0.762
PEOU 5	0.694	0.470	0.667	**0.826**	0.701
PU 1	0.570	0.450	0.648	0.622	**0.844**
PU 2	0.529	0.345	0.511	0.631	**0.823**
PU 3	0.598	0.343	0.494	0.690	**0.824**
PU 4	0.613	0.334	0.477	0.601	**0.759**
PU 5	0.550	0.242	0.448	0.804	**0.865**

Source: Developed for the research

Table 4.11 showed each construct's cross loading. Henseler, Hubona & Ray (2015) mentioned that discriminant validity is confirmed when the load in its latent variable higher than the other latent variable. The bold figures represent the value that has the greatest cross loading compared to other loading value. Therefore, each constructs exhibit the greatest cross loading in its latent variables, showing discriminant validity.

Table 4.12 HTMT Result

Variables	ATT	AU	ITU	PEOU	PU
Attitude towards SCS (ATT)					
Actual Usage of SCS (AU)	0.493 $CI._{975}$ (0.309, 0.656)				
Intention to Use of SCS (ITU)	0.822 $CI._{.975}$(0.733, 0.895)	0.497 $CI._{975}$ (0.338, 0.686)			
Perceived Ease of Use (PEOU)	0.734 $CI._{975}$ (0.603, 0.824)	0.415 $CI._{975}$ (0.242, 0.616)	0.668 $CI._{975}$ (0.524, 0.768)		
Perceived Usefulness (PU)	0.781 $CI._{975}$ (0.656, 0.866)	0.437 $CI._{975}$ (0.264, 0.633)	0.748 $CI._{975}$ (0.611, 0.842)	0.847 $CI._{975}$ (0.896, 0.983)	

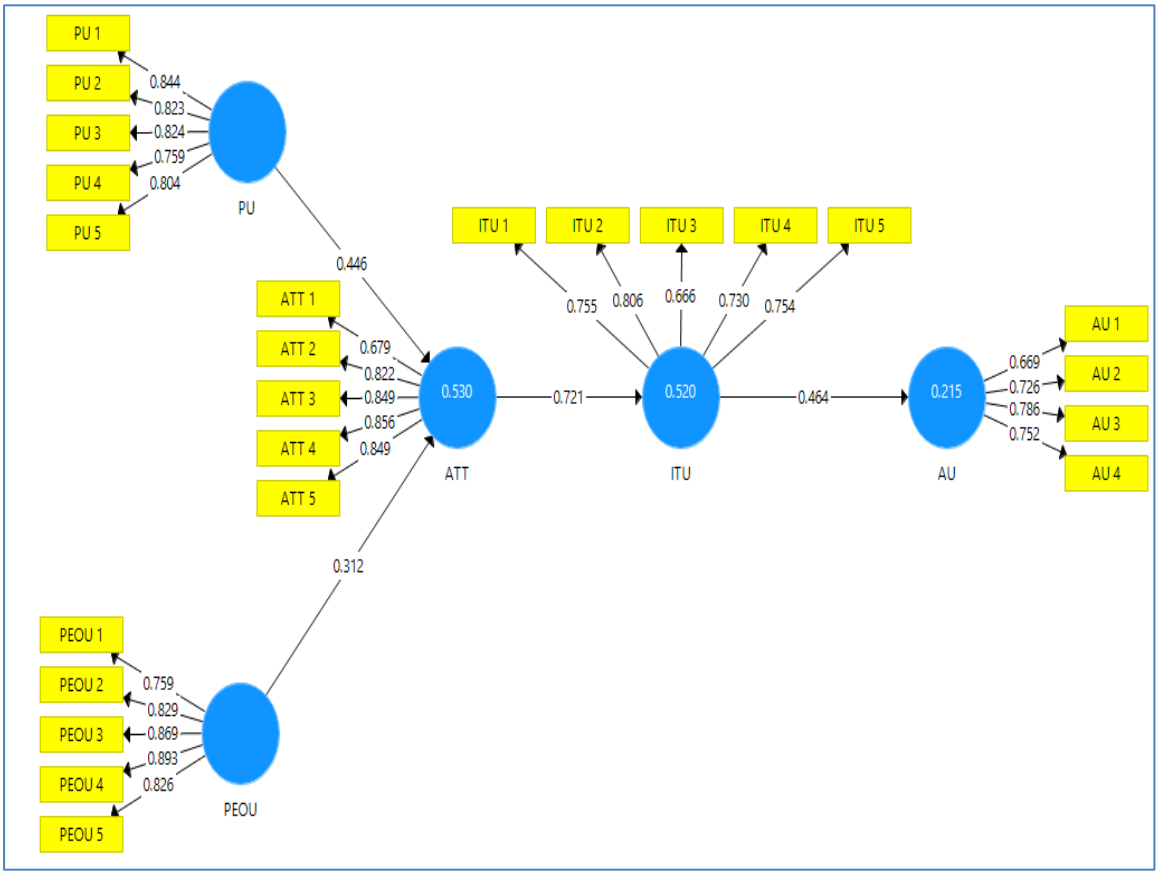
Source: Developed for the research

4.3 Inferential Analysis

4.3.1 Path Analysis

In path model, path analysis is employed to examine the impact of IV on DV. **VIF**, path coefficient and T-statistics were included in the determination of variables' effect. Furthermore, R^2 is used to examine the strength of the overall result.

Figure 4.9 Path Diagram of Smart PLS Results



Source: Developed for the research

Table 4.13 **VIF** of Model

Variables	ATT	AU	ITU	PEOU	PU
Attitude towards SCS (ATT)			1.000		
Actual Usage of SCS (AU)					
Intention to Use SCS (ITU)		1.000			
Perceived Ease of Use (PEOU)	3.390				
Perceived Usefulness (PU)	3.390				

Source: Developed for the research

Table 4.14 R Square of Model

Variables	R Square	R Square Adjusted
Attitude towards SCS (ATT)	0.530	0.525
Actual Usage of SCS (AU)	0.215	0.211
Intention to Use SCS (ITU)	0.520	0.518

Source: Developed for the research

Table 4.15 Hypothesis Path of Model

Research Hypothesis	Path Coefficient	T-statistics	Result
H1: PU has a positive relationship with **ATT** towards consumers' acceptance of **SCS** in hypermarket Malaysia.	0.446	4.729	Accept
H2: PEOU has a positive relationship with **ATT** towards consumers' acceptance of **SCS** in hypermarket Malaysia.	0.312	3.598	Accept

H3: ATT has a positive relationship with **ITU** towards consumers' acceptance of **SCS** in hypermarket Malaysia.	0.721	19.145	Accept
H4: ITU has a positive relationship with **AU** towards consumers' acceptance of **SCS** in hypermarket Malaysia.	0.464	7.995	Accept

Source: Developed for the research

Table 4.13 showed **VIF** values of **ATT, ITU, PEOU** and **PU** are within the range of 1.000 to 3.390. Since all **VIF** values are less than 5.0, the multicollinearity occurrence is void. According to Table 4.15, **H1** is supported and accepted. This is because the path coefficient and T-statistics values for **H1** are 0.446 and 4.729 which are greater than 0.1 and 1.96 respectively. Besides, the path coefficient and T-statistics values for **H2** are 0.312 and 3.598 respectively. **H2** is supported and accepted since path coefficient and T-statistics values are exceeding 0.1 and 1.96. Furthermore, **H3** is significant because the path coefficient 0.721 is greater than 0.1 and the T-statistics 19.145 is greater than 1.96. Therefore, **H3** is accepted. Moreover, the path coefficient and T-statistics values for **H4** are 0.464 and 7.995 respectively. **H4** is significant and accepted since the path coefficient and T-statistics values are greater than 0.1 and 1.96 respectively. According to table 4.14, adjusted R^2 for **ATT** is 0.525, which is considered as moderate relationship. This means that **ATT** is influenced by 52.5% of **PU** and **PEOU**. In addition, weak relationship is determined between **AU** and **ITU** since the value of adjusted R^2 is 0.211. It implies that there are only 21.1% of the variance in **AU** from

ITU. Besides, adjusted R^2 for **ITU** is 0.518 which implies that 51.8% of variance in **ITU** from **ATT**. This shows a moderate relationship between **ATT** and **ITU**.

4.4 Conclusion

In conclusion, there are three items (**ATT 1, ITU 3**, and **AU 1**) been removed from the measurement scale before analyzing the data. Chapter 4 has shown the relationship between **IVs** and the **DV** towards consumer's acceptance of **SCS** in hypermarket Malaysia. By completion of Chapter 4, we discovered that all relationships between **IVs** and **DV** are positives.

CHAPTER 5 DISCUSSION, CONCLUSION AND IMPLICATIONS

5.0 Introduction

This chapter presents summary of statistical analysis. Moreover, this chapter also includes major findings, implications and recommendations as well. A comprehensive conclusion also discussed in this chapter.

5.1 Summary of Statistical Analysis

5.1.1 Summary of Descriptive Statistics

Table 5.1: Summary of Descriptive Statistics

Profile	Frequency	Percentage (%)
1. Gender		
Male	90	45.00
Female	110	55.00
2. Age		
< 18	25	12.50
18-28	78	39.00
29-39	80	40.00
40-50	13	6.50
> 50	4	2.00

3.Highest Qualification		
Secondary school	30	15.00
STPM	30	15.00
Diploma	35	17.50
Foundation	20	10.00
Bachelor Degree	64	32.00
Master	12	6.00
PhD Degree	6	3.00
Others	3	1.50
4. Occupation		
Student	39	19.50
Employed	125	62.50
Unemployed	7	3.50
Self-employed	25	12.50
Retiree	4	2.00
Others	0	0.00
5. Monthly Income (RM)		
No income	32	16.00
< 1,500	21	10.50
1,501- 3,000	79	39.50
3,001- 4,500	34	17.00
4,501-6,000	20	10.00
> 6,000	14	7.00
6. State		
Johor	30	15.00
Kelantan	7	3.50
Kedah	8	4.00

Melaka	11	5.50
Negeri Sembilan	4	2.00
Perak	41	20.50
Perlis	3	1.50
Pahang	6	3.00
Penang	18	9.00
Selangor	56	28.00
Sabah	3	1.50
Sarawak	2	2.00
Terengganu	9	4.50
7. Frequency of visit		
<1	18	9.00
2-3	101	50.50
4-5	56	28.00
> 5	25	12.50
8. Experience towards SCS		
Yes	108	54.00
No	92	46.00

Source: Developed for the research

Table 5.1 showed female respondents are actively participated in this survey. It has higher amount as compare to male. Most respondents are aged between 29-39, has Bachelor Degree qualification, with monthly income between RM 3,001 to RM 4,500, from Selangor, has 2 to 3 times of frequency visit to hypermarket and also most of them have experience towards **SCS**.

5.1.2 Summary of Inferential Analysis

Table 5.2 Summary of Hypothesis Testing

Hypothesis	Path Coefficient (β)	T-statistic	Significant/ Insignificant
H1: PU has a positive relationship with **ATT** towards consumers' acceptance of **SCS** in hypermarket Malaysia.	0.446	4.729	Significant
H2: PEOU has a positive relationship with **ATT** towards consumers' acceptance of **SCS** in hypermarket Malaysia.	0.312	3.598	Significant
H3: ATT has a positive relationship with **ITU** towards consumers' acceptance of **SCS** in hypermarket Malaysia.	0.721	19.145	Significant
H4: ITU has a positive significant relationship with **AU** towards consumers' acceptance of **SCS** in hypermarket Malaysia.	0.464	7.995	Significant

Source: Developed for the research

Table 5.2 showed **ATT** and **ITU** has strongest relationship with β=0.721, after followed by the relationship of **ITU** and **AU** with β=0.464, **PU** and **ATT** with β=0.446 and the last **PEOU** and **ATT** with β=0.312. All hypotheses were tested and all of the hypotheses are significant since T-statistics and path coefficient are greater than 1.96 and 0.1 respectively.

5.2 Discussion of Major Finding

Result shown all hypotheses are supported and significant. According to findings result, **PU** and **PEOU** have positive relationship with **ATT**, **ATT** has a positive relationship with **ITU** and **ITU** has a positive relationship with **AU**.

PU and **PEOU** have positive relationship with **ATT** in this study. **PU** and **PEOU** are the variables that were being studied in **TAM** (Davis, 1989). Both variables are the fundamental determinants of attitude formation. In study of Teo and Zhou (2014), **PU** and **PEOU** serve as the antecedent to **ATT**. According to Teo (2011), **PU** and **PEOU** have direct influences on **ATT** and it is predicted to have indirect influence on behavioral intention and its ultimate usage. An individual will develop favorable or positive attitude towards technology when he found it is highly useful and it is relatively easy to use (Jeong & Yoon, 2013). Therefore, **PU** and **PEOU** are the fundamental determinants in studying technology acceptance which both has direct influence on attitude and it lead to the intention and its ultimate usage of technology.

By referring to the research finding, **ATT** has a positive relationship with **ITU**. It shows the strongest relationship with higher path coefficient. Davis' study stated that (as cited in Surendran, 2012) attitude is the key that affect the intention of

technology usage. Mantle-Bromley's study (as cited in Hussien, 2017) stated that attitude composes of cognitive, affective and conative that develop intention to behave specific behavior or action. It passes through the process of knowledge forming, preference developing and reaction formation. Swelwyn's study (as cited in Phua, Wong & Abu, 2012) mentioned that attitude influences the technology awareness, acceptance and individual behavior intention towards technology. A person will aware of presence of technology and take initiative in using it when his attitude is positive towards technology (Hussein, Onn & Fikry, 2017). Thus, attitude is contributing factor that affect the intention to use of technology.

ITU has a positive relationship with **AU** in this study. **ITU** contributes to the actual usage behvaior of technology. Action or behavior is unlikely to occur when an individual does not have intention towards the object or technology (Moghavvemi, Salleh & Abessi, 2013). Hence, intention antedates action of behavior. Intention is the motivational factor of actual behavior of an individual and it is a predictor of actual behavior (Brusso, 2015). In past literature researches, intention is able to affect the behavior of an individual (Ahmad, 2014; Alenezi, 2015) and it is an indicator to understand the use of technology (Li, 2012; Tarhini, 2015). Thus, intention is the essential key in determining technology acceptance and its actual usage behavior.

5.3 Implications of Study

5.3.1 Managerial Implication

AU towards consumers' acceptance of **SCS** in hypermarket Malaysia was measured by 4 variables. The objective of this study is to explore how **PU** and **PEOU** affect **ATT** while how **ATT** affect **ITU** and finally how **ITU** affect **AU** towards consumers' acceptance of **SCS** in hypermarket Malaysia. The users of **SCS** are projected to increase in future, therefore it is essential and important to have new integrated framework for the **SCS** development.

PU has a positive relationship with **ATT** towards consumers' acceptance of **SCS** in hypermarket Malaysia. **SCS** providers should display the predicted or current waiting time to both traditional checkout process and self-checkout system for the consumer in hypermarket. By doing so, consumers are able to observe how long they have to wait in order to make payment. This enables consumers to observe that the expected waiting time for **SCS** is shorter and might increase the usage of **SCS** as it is able to save time for the consumers.

Also, **PEOU** has positive relationship with **ATT** towards consumers' acceptance of **SCS** in hypermarket Malaysia. **SCS** providers should provide and prepare clear instructions and video demonstrations about the steps to utilize the system and place near to it. By doing so, users are able to get solution for using when they face problem on using checkout system. At the same time, users also would find it easy to use when they utilizing it according to the steps and instructions prepared by the providers.

Besides, **ATT** has a positive relationship with **ITU** towards consumers' acceptance of **SCS** in hypermarket Malaysia. It means that when consumers have positive attitude towards **SCS**, they would have the intention to use that system whenever they visit hypermarket. Therefore, **SCS** providers should frequently maintain and upgrade the checkout system to make sure it is useful and easy for consumers as perceived usefulness and perceived ease of use influence attitude of consumers towards **SCS**.

Lastly, **ITU** has a positive relationship with **AU** towards consumers' acceptance of **SCS** in hypermarket Malaysia. It means that actual usage of **SCS** is higher when consumers have high intention level to utilize **SCS**. **SCS** providers should increase the consumers' use of **SCS** by giving temporary discounts on some products when utilize **SCS** for checkout. By doing this, users would be attracted by the offering and therefore willing to try and increase the use of **SCS**.

5.3.2 Theoretical Implication

In this study, framework of Technology Acceptance Model (**TAM**) is adopted to identify consumers' acceptance towards **SCS** in hypermarket Malaysia. This framework also provides a deep understanding of those determinants that influence acceptance level of consumers on **SCS** in hypermarket Malaysia**.**

Future researchers who are keen in studying **SCS** could use this framework as resources and references. This is because they would able to have deep understanding towards the determinants that affect consumers' acceptance of

SCS. Therefore, this research would be useful to those future researchers who have interest to study in similar field such as self-service technology. This framework is accepted because all the relationship between variables is supported and this study would contribute knowledge for the future researchers.

5.4 Limitation of Study

Several limitations are found in this research. Limitations in this research will be the benchmark for future research and it should be able to improve the quality of research. The first limitation is age. In this study, we found out that 80 respondents are aged between 29 to 39 years old, represents for 40% of total respondents. This means that the accuracy of data will be a question in this study as different age group of respondents will have different views and perceptions towards **SCS**.

Also, the language design of questionnaire is another limitation in this study. During the process of collecting data, we revealed that some of the respondents are not understand the questions as English is the main language setting in the questionnaire. Due to the problem of some respondents are not English educated and posing low educational level, we are spending time on guiding them in filling questionnaire. Thus, it is time consuming when we are collecting data from those respondents who are not understand the questionnaire.

5.5 Recommendation

In order to have further improvement in quality of future research that is similar topic, there are some suggestions are proposed. The first suggestion is future researchers should focus all age group of target respondents rather than certain age group of respondents, which are from youngsters to eldest who have patronage to hypermarket.

Researchers should have average amount of target respondents that representing each age group. Thus, researchers will have more accuracy of data and gain deeper insight about acceptance of respondents in **SCS**. Besides focus on all age group, future researchers are suggested to have dual language or multi-language in questionnaire design to solve the limitation of language design of questionnaire. For example, future researchers could apply Bahasa Melayu and Mandarian besides English as the primary language in questionnaire. The reason of apply dual language or multi-language is due to our target respondents are Malaysians and most of them are come from different races and some of them are not understand English. Thus, by applying dual language or multi-language, researchers are able to obtain data from a wide range of target respondents rather than focus group of respondents.

5.6 Conclusion

In a nutshell, the objective to explore the factors that influence consumers' acceptance of **SCS** is attained. **PU, PEOU, ATT** and **ITU** are adopted to study the factors that influence consumers' acceptance of **SCS**. This study has beneficial to several aspects. For example, it provides recommendations to future researchers, retailers of hypermarket in Malaysia to improve their services and encourage marketers to improve **SST** in other industries other than retailing industry. The finding has shown **PU** and **PEOU** have positive relationship with **ATT**, **ATT** has positive relationship with **ITU** and **ITU** has positive relationship with **AU**.

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APPENDICES

Appendix 3.1: Questionnaire

UNIVERSITI TUNKU ABDUL RAHMAN

FACULTY OF BUSINESS AND FINANCE

ACADEMIC YEAR 2017/2018

BACHELOR OF MARKETING

FINAL YEAR PROJECT

Dear Respondent,

We are UTAR final year undergraduate students of Bachelor of Marketing, who are currently doing Final Year Project. We are seeking for your kind assistance in answering this survey. This survey is to study about the consumers' acceptance towards self-checkout system, a kind of self-service technology (SST) in hypermarket Malaysia. Please answer all the questions on your best knowledge. There are no right and wrong answer. All responses will be kept confidential. Thank you for your participation.

Instructions:

1. There are **two (3)** sections in this questionnaire. Please answer **ALL** the questions in three sections.
2. It takes you about 10-15 minutes in completing this form.

SECTION A: DEMOGRAPHIC PROFILE

1. Gender
- ☐ Male
- ☐ Female

2. Age
- ☐ Below 18 years old
- ☐ 18- 28 years old
- ☐ 29- 39 years old
- ☐ 40- 50 years old
- ☐ Above 50 years old

3. Highest Qualification
- ☐ Secondary school
- ☐ STPM
- ☐ Diploma
- ☐ Foundation
- ☐ Bachelor Degree
- ☐ Master
- ☐ PhD Degree
- ☐ Others: _____

4. Occupation
- ☐ Student
- ☐ Employed
- ☐ Unemployed
- ☐ Self-employed
- ☐ Retiree
- ☐ Others: _____

5. Monthly Income (RM)

- ☐ No income
- ☐ Less than 1,500
- ☐ 1,501- 3,000
- ☐ 3,001- 4,500
- ☐ 4,501- 6,000
- ☐ More than 6,000

6. State

- ☐ Johor
- ☐ Kelantan
- ☐ Kedah
- ☐ Melaka
- ☐ Negeri Sembilan
- ☐ Perak
- ☐ Perlis
- ☐ Pahang
- ☐ Penang
- ☐ Selangor
- ☐ Sabah
- ☐ Sarawak
- ☐ Terengganu

7. How frequent you visit hypermarket per month?

- ☐ less than 1 time
- ☐ 2 to 3 times
- ☐ 4 to 5 times
- ☐ more than 5 times

8. Have you ever experienced self-checkout system in hypermarket Malaysia?

☐ Yes

☐ No

SECTION B: Factors that influence consumers' acceptance towards self-checkout system in hypermarket Malaysia.

This section is seeking your opinion regarding to the factors that influence consumers' acceptance towards self-checkout system in hypermarket Malaysia. Respondents are asked to indicate the extent to which they agreed or disagreed with each statement using 7 Likert scale [(1) = Strongly Disagree; (2) = Disagree; (3) = Slightly Disagree; (4) = Neutral; (5) = Slightly Agree; (6) = Agree; (7) = Strongly Agree]. ***Please circle one number for each statement*** to indicate the extent to which you are agree or disagree with the following statements.

Perceived Usefulness

No.	Questions	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
IV 1	Perceived Usefulness (PU)							
PU 1	I would find self-checkout system in hypermarket is useful in my daily life.	1	2	3	4	5	6	7
PU 2	Using self-checkout system in hypermarket would enable me to save time.	1	2	3	4	5	6	7

PU 3	Using self-checkout system in hypermarket would increase my effectiveness of purchase.	1	2	3	4	5	6	7
PU 4	Using self-checkout system in hypermarket would increase my convenience of shopping.	1	2	3	4	5	6	7
PU 5	Using self-checkout system in hypermarket would enable me to do my shopping faster.	1	2	3	4	5	6	7

Perceived Ease of Use

No.	Questions	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
IV 2	Perceived Ease of Use (PEOU)							
PEOU 1	I feel that using self-checkout system in hypermarket would be easy for me.	1	2	3	4	5	6	7
PEOU 2	I feel that my interaction with self-checkout system would be clear and understandable.	1	2	3	4	5	6	7
PEOU 3	I feel that it would be easy to become skillful at using self-checkout system in hypermarket.	1	2	3	4	5	6	7
PEOU 4	Learning to operate self-checkout system would be easy for me.	1	2	3	4	5	6	7

PEOU 5	Using self-checkout system in hypermarket is/might be effortless.	1	2	3	4	5	6	7

Attitude towards Technology

No.	Questions	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
IV 3	Attitude towards Technology (ATT)							
ATT 1	I will use the self-checkout system in hypermarket when make purchase.	1	2	3	4	5	6	7
ATT 2	I will use the self-checkout system in hypermarket as it is responsive and reliable.	1	2	3	4	5	6	7
ATT 3	I like the idea of using self-checkout system in hypermarket.	1	2	3	4	5	6	7
ATT 4	I believe it is a good idea to use self-checkout system in hypermarket.	1	2	3	4	5	6	7
ATT 5	Using a self-checkout system in hypermarket is a positive idea.	1	2	3	4	5	6	7

Intention to Use

No.	Questions	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
IV 4	Intention to Use (ITU)							
ITU 1	Assuming that I have an access to a self-checkout system, I intend to use it.	1	2	3	4	5	6	7
ITU 2	I plan to use the self-checkout system in hypermarket in the future.	1	2	3	4	5	6	7
ITU 3	I am likely to increase the use of self-checkout system in hypermarket in the near future.	1	2	3	4	5	6	7
ITU 4	I will be using self-checkout system whenever I am going to a hypermarket.	1	2	3	4	5	6	7
ITU 5	It is likely that I will shopping at hypermarket using self-checkout system from now on.	1	2	3	4	5	6	7

Section C: <u>Consumers' Actual Usage of Technology</u>

This section is seeking your actual usage of technology regarding to the self-checkout system in hypermarket Malaysia. Respondents are asked to indicate the extent to which they agreed or disagreed with each statement using 7 Likert scale [(1) = Strongly Disagree; (2) = Disagree; (3) = Slightly Disagree; (4) = Neutral; (5) = Slightly Agree; (6) = Agree; (7) = Strongly Agree]. ***Please circle one number for each statement*** to indicate the extent to which you are agree or disagree with the following statements.

Actual Usage

No.	Questions	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
DV	Actual Usage (AU)							
AU 1	I have used self-checkout system multiple times during this year.	1	2	3	4	5	6	7
AU 2	I have started to use self-checkout system ever since it has been possible.	1	2	3	4	5	6	7
AU 3	I use self-checkout system frequently when buying at hypermarket.	1	2	3	4	5	6	7
AU 4	I make my purchase at self-checkout system whenever possible.	1	2	3	4	5	6	7

Appendix 3.2 Pilot Test

Correlation Analysis

The CORR Procedure

5 Variables:	Perceived Usefulness Perceived Ease of Usefulness Attitude towards Technology Intention to Use Actual Usage

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
Perceived Usefulness	30	5.39333	0.87017	161.80000	2.20000	6.60000
Perceived Ease of Usefulness	30	5.40000	0.87573	162.00000	1.80000	6.20000
Attitude towards Technology	30	5.48667	0.89239	164.60000	2.80000	6.60000
Intention to Use	30	4.84667	0.92577	145.40000	1.80000	6.00000
Actual Usage	30	5.25000	0.68858	157.50000	3.00000	6.25000

Cronbach Coefficient Alpha

Variables	Alpha
Raw	0.878635
Standardized	0.876302

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables		Standardized Variables	
	Correlation with Total	Alpha	Correlation with Total	Alpha
Perceived Usefulness	0.715773	0.851456	0.709084	0.849254
Perceived Ease of Usefulness	0.719211	0.850644	0.704294	0.850404
Attitude towards Technology	0.764680	0.839314	0.761813	0.836429
Intention to Use	0.811297	0.827013	0.818442	0.822314
Actual Usage	0.550481	0.886553	0.547105	0.886777

Pearson Correlation Coefficients, N = 30
Prob > |r| under H0: Rho=0

	Perceived Usefulness	Perceived Ease of Usefulness	Attitude towards Technology	Intention to Use	Actual Usage
Perceived Usefulness	1.00000	0.74755	0.58870	0.61165	0.40573
		<.0001	0.0006	0.0003	0.0261
Perceived Ease of Usefulness	0.74755	1.00000	0.65127	0.63289	0.30880
	<.0001		<.0001	0.0002	0.0968
Attitude towards Technology	0.58870	0.65127	1.00000	0.73956	0.51627
	0.0006	<.0001		<.0001	0.0035
Intention to Use	0.61165	0.63289	0.73956	1.00000	0.65994
	0.0003	0.0002	<.0001		<.0001
Actual Usage	0.40573	0.30880	0.51627	0.65994	1.00000
	0.0261	0.0968	0.0035	<.0001	

Appendix 4.1 Descriptive Analysis- Respondent's Demographic Profile

One-Way Frequencies

Results

The FREQ Procedure

1=Male, 2=Female

Gender	Frequency	Percent
1	90	45.00
2	110	55.00

Age	Frequency	Percent
1	25	12.50
2	78	39.00
3	80	40.00
4	13	6.50
5	4	2.00

Highest Qualification	Frequency	Percent
1	30	15.00
2	30	15.00
3	35	17.50
4	20	10.00
5	64	32.00
6	12	6.00
7	6	3.00
8	3	1.50

Occupation	Frequency	Percent
1	39	19.50
2	125	62.50
3	7	3.50
4	25	12.50
5	4	2.00

Monthly Income (RM)	Frequency	Percent
1	32	16.00
2	21	10.50
3	79	39.50
4	34	17.00
5	20	10.00
6	14	7.00

1=Johor, 2=Kelantan, 3=Kedah, 4=Melaka, 5=Negeri Sembilan, 6=Perak, 7=Perlis, 8=Pahang, 9=Penang, 10=Selangor, 11=Sabah, 12=Sarawak, 13=Terengganu

State	Frequency	Percent
1	30	15.00
2	7	3.50
3	8	4.00
4	11	5.50

1=Johor, 2=Kelantan, 3=Kedah, 4=Melaka, 5=Negeri Sembilan, 6=Perak, 7=Perlis, 8=Pahang, 9=Penang, 10=Selangor, 11=Sabah, 12=Sarawak, 13=Terengganu		
State	Frequency	Percent
5	4	2.00
6	41	20.50
7	3	1.50
8	6	3.00
9	18	9.00
10	56	28.00
11	3	1.50
12	4	2.00
13	9	4.50

1=<1 times, 2= 2-3 times, 3= 4-5 times, 4=>5 times		
Frequency of Montly Visit	Frequency	Percent
1	18	9.00
2	101	50.50
3	56	28.00
4	25	12.50

1=Yes, 2=No		
Experience towards SCS	Frequency	Percent
1	108	54.00
2	92	46.00

****Coding:**

Gender: **1**= Male, **2**= Female

Age: **1**= <18, **2**= 18-28, **3**= 29-39, **4**= 40-50, **5**= >50

Highest Qualification: **1**= Secondary school, **2**= STPM, **3**= Diploma,
4= Foundation, **5**= Bachelor degree, **6**= Master,
7= PhD degree, **8**= Others

Occupation: **1**= Student, **2**= Employed, **3**= Unemployed, **4**= Self-employed,
5= Retiree, **6**= Others

Monthly Income (RM): **1**= No income, **2**= <1,500, **3**= 1,501-3,000,
4= 3,001- 4,500, **5**= 4,501=6,000, **6**= >6,000

State: **1**= Johor, **2**= Kelantan, **3**= Kedah, **4**= Melaka, **5**= Negeri Sembilan,
6= Perak, **7**= Perlis, **8**= Pahang, **9**= Pahang, **10**= Selangor, **11**= Sabah,
12= Sarawak, **13**= Terengganu

Frequency of monthly visit: **1**= <1times, **2**= 2-3 times, **3**= 4-5 times, **4**= > 5times

Experience towards SCS: **1**= Yes, **2**= No

Appendix 4.2 Raw Data- Section A

Gender	Age	Highest Qualification	Occupation	Monthly Income (RM)	State	Frequency of Montly Visit	Experience towards SCS
1	1	1	1	1	1	2	1
1	2	5	2	3	2	2	1
2	2	5	2	4	6	2	1
2	3	5	2	3	6	2	2
1	3	5	2	4	2	2	2
1	3	5	2	3	6	2	2
1	3	4	4	4	10	3	1
1	3	5	4	5	4	3	2
1	3	6	2	5	10	2	1
2	3	3	2	3	3	3	2
2	3	3	4	4	5	3	1
1	3	5	4	4	6	1	2
2	3	5	4	4	13	2	1
1	5	5	5	3	8	2	2
2	5	1	5	2	5	2	2
2	5	2	5	2	1	2	1
2	5	1	5	2	1	3	2
2	4	3	2	3	1	2	1
1	4	5	2	4	1	2	1
1	4	5	4	5	10	3	2
1	4	3	2	4	10	2	1
2	4	1	4	5	6	4	1
1	1	1	1	1	3	4	1
2	1	1	1	1	2	4	1
1	3	5	2	4	10	3	1
2	2	2	2	2	5	3	1
1	4	5	4	5	10	2	2
2	1	1	1	1	10	2	1
2	3	6	4	5	8	2	1
2	1	1	1	1	10	2	1
1	1	1	1	1	10	4	1
1	4	5	2	3	6	4	2
1	2	5	2	4	8	3	2
1	2	5	2	3	10	2	2
2	3	3	2	3	10	3	1
2	3	2	2	3	4	2	1
1	4	6	4	5	10	4	2
1	4	3	2	5	10	2	1
1	1	1	1	1	10	3	1
1	2	4	1	1	6	2	1
2	2	4	1	1	1	3	1
1	3	5	2	3	12	2	1
2	3	5	2	3	13	2	1
1	4	6	2	5	12	3	1
2	3	5	4	5	10	2	1
1	4	1	3	1	10	3	2
2	1	1	1	1	1	4	2

1	2	4	1	2	1	4	2
2	3	5	2	3	4	1	1
1	4	2	3	1	4	1	1
2	4	3	2	3	10	1	2
2	3	2	4	4	7	2	2
1	3	1	4	5	13	2	1
2	2	2	2	2	10	2	2
2	1	1	1	1	10	3	1
2	2	2	4	4	6	2	1
2	3	3	2	3	1	3	1
1	1	1	1	1	1	4	1
1	3	5	2	3	1	4	1
1	1	1	1	1	10	4	2
2	2	4	1	2	13	4	1
1	3	5	2	4	8	3	2
2	1	1	1	1	10	2	1
2	2	2	4	4	6	3	2
2	3	3	2	3	10	2	1
2	3	2	2	3	6	2	2
2	2	2	2	3	10	3	1
2	2	2	2	3	6	2	1
2	3	2	4	4	1	3	2
2	3	5	2	2	1	2	1
1	1	1	1	1	10	2	1
1	2	2	2	3	10	3	1
1	1	1	1	1	10	2	2
1	3	3	2	3	1	3	2
1	2	2	2	2	10	4	2
2	2	2	2	2	13	4	2
1	3	5	2	2	6	2	1
2	3	5	2	4	6	2	2
2	1	1	1	1	6	2	1
1	1	1	1	1	10	2	2
2	3	3	2	3	6	3	1
2	2	2	2	3	10	2	2
2	2	2	4	4	6	3	1
1	2	6	2	4	11	4	1
2	2	6	4	5	6	4	2
2	3	7	4	5	10	3	2
1	3	7	4	5	1	2	1
2	2	8	2	3	6	3	1
1	3	8	2	4	2	2	1
2	2	3	2	3	1	3	1
2	2	6	2	4	6	2	1
1	1	1	1	1	10	3	2
1	1	1	1	1	9	1	2
1	3	7	4	5	10	1	2
1	3	3	3	1	10	2	1
1	2	2	2	3	6	1	2
1	2	2	2	3	4	2	1

1	2	2	4	4	9	2	2
2	1	1	1	1	10	2	1
1	2	8	2	3	10	2	2
2	1	1	1	1	4	2	2
2	2	5	4	6	6	3	2
1	2	5	4	6	6	3	1
2	3	5	4	6	13	2	1
2	1	1	1	1	3	4	2
1	1	1	1	1	9	2	2
2	3	2	2	5	10	2	2
1	3	2	2	5	6	2	2
2	3	2	2	5	6	2	1
2	2	4	1	1	10	2	1
1	1	1	1	1	10	3	1
1	1	1	1	1	1	3	1
1	1	1	1	2	1	2	2
2	2	3	2	3	1	3	2
1	2	3	2	3	6	2	1
2	2	3	2	3	10	2	2
1	3	2	2	3	4	2	2
2	2	3	1	2	13	2	1
1	2	3	1	2	6	2	1
2	3	3	3	1	7	4	2
1	2	5	3	1	10	2	2
2	3	6	2	5	3	2	1
2	3	6	2	5	10	2	2
1	3	3	2	6	10	3	2
1	3	3	2	6	10	2	2
2	2	3	2	4	1	2	2
2	2	3	2	4	1	1	1
1	3	2	2	3	1	2	2
2	3	2	2	3	13	1	1
2	3	6	2	6	9	2	2
1	3	6	2	6	4	2	1
2	2	6	2	4	2	3	2
1	2	5	2	4	9	3	1
2	2	5	2	4	6	2	2
1	3	7	2	6	9	2	2
2	3	7	2	6	10	4	1
1	2	3	1	2	10	3	2
2	2	3	1	2	10	3	2
1	3	7	2	6	3	2	2
2	2	4	1	2	10	3	1
1	2	2	2	3	9	2	1
2	2	2	2	3	9	4	1
1	3	2	2	6	9	2	1
2	3	2	2	6	1	1	1
2	2	3	1	2	1	2	1
2	2	4	1	2	1	2	2
2	3	3	2	3	6	2	2

2	3	3	2	3	6	3	2
2	2	4	1	2	6	3	1
2	2	4	1	2	6	3	2
1	2	3	2	3	10	3	2
2	2	3	2	3	2	4	1
2	2	4	2	4	3	2	2
2	3	5	2	4	6	2	1
2	3	5	2	4	8	2	2
2	2	4	2	3	9	1	1
2	2	4	2	3	2	1	2
2	3	3	2	3	1	2	1
1	3	3	2	3	6	2	2
1	2	3	2	3	6	3	1
1	2	3	2	3	6	1	1
1	3	4	2	4	1	2	2
1	3	4	2	4	10	2	1
1	2	3	2	3	10	3	1
1	2	5	2	3	5	3	1
1	2	5	2	3	6	2	1
2	3	5	2	3	9	2	2
2	3	5	2	3	3	2	1
2	2	5	2	3	10	3	2
2	3	5	3	6	13	3	2
1	3	5	3	6	9	3	1
2	2	4	2	3	10	2	2
2	2	4	2	3	6	2	1
2	3	5	2	4	6	2	1
2	3	5	2	4	10	1	1
1	2	5	2	3	10	1	2
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Appendix 4.2 Raw Data- Section B

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