FACTORS THAT INFLUENCE CONTINUOUS USAGE INTENTION OF MOBILE LOYALTY APPLICATIONS IN 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 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) Equal contribution has been made by each group member in completing the research project.

(4) The word count of this research report is _____.

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This research study is especially dedicated to

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Ms Yip Yen San

and

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PREFACE

With the rise of information technology over the past few years, digital devices have been used by everyone in daily life. Mobile loyalty applications become one of the development of mobile applications. Although it's new to the Malaysian market, but it definitely growing. The number of mobile apps downloads has accumulated to 178.1 billion U.S. dollar during the year 2017. Therefore, it proved that people nowadays are more likely prefer digital devices compared to traditional way. Mobile loyalty applications are more convenient, usefulness and save time compared to traditional method. Thus, the attractiveness of mobile loyalty apps such as usefulness, convenient and save time may lead people to download the mobile loyalty applications. Therefore, this research is aims to examine the factors that influence continuous usage intention of mobile loyalty applications in Malaysia.

ABSTRACT

In this modern era of globalization, Information Technology (IT) industry is growing rapidly and digital devices have been embedded in everyone daily life. In order to capture the market trend, many organizations have engaged in the development of mobile application software for mobile devices and are intended to switchtheir companies' traditional loyalty schemes into digital-based loyalty schemes. However, the facilitation of customers' continuous usage intention is important for the success of mobile loyalty applications.Therefore, this study concentrateson exploringthe factors that influence the continuous usage intention of mobile loyalty applications in Malaysia and the mediating role of satisfaction between perceived usefulness as well as continuous usage intention of mobile loyalty apps users. Some models that are related to information technology which consists of Expectation Confirmation Model and Technology Acceptance Model has been adopted in exploring the continuous usage intention of mobile loyalty apps. Additional independent variables are also added in this study to further investigate the continuous usage intention of mobile loyalty apps. Thus, a framework that consists of perceived usefulness, perceived ease of use, habit, perceived enjoyment, and satisfaction is developed which is anticipated to have a positive influence on continuous usage intention of mobile loyalty apps. Based on the outcomes from Partial Least Squares Structural Equation Modelling (PLS-SEM3), it has shown that all variables have positive influences on continuous usage intention of mobile loyalty apps in Malaysia except for habit and perceived enjoyment. Perceived usefulness is also proved to have positive influences on the satisfaction of using mobile loyalty apps. In conclusion, this research finding provided a better insight for future researchers and organizations on continuous usage intention of mobile loyalty apps.

CHAPTER 1: RESEARCH OVERVIEW

1.0 Introduction

Background, problem statement, research objectives together with questions will be discussed in this topic. Lastly,the significance of this study is also reviewed in this topic.

1.1 Research Background

The number of smartphone subscribers has increased and this has increased the adoption of mobile application software nowadays, which also known as mobile "apps" (Hsu & Lin, 2015).Mobile appsare often used to display a brand identity and are designed to be installed in a mobile device (Zhao and Balagué, 2015). During the year 2017, the number of mobile apps downloads has accumulated to 178.1 billion U.S. dollar and it is projected that there will be 260 billion U.S. dollar total app downloads by the year 2022 (Iqbal, 2019).Thishuge growth of mobile appsbenefits the consumers by reducing the number of loyalty cards they carry (Landau, 2017). Therefore, companies are increasing their efforts in developing enterprise mobile loyalty applicationsfor their customers. According to Kuryliak (2018), eighth-eight percent of brands hold an opinionthat their return on investment (ROI) rely on mobile app success. Bothcard-based and digital-based loyalty programsaredesigned to recognize customers, especially repeat customers (Landau, 2017). Moreover, the cost of acquisition is also one of the reasons why companies want to build relationships with the customers and reward the most loyal customers (Canavan, 2017).According to Woodward (2017), Code Broker said that seventy-one percent of shoppers would like to make use of their loyalty cards if the cards and rewards can be accessed via mobile phone.

In fact, according toThe Nielsen Global Retail Loyalty-Sentiment Survey (2016), Malaysia is one of the countries that havethe highest self-reported rates of loyalty program participation (77%). It also stated that there is about 40% of Malaysians are usinga retailer's mobile application.In Malaysia,there is quite a number of business companies have developed a mobile loyalty program for the customers such as Sushi King MY, Starbucks Malaysia, as well as MYDigi. Consumers will be rewarded based on frequent purchase history. For instance, every single RM1 spent on MYDIGI app earns 1 Digi Point and the particular customer who earns an accumulated point of 1500 within one cycle (6 months) will become Platinum-tier customer automatically. These Platinum customers can enjoy their privileges and benefits such as exclusive Digi deals, exclusive event invites, and priority queue on Digi Helpline(Digi Telecommunications Sdn Bhd, n.d.).By developing mobile loyalty programs, customer experiences can be improved and organizations can have a better understanding of customers' behaviors and are more capable in capturing customers' loyalty towards the brands (Woodward, 2017).

1.2 Research Problem

According to Statista (2019),there have been 15.6 million smartphone users in Malaysia during the year 2017 and it is estimated to reach 18.4 million smartphone users during the year 2019.This huge smartphone usage has led to the rapid growth of mobile apps download rate and the companies are involving aggressively in developing their companies' mobile applications. Forty-two percent of organizations anticipateincreasing spending on mobile app development as compared to an average of thirty-one percent in 2016 (Gartner, 2016). However, this large number of installs only indicates that the particular app is in favorof users initially (Scacca, 2018). Although the mobile loyalty apps itself bring forward benefits and more convenience, research from Centre of Retail Research (CRR) shows that only 16% of retails apps are been used 'a lot' and

more than a quarter (approximately 27%) were downloaded but never been used (Bacon, 2015). In addition, there are only 38% of users who use an application for eleven times and above during the year 2018 (Statista, 2018). According to Perro (2018), she also found out that the average mobile app retention rate was 29% after 90 days during the year 2017. This is also indicating that 71% of all app users churn within 90 days (Perro, 2018). This had become clear that although certain mobile loyalty apps are being downloaded, the numbers of users of the apps itself continuously throughout the span of its introduction are relatively low.

Besides that, there is a limited understanding of continuous usage intention towards mobile loyalty applications. For instance, a great number ofprior researches emphasized on mobile social media application (Hoehle, Zhang & Venkatesh, 2015), mobile shopping application (Musa et al., 2016), and mobile booking application (Weng, Zailani, Iranmanesh &Hyun, 2017). Some recent researches focused on the adoption of the mobile application instead of the continuous usage intention of the mobile application. These studies include Hsu and Lin (2015) which examined the purchase intention ofpaid mobile application;Harris, Brookshire, and Chin (2016) studied the determinants of mobile application adoption.

In order for a mobile application to be successful, the organization must have a deep understanding on the behavior of users and the appshould have loyal subscribers whokeep using the app once the app isbeing downloaded. In this case, the retention rate should be the main concern of the organization. Users are considered aslosing their interestowards an application if there is a constant lack of usage of the app itself (Scacca, 2018).

In short, this study will focus on users' continuous usage intention of mobile loyalty application in Malaysia. As users' retention rate is important for mobile apps success, factors that influence the continuous usage intention ofmobile loyalty application will be examined in this study. This might be beneficial for organizations that wish to develop an app that meets the needs of users.

1.3 Research Objectives

1.3.1 General Objective

The main aim of the research was to study and investigate the factors that influence the continuous usage intention of mobile loyalty apps.

1.3.2 Specific Objectives

1. To investigate the influenceofperceived usefulness oncontinuous usage intention of mobile loyalty apps.
2. To investigate the influence of perceived ease of useoncontinuous usage intention of mobile loyalty apps.
3. To investigate the influence of habit on continuous usage intention of mobile loyalty apps.
4. To investigate the influence of perceived enjoyment oncontinuous usage intention of mobile loyalty apps.
5. To investigate the influence ofperceived usefulnessonthe satisfaction of using mobile loyalty apps.
6. To investigate the influence ofusers' satisfaction oncontinuous usage intention of mobile loyalty apps.

1.4 Research Questions

In accordance with our research objectives, several questions had been designed to be answered once this research is completed. The questions are as follows:

1.4.1 General Question

What are the factors that influence the continuous intention of using mobile loyalty apps and how does it affects them?

1.4.2 Specific Questions

1. What is the determinant(s) of continuous usage intention of mobile loyalty apps?
2. What is the influence of the determinant(s) towards continuoususage intention of mobile loyalty apps?
3. Which are the determinant(s) that positively influence the continuous usage intention of mobile loyalty apps?
4. Which are the most significant determinant(s) that imposes the highest effect in influencing the continuous usage intention of mobile loyalty apps?

1.5 Research Significance

This particular research may able to help practitioners to understand the relationship loyalty program itself as a whole on the mobile apps platform and continuous usage intention of mobile loyalty apps. From a profitable organization perspective, they able to further capture the heart of the user thus helping them to retain the customer in their organization. For mobile app marketers, this research able to let them have an understanding in regards to the user's satisfaction and

expectation towards a mobile-based loyalty app thus could be implemented by practitioners to further increase the competitive advantages of the organization in terms of their offering in their loyalty program apps. Through this, they could then able to design a strategy to enhance the continuous intention of using mobile loyalty apps rather than depending on the traditional loyalty scheme and further advance towards a fully digitalized-based loyalty scheme. They also can ensure the userswill constantly use the apps itself rather than just downloading it and being forgotten or worst ended up being uninstalled. For mobile app developers, they can have a deep understanding of users' behaviors, which enable them to develop loyalty apps that meet the needs and requirements of users. Not only that, through this research as well, they able to understand and gain knowledge on the user's intention or drive that probe them to continuously use the mobile loyalty apps and why they do not condone the mobile loyalty apps introduction. Finally, through all the variables identified, the public as a whole able to understand more about what the mobile loyalty apps future withhold in the e-commerce platform and the growth opportunity of digitalized-based loyalty scheme, other than providing an in-depth insight for the user to understand their own drive-in accessing certain mobile loyalty apps.

From a research perspective and purposes isenabling readers to have a deeperinsightof mobile loyalty scheme and the factors that influence the users nowadays to continuously use the apps on their smartphones. Apart from that, this research may also act as a reference in future studies for researchers that wish to study on the mobile loyalty scheme-based research. As such, it clears to say it may come in handy due to relatively low-availability reference on past research conducted, both online and offline on mobile loyalty apps as most of the research were much more general, focusing on the adoption and continuous intention of usage on mobile apps. Through an in-depth reading of this research, readers able to know exactly why the users continue to use mobile loyalty apps and why they don't.

1.6 Conclusion

Explosive uses of the smartphone, growth of mobile loyalty apps adoption, research target respondents and their continuous usage intention have been assessed and discussed in this chapter. The objective of this research is to examine the influence of perceived usefulness, perceived ease of use, perceived enjoyment, habit, and satisfaction on continuous usage intention of mobile loyalty apps in Malaysia. This research will also explore the influence of perceived usefulness on the satisfaction of using mobile loyalty apps. The conceptual models and past literature that are relates to this research will be reviewed in the chapter below.

CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

Chapter 2 analyses past literature relevant to this research study (factors that influence continuous usage intention of mobile loyalty applications). ECM was referred to this study for the explanation of continuous usage intention towards mobile loyalty applications. This chapter also includes an illustration of the research framework and discussion on hypotheses development.

2.1 Underlying Theory

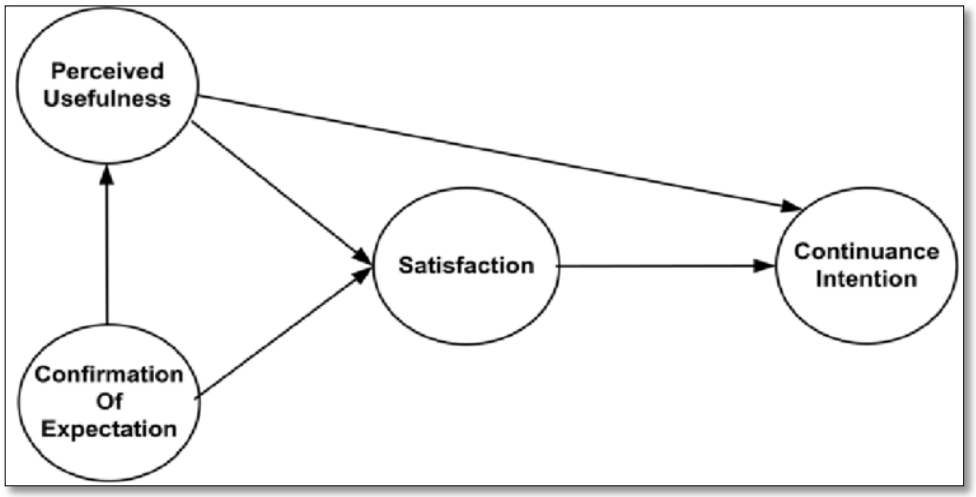
2.1.1 Expectation Confirmation Model (ECM)

The suitable model for this study is the expectation confirmation theory (ECM). Expectation-confirmation model was introduced by Bhattacherjee and the purpose of this model is to investigate the continued usage of technologies and information systems (Rahman, Zamri & Leong, 2017).

Based on ECM, the initial use of this model does not automatically influence the continued use, but a key role to affect the success of a system rather than the initial use. According to past studies, it shows that ECM had adopted by many researchers to examine users' continued usage of IS such as Internet-based learning technologies (Limayem & Cheung, 2008),

e-learning (Lee, 2010), and online shopping (Lee & Kwon, 2011), which prove that ECM is appropriate to use in predicting continuance intention in the context of mobile loyalty applications. Thus, as mobile applications (mobile commerce) is a type of IS, ECM is suitable for this study.

Figure 2.1: Expectation Confirmation Model (ECM)

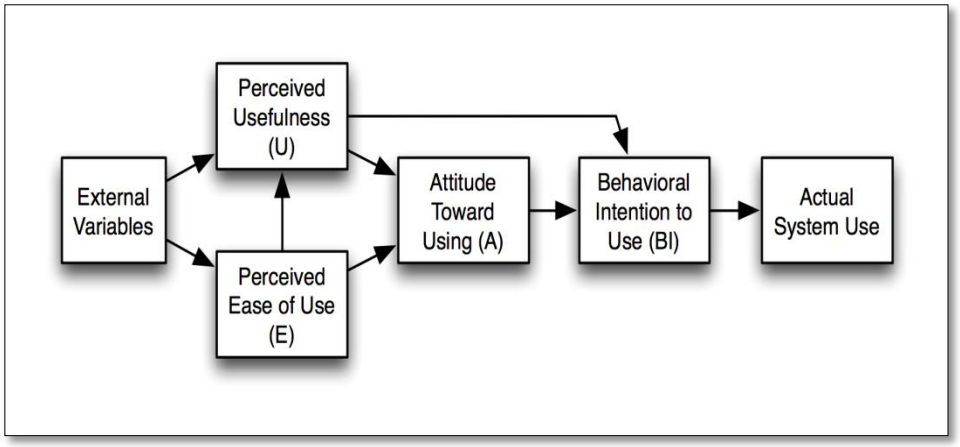


Source:Bhattacherjee, A. (2001b). Understanding Information System Continuance:An Expectation-Confirmation Model. *MIS Quarterly. 25*(3), 351-370.

2.1.2 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) was proposed by Davis (Davis, 1989). It is one of the popularly cited models in the study of IT adoption (Chong, Ooi, Lin & Bao, 2012). It predicts that technological adoption of individuals could be examined by perceived usefulness and perceived ease of use(Avcilar & Ozsoy, 2015).

Figure 2.2: Technology Acceptance Model (TAM)



Source:Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, *13(*3), 319-340.

2.1.3 Limayem - Habit

Limayemand Hirt (2003) stated that habit can be evaluated and adapted to IS usage. IS habit is referring to the extent of consumers who response automatically by learning, and it can be applied to understand the adoption of IS usage (Limayem, Hirt & Cheung, 2007). Besides, the habit has less conceptual overlap with intentions which provide an additional factor for IS to explain the usage of new technologies (Limayem & Hirt, 2003).

There are several researchers stated that the original ECM is not comprehensive enough for the investigation. For a clear comprehension of the continuance usage intention, there is a need to further develop it (Ali Harasis, Imran Qureshi,& Rasli, 2018). To address these issues, this research seeks to construct a new theoretical model in order to deepen and investigate the relationship between customer perceived usefulness, perceived enjoyment, perceived ease of use, habit, satisfaction, and user's continuance intention in the context of mobile loyalty applications. In

ECM, confirmation is the gap to which an individual's initial expectation of system use and its actual performance with the system (Bhattacherjee, 2001b). Due to the confirmation has no direct effect on continuance usage intention, so we do not encourage confirmation as one of the variables in this study.

2.2 Review of Relevant Literature

2.2.1 Dependent Variable: Continuance Usage Intention

In accordance with Han, Wu, Wang, and Hong (2018), continuous usage intention (CUI) can be used to examine the user's decision to continue to use specific product or service that users have experienced. It is also considered as a way to test one's intention to consistently perform a specific behavior (Amoroso& Chen, 2017). Amoroso and Lim (2017) said that CUI is inherently by intentional actions and decisions such as ease of use, belief and expectation from prior experience as well as an affective and emotional decision which including satisfaction and cognitive absorption. In the IS context, continuance has been labeled post-adoptive behavior, which is a term that encompasses continuance intention, continued usage, intention to recommend, satisfaction and loyalty (Bhattarcherjee & Barfar, 2011; Hossain & Quaddus, 2012).

2.2.2 Mediator: Satisfaction

Satisfaction considered as the cumulative feelings created by a consumer when they have repeated interactions towards a product and service

(Amoroso & Chen, 2017). Bhattacherjee (2001a) stated that positive (satisfaction) and negative (dissatisfaction) feeling will affect the behavior of consumers after their initial experience. In addition, Bhattacherjee also proposed that satisfaction can have direct influences on continuous intention (Bhattacherjee, 2001b). In Expectation Confirmation Model (ECM), satisfaction occurs when expectations of consumers towards products and services are met and eventually encourage them to repeat their purchase behavior (Chong, Chan & Ooi, 2012).

2.2.3 Independent variable: Perceived Usefulness

Davis (1989) stated that perceived usefulness or effort expectancy is a method to evaluate a person whether he or she is able to improve their job performance if they use a specific system. Bhattacherjee (2001b) said that perceived usefulness is an adequate expectation of benefits from the system.The purpose of collecting points through loyalty application is to get some rewards such as free flight ticket (Peter, Laszlo,& Tracey, 2016) and price reduction (Meyer-Waarden, Benavent & Casteran, 2013). Many studies stress that continuance intentions of technology are represented by perceived usefulness (Kim, Mirusmonov & Lee, 2010). In addition, Thong, Hong,and Tam (2006) stated that perceived usefulness can be used in determining the users' satisfaction and continuance intentions.

2.2.4 Independent variable: Perceived enjoyment

Perceived enjoyment shows the extent to which the user experiences enjoyment or fun towards the adoption of an information system (Hsiao, Chang & Tang, 2016). Perceived enjoyment is regarded as the main hedonic and utilitarian elements (Coursaris & Sung, 2012).The hedonic system guides the users to interact with others and this can be seen as

evoking the positive feelings of users and increase their continued usage intention to ahigher level (Hsiao et al, 2016). According to Kyguoliene, Zikiene, and Grigaliunaite (2017),the advantages of hedonic can be discovered through entertainment and exploration which lead to increase their pleasure and satisfaction.

2.2.5 Independent variable: Ease of use

According to Venkatesh, Thong, and Xu (2012), ease of use is to assess how easy of a system can be used by different users. In other word, it indicates that what a system can do and what it approves its customers to do like the functions and capabilities embedded in the area of e-service technology (Simona, 2013). It has similar meaning with effort expectancy (Saadé & Bahli, 2005). Ghalandari (2012) stated that any technology can be considered useful if the users can use it easily and least of efforts. In addition, user-friendliness is one of the key factors that influence some particular loyalty applications such as highly accessible, quick to download, easy to read and good navigation (Winnie, Lo & Ramayah, 2014).

2.2.6 Independent variable: Habit

Habit is referring to the extent of people who perform their behavior and response automatically because of learning. It shows that users who have been using a particular technology in a period of time are predisposed to remain and continue to use it automatically (Amoroso & Lim, 2017; Limayen et al., 2007). According to Chong (2013a), habitual use shows that consumers have current met their needs and expectations in using a particular technology. Studies also have demonstrated that habitual

behavior promotes the continuation of the same response and behavior (Hsin & Wang, 2006).

2.3 Development of Research Framework

Figure 2.4: Research Framework

Source: Developed for Research

2.4 Hypothesis Development

H1: Perceived enjoyment has a positive influence on continuous usage intention of mobile loyalty applications.

Perceived enjoyment is said to be similar to hedonic motivation. It also can influence the behavioral intention of a system (Davis, Bagozzi & Warshaw, 1992). According to Chang, Liu, and Chen (2014), users with hedonic motivation tend to concern more pleasure, fun, as well as playfulness. This result has been further proven by a research conducted by Moon and Kim (2001), which revealed that

attitude and intention of users on World-Wide-Web are impacted by perceived playfulness. According to research conducted by Oghuma, Libaque-Saenz, Wong & Chang (2016), the continuous usage intention of mobile instant messaging system is directly influenced by perceived enjoyment. Perceived enjoyment also has been found to has an impact on continuance intention of mobile financial applications (Amoroso & Chen, 2017). A study done by Kim, Hwang, Zo, and Lee (2014) stated that perceived enjoyment has no significant influence on continuous usage intention of augmented reality smartphones. There are arguments on impacts of perceived enjoyment, as some studies showed that it has a significant influence on continuous usage intention of IS while some are not. However, perceived enjoyment is still projected to have a positive influence on continuous usage intention of mobile loyalty applications in this study.

H2: Perceived usefulness has a positive influence on continuous usage intention of mobile loyalty applications.

Perceived usefulness is considered one of the important factors that influence the acceptance in IS as it can affect continuance intention (Bhattacherjee, 2001b). Besides, Bhattacherjee also defined perceived usefulness as the users' perception of the expected benefits of an information system. The users who felt satisfied when the benefits gained from using mobile instant messaging (MIM) is larger than their expectations are more likely to have a continuous usage intention towards MIM (Oghuma et al., 2016). Lu (2014) stated that perceived usefulness has significant influence on continuance intention of mobile commerce. A recent research shows that perceived usefulness has various relationships towards the continuance intention such as direct and indirect effect on continuance intention and satisfaction (Oghuma et al., 2016; Zhong, Luo & Zhang, 2015).Okumus, Ali, Bilgihan, and Ozturk (2018) provided statistical evidence supporting the significant role of perceived usefulness in contributing to the customer's intention to use mobile food apps.

H3: Perceived usefulness has a positive influence on the satisfaction of mobile loyalty applications.

According to Bhattacherjee (2001b), user satisfaction was determined by confirmation of expectation from prior use and perceived usefulness. Tam, Santos and Oliveira (2018) stated that the mobile apps user will get more satisfaction when they felt that mobile apps are useful. The functions in financial mobile apps such as e-wallet will make consumers felt gratified when they shopping with financial mobile apps and lead them to a greater level of satisfaction (Amoroso and Chen, 2017). Besides, perceived usefulness has a significant influence on a users' satisfaction of a mobile application (Ghazal, Akmal, Iyanna and Ghoudi, 2016). Perceived usefulness has been found have impact on satisfaction among augmented reality application users (Kim et al., 2014), online reservation system users (Mouakket, 2014) and instant mobile messaging (Oghuma et al., 2016). According to Ye et al (2019), the more usefulness users perceive of new apps, the better they evaluate the app in meeting their requirements and expectations.

H4: Satisfaction has a positive influence on continuous usage intention of mobile loyalty applications

Satisfaction along with continuance usage intention is viewed as the factor of retaining a loyal relationship with consumers. Customers who felt satisfied with the mobile applications would tend to continue to use it in future (Pereira, Ramos, Gouvea & Costa, 2015). Based on Bhattacherjee (2001b), users with higher levels of satisfaction tend to have a stronger intention to use. According to Tam et al (2018), if mobile application users who are satisfied, they will tend to continue to use the mobile application. According to Hsiao et al (2016), they indicated that customer satisfaction would be a major influence of continuance intention in the number of mobile technologies and applications. A user who satisfied with the mobile financial apps has made their overall assessment on the quality, functionality and service of the apps and it shows satisfaction would lead to

continuance intention to use the mobile financial apps (Amoroso & Chen, 2017). In addition, satisfaction has been analyzed in-depth that it plays a critical role in predicting consumer's attitudes and continuance intention in mobile taxi booking applications (Iranmanesh, Zailani & Nikbin, 2017). Satisfaction emerged as an important predictor of the intention to continue to use mobile payment apps because satisfaction is a result of meeting customers' expectations of the service (Humbani & Wiese, 2019).

H5: Perceived ease to use has a positive influence on continuous usage intention of mobile loyalty applications

Perceived ease to use is the extent to which a user believes that using a system or apps is free of effort (Chiu and Wang, 2008). According to Venkatesh et al. (2012), he indicated that perceived ease of use is influencing the continuous usage intention in mobile technology. Besides, perceived ease of use is also an important factor that influences the continuance usage intention of mobile shopping applications (Chopdar & Sivakumar, 2018). When consumers find mobile applications easy to use and less confusing, then they will tend to use it more often (Tang, 2016). Adapted to Tam et al (2018), the less is the effort when they using the mobile apps, the greater the users' preference continuance intention to use it. Adapted to the study of Chong (2013b), it shows that the perceived ease of use of the technology system will influence m-commerce's continued intention such as m-shopping apps.

H6: Habit has a positive influence on continuous usage intention of mobile loyalty applications

Habit is people who tend to perform behaviors automatically and showed the users who have been used the technology for some time and use it in an automatic manner (Limayen et al., 2007). Furthermore, financial mobile apps in China reward loyal customers, thus consumers tend to resist changes and lock into the current services to get more values from the services so that they become loyal customers. Thus, habit indicates that users are get used of previous habitual and

willing to continue to use the mobile apps (Amoroso and Chen, 2017). In addition, the habit of using mobile apps will boost users' continuance intention of using mobile apps again in the future (Tam et al., 2018).The frequent use in mobile apps results in habit formation, whereby users tend to continuously use them out of automatically (Chopdar &Sivakumar, 2018).Amoroso and Lim (2017) found that users who are satisfied with their prior experience of mobile apps are more likely to form habitual behavior towards apps and hence they willing to keep use mobile payments in the hotel sector.

2.5 Conclusion

The conceptual framework and hypotheses proposed were established on the basis of prior studies and conceptual model reviewed. The following chapter will emphasize on the research methodology.

CHAPTER 3: METHODOLOGY

3.0 Introduction

The research design, data acquiring method, and sampling design will be discussed in this chapter. The creation of a questionnaire, measurement of the construct, data processing steps, and data analysis will be identified in this chapter as well.

3.1 Research Design

3.1.1 Quantitative Research

Quantitative research is a research strategy that emphasizes quantification in the collection and analysis of data(Bryman, 2012). By using this method, the findings are more likely to be generalized to the whole population as it enables us to target a larger population which is randomly selected. Therefore, it is used to explore the influence of independent variables towards the continuous usage intention of mobile loyalty applications.

3.1.2 Descriptive Research

Descriptive design was chosen for this study. This is due to descriptive research can be deployed in order to explain the characteristic of a population (Burns& Bush, 2010). It can be designed in the form of closed-ended questions, which limits the unique insight (Penwarden, 2014). We collect data and explain a certain individual, group or situationthrough this research design (Polit & Hungler, 1999). Thus, questionnaires are disseminated to the targeted population for data collection.

3.2 Sampling Design

3.2.1 Target Population

The targeted population of this study is millennials and pre-millennials group of people, who also known as Generation Y or Gen Y. Besides, this research also targets Generation X which aged from 38 to 53 yearsold (Serafino, 2018). According to Oracle (2018), the millennials are within the age range of 25 to 34 and pre-millennials is within the age of 18 to 24. These millennials are selected because over 70% of millennials and pre-millennials were members of loyalty programs (Oracle, 2018). Membership of an online retailer's program is more probable among millennials than any other age group as there are 41% of millennials belong to an online retailer loyalty program and 65% of millennials say they prefer digital rewards (Hawk Incentives, 2018). Gen X participates the most in loyalty programs. 82% of Gen X consumers reacted that they are active in at least one loyalty program. They also redeem more than other generations. 77% of Gen X program members redeem rewards at least once a quarter (CrowdTwist, 2018).

3.2.2 Sampling Frame and Sampling Location

There is no sampling frame for this study due to absence of information data regarding people who utilizemobile loyalty applications. Survey questionnaire will be distributed via online, therefore, no sampling location for this study.

3.2.3 Sampling Element

University students and working adults who have experience of using mobile loyalty applications are considered as our target respondents in this study.

3.2.4 Sampling Size

The study's sample size is 300. This is due to sampling proportion between 30 and 500 is deemed to be suitable for studies as suggested by Roscoe (1975). According to MacCallum, Widaman, Zhang, & Hong (1999), the factor loadings of variability in samples will decrease when the sample size is increased. In addition, Rumsey (2005) stated that the larger the sample size, the smaller the sampling error will be.

3.2.5 Sampling Technique

Non-probability sampling is adopted in this study. Etikan and Bala (2017) said that a non-probability sampling technique does not offer equal chances for elements in the universe to be selected in the study sample. By

using this sampling technique, our tasks become more cost- and time-effective.

Convenient sampling is used in the data collection process of this study. We collect data from population members who are convenient data sources for our study. The first available primary data source will be used for the research without additional requirements (Saunders, Lewis, & Thornhill, 2012). The main reason that we are choosing this sampling method is that this sampling technique allows us togatherthe primary data regarding the topic and such findings will be useful as pointers and help in the decision for further action.

3.3 Data Collection Methods

3.3.1 Primary data

300 questionnaires sets are assigned in Google forms via online to our target respondents. The reasons we use online questionnaire method is because of its convenience and the low cost incurred. We mainly send to our friends and families through social apps include Facebook and encourage them to share the links to others in order to acquire more respondents.

3.3.1.1 Pre-test

Five sets questionnaires were printed and distributed by person-administered survey method to five lecturers in UTAR. They were requested to leave their comments regarding the questionnaires.

We choose lecturers as our testers because they are more professional in the research field and they are easy to approach. The questionnaire was amended and improved according to their comments and advice afterward to ensure these questions are relevant, comprehensive and free of errors.

3.3.1.2 Pilot study

The pilot study will be carried out after the pre-test had conducted. A pilot study performed is to retest the reliability and the stability of the survey (Christodoulou et al, 2015). In the study, a small group of 30 targeted respondents will be chosen to fill up the questionnaire. After that, the result was collected and analyzed to figure out the errors and correct them. Any unnecessary and overly hard to understand questions will be removed. After the pilot test was completed accurate, 300 sets of questionnaires were distributed through online in Google form.

3.3.2 Secondary data

Secondary data relatesto the existing information which already collected and produced from others (Dunn, Arslanian-Engoren, Dekoekkoek, Jadack & Scott, 2015). In our study, we obtained the relevant data from the journals and articles on the internet by accessing the UTAR Library e-databases such as Science Direct and Google Scholar. All the information we found are peer-reviewed and how the loyalty program works in a particular company were retrieved from their own official website.

3.3.3 Research Instrument

Questionnaires were designed in two sections which were Section A and Section B. The questionnaire was designated in English version only.

Section A is asked about the general demographics of the respondents. The respondents are required to answer pertaining to their demographic information including gender, age, income level and highest academic qualifications and frequency using loyalty apps per week. The nominal and ordinal scale will be applied in this section. Respondents have to choose one of the options from the multiple-choice question given.

Section B consists of the items regarding the independent variables that influence the continuous usage intention of loyalty apps. Likert scale with a five-point scale which ranging from strongly disagree, disagree, neutral, agree to strongly agree has been applied in this section.

3.4 Analysis Tools

3.4.1 Descriptive Analysis

Kaliyadan and Kulkarni (2018) say that descriptive analysis can be served in two ways. There are sorting or grouping the raw data and use for summary statistics which showing in a more understandable display. In our

study, we use frequency distribution as the method to explain and present the data which had collected from Section A in the questionnaire.

3.4.1.1 Frequency distribution

Based on Manikandan (2011), frequency distribution uses to displays the different measurement categories and the number of observation in each of the category. It is the worth method to describe nominal and ordinal data (Thompson, 2009). In our research, the data will be summarized and presented in table form to enhance the understanding of the result obtained.

3.4.2 Inferential Analysis

3.4.2.1 Partial Least Squares Structural Equation Modelling (PLS-SEM)

PLS-SEM can be used to describe the structural model. It is emphasizing in prediction and research of the causal relationship between the constructs (Hair, Ringle & Sarstedt, 2011). It is appropriate when the study had encountered a smaller sample size (Chin, 1998).

Path coefficient represents the hypothesized relationships linking the constructs. Coefficients located closer to +1 representing a strong positive relationship. In contrast, values closer to -1 showing a strong negative relationship (Hair et al, 2011). The path

coefficient will be significant if its value is exceeding 0.1 and T-statistics is larger than 1.96 (Kwong & Wong, 2013).

$\mathbf{R}^2$ measures the model's predictive accuracy and it explained the effect of exogenous variables on the endogenous variable. $\mathbf{R}^2$ with 0.75, 0.50, 0.25, respectively are symbolizing substantial, moderate, or weak levels of predictive accuracy (Hair et al, 2011; Henseler, Ringle & Sinkovics, 2009).

Variance Inflation Factor (VIF) is an index to test the level of collinearity among the formative indicators. The value should not higher than the threshold value of 5 (Hair et al, 2011) and in a more stringent standard of 3.3 (Diamantopoulos & Siguaw, 2006).

3.4.2.2 Convergent Validity

Convergent validity designed to conclude the inter-correlations of the construct (Carlson & Herdman, 2012). The average variance extracted (AVE) used to study how each of the indicators is reciprocal to every construct. Supposing AVE value is 0.5 and above, it shows the measurement model reach a significant convergent validity (Kwong & Wong, 2013).

Outer loading serves as a tool to evaluate the consistency of variables (Memon & Rahman, 2014). Outer loadings are reliable when its loading is larger than 0.70. However, the measurement model also considers satisfactory indicator reliability if its value is at a minimum of 0.5 (Bagozzi & Yi, 1988).

Cronbach's Alpha and composite reliability are two common measurements of internal consistency reliability. The value of

composite reliability situated between 0.70 and 0.90 prove adequate internal consistency reliability (Bagozzi & Yi, 1988). It is generally interpreted in asimilar way as Cronbach's Alpha (Hair, Hult, Ringle & Sarstedt, 2017).

3.4.2.3 Discriminate validity

Discriminate validity implies the occurrence that a construct is distinctive which they are not represented to other constructs (Hair et al., 2011). According to Chin (1998), discriminate validity can be assessed by using cross-loading and Fornell-Lacker criterion.

For cross-loading, the factor loading must be higher than for its designed construct when compared to other constructs on the condition that its factor loading must higher than cut-off point of 0.70 (Hair et al., 2011).

Fornell-Larcker criterion stated √ AVE of each construct must be greater than the correlation of another latent construct to prove that they are unique(Fornell & Larcker, 1981).

3.5 Conclusion

This chapter explains the research methodology includes the creation of a questionnaire, data acquiring methods, data processing, and others. This information will act as guidance for Chapter 4.

CHAPTER 4: DATA ANALYSIS

4.0 Introduction

This chapter will interpret the data collected from respondents through online questionnaires. SmartPLS 3 statistical software is used to analyze these collected respondents' data.

4.1 Descriptive Analysis

4.1.1 Survey Responses

Questionnaires were distributed through online private messages and there are 322 sets of questionnaires had been collected while 22 sets with an unqualified answer or incomplete answers. There are 6.83% unqualified questionnaire included respondents who never used any mobile loyalty application in the three months previously.

4.1.2 Respondent Demographic Profile

The questionnaire consists of the demographic information of respondents such as gender, age, personal experience in using mobile loyalty apps, mobile loyalty app that they used the most frequent, and frequency of visiting the app within 3 months.

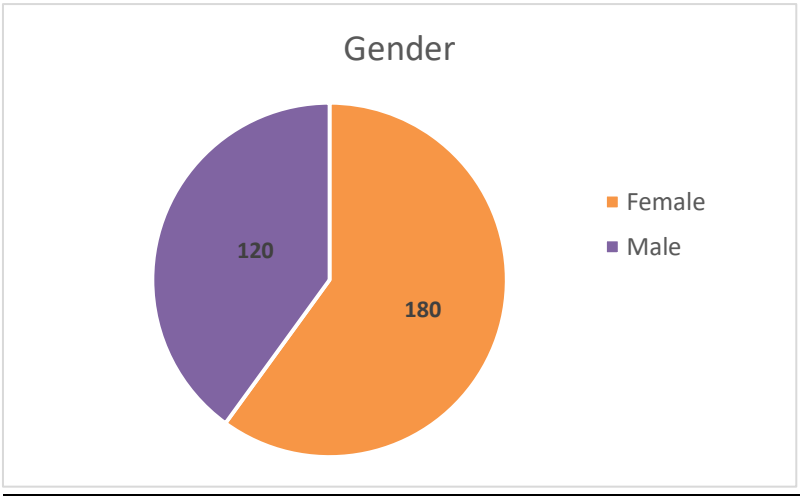
4.1.2.1 Gender

Table 4.1: Gender

Gender	Frequency	Percent
Female	180	60.0
Male	120	40.0
Total	300	100.0

Source: Developed for the research

Figure 4.1: Gender



Source: Developed for the research

Table 4.1 and figure 4.1 illustrates the proportion of both female and male mobile loyalty apps users who have participated in this survey questionnaire. The majority of respondents are female users (60.0%) which are higher than the male users (40.0%).

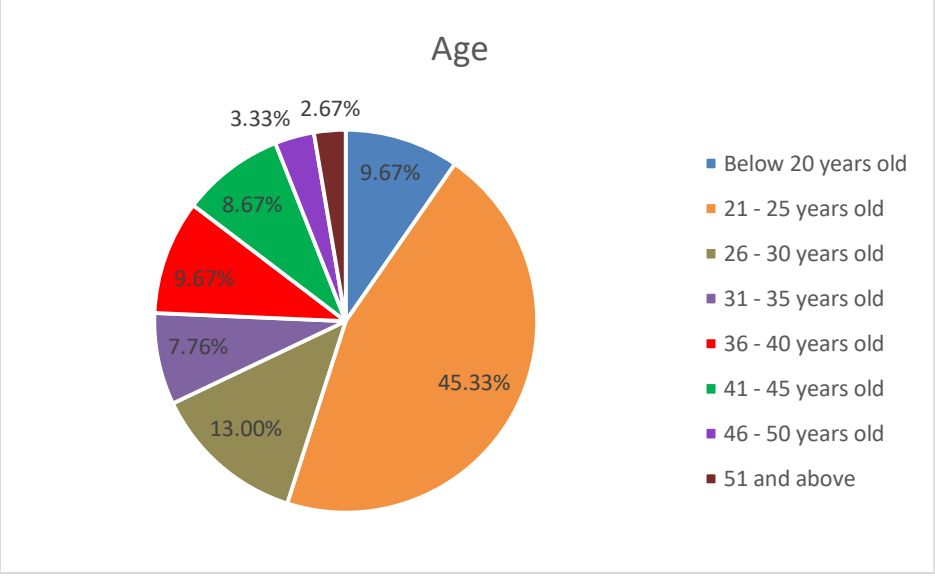
4.1.2.2 Age

Table 4.2: Age

Age	Frequency	Percent
Below 20 years old	29	9.67%
21 – 25 years old	136	45.33%
26 – 30 years old	39	13.00%
31 – 35 years old	23	7.67%
36 – 40 years old	29	9.67%
41 – 45 years old	26	8.67%
46 – 50 years old	10	3.33%
51 and above	8	2.67%
Total	300	100.0%

Source: Developed for the research

Figure 4.2: Age



Source: Developed for the research

Table 4.2 and Figure 4.2 mentioned that9.67% of total respondents is represented by the age group below 20 years old represents, which includes 29 respondents out of 300 respondents. Besides, majority of the respondents come from 21-25 years old age group which

consists of 136 respondents (45.33%). Next, 13.00% of respondents are aged from 26 to 30 years old. The result also illustrates that 23 respondents belong to 31-35 years old age group (7.76%) and 29 respondents fall under the age group of 36-40 years old. The age group of 41-45 years old represents 8.67% of the total respondents, which consists of 26 respondents. The least number of respondents are belonging to the age group of 46-50 years old and above 50 years old, which are 10 respondents (3.33%) and 8 respondents (2.67%) respectively.

4.1.2.3 Respondents' Experience in using Mobile Loyalty Apps

Table 4.3: Respondents' Experience Of Using Mobile Loyalty Apps

Time Period of using Mobile Loyalty Apps	Frequency	Percent
Less than 1 year	38	12.67%
1 year – 2 years 11 months	116	38.67%
3 years – 4 years 11 months	77	25.67%
5 years – 6 years 11 months	59	19.67%
More than 7 years	10	3.33%
Total	300	100.0%

Source: Developed for the research

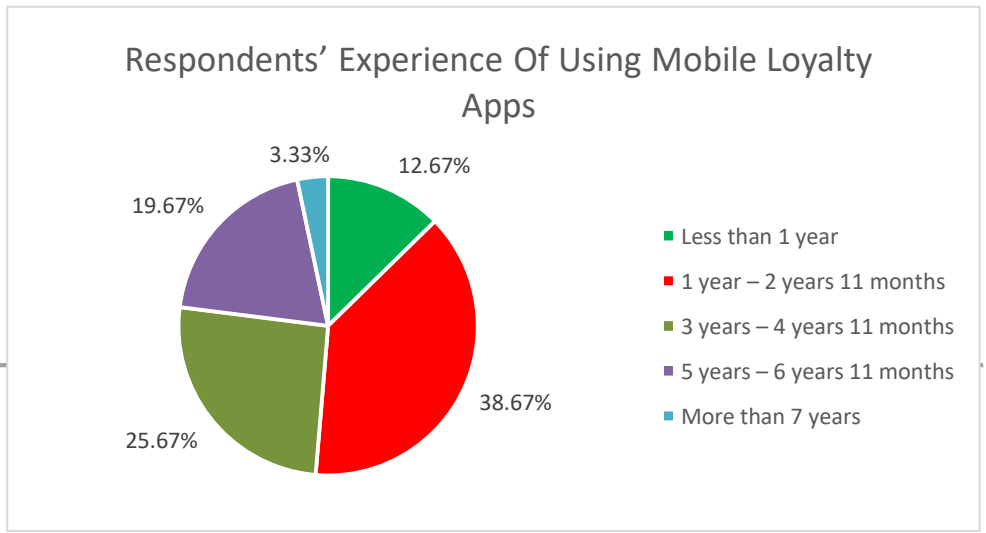


Figure 4.3: Respondents' Experience Of Using Mobile Loyalty Apps

Source: Developed for the research

Based on Table 4.3 and Figure 4.3, there are 38 respondents out of total respondents who are using mobile loyalty apps for less than 1-year time period (12.67%). The majority of respondents have experiences in using mobile loyalty apps for 1 year to 2 years 11 months, which consists of 116 respondents (38.67%). Among the 300 respondents, 77 respondents have used mobile loyalty apps for 3 years to 4 years 11 months' time period (22.67%). Besides, respondents who have 5 years to 6 years 11 months' experience in using mobile loyalty apps represents 19.67% out of the total respondents, which consist of 59 respondents. There are only 10 respondents who use mobile loyalty apps for more than 7 years (3.33%).

4.1.2.4 Mobile Loyalty App that Respondent Used the Most Frequent

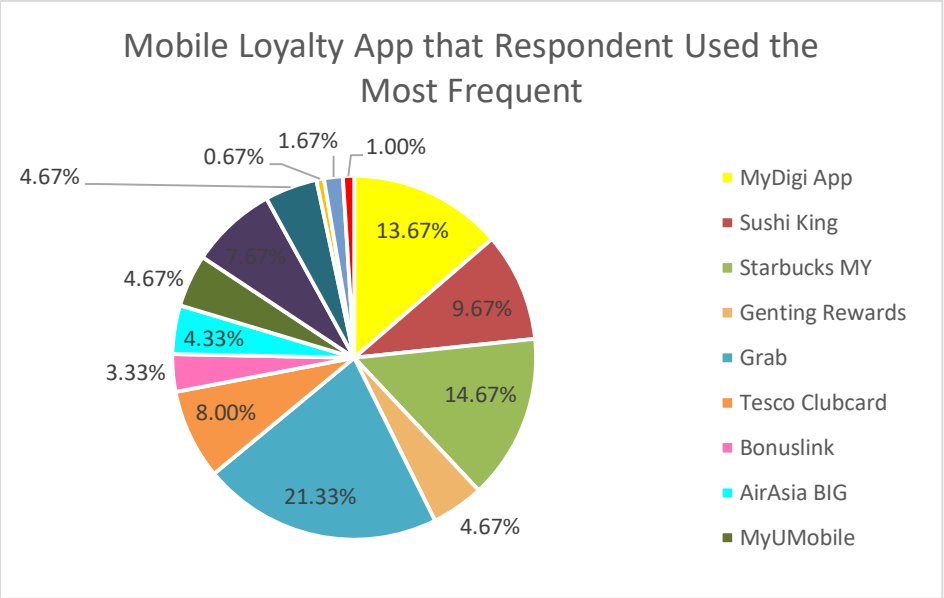
Table 4.4: Mobile Loyalty App that Respondent Used the Most Frequent

Mobile Loyalty Apps	Frequency	Percent
MyDigi App	41	13.67%
Sushi King	29	9.67%
Starbucks	44	14.67%
MYGenting Rewards	14	4.67%
Grab	64	21.33%
Tesco Clubcard	24	8.00%

Bonuslink	10	3.33%
AirAsia BIG	13	4.33%
MyUMobile	14	4.67%
Uniqlo MY	23	7.67%
MY Watsons	14	4.67%
B Infinite	2	0.67%
Caring Pharmacy	5	1.67%
Aeon Card Mobile	3	1.00%
Total	300	100.0%

Source:Developed for the research

Figure 4.4:Mobile Loyalty App that Respondent Used the Most Frequent



Source: Developed for the research

Table 4.4 and Figure 4.4 illustrated that there are 41 respondents out of the total respondents who use MYDigi app the most frequent (13.67%). Next, a number of respondents who use Sushi King app the most frequent have accumulated to 29 respondents (9.67%). Respondents also frequently use Starbucks MY app which consists of 44 respondents out of the 300 respondents (14.67%). There is some amount of respondents who frequently use Genting Rewards, MyUMobile, and MY Watsons apps which consists of 14

respondents respectively (4.67%). The majority of respondents has use Grab app the most frequently which represents 21.33% out of the 300 respondents. Next, there are 24 respondents use Tesco Clubcard the most frequent (8.00%). The number of respondents who frequently use Bonuslink and AirAsia BIG apps represents 3.33% and 4.33% respectively which consists of 10 respondents and 13 respondents respectively. There are 23 respondents who use Uniqlo MY app the most frequent (7.67%). B Infinite, Caring Pharmacy, and Aeon Card Mobile apps have the least number of respondents who frequently use them which consists of 2 respondents (0.67%), 5 respondents (1.67%), and 3 respondents (1.00%) respectively.

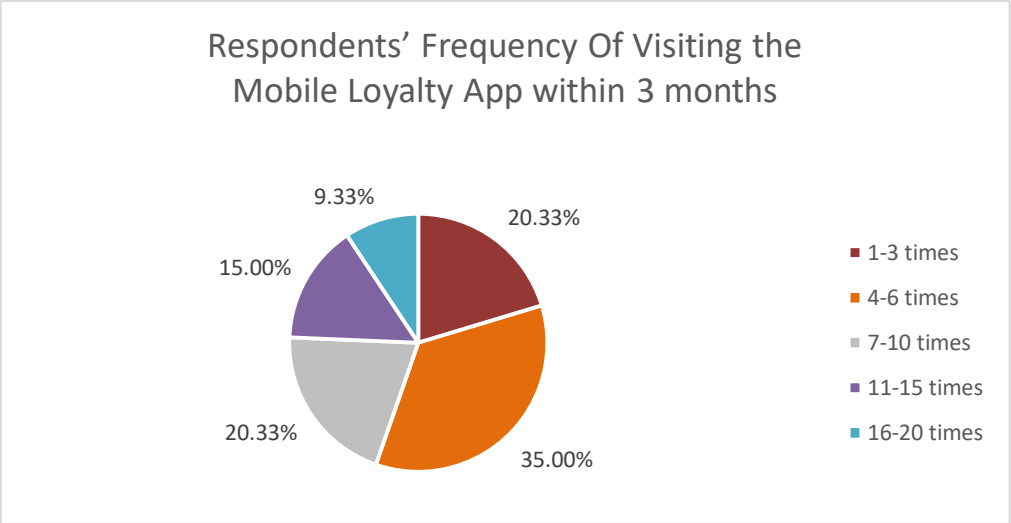
4.1.2.5 Respondents' Frequency of Visiting the Mobile Loyalty Appwithin 3 months

Table 4.5:Respondents' Frequency of Visiting the Mobile Loyalty App within 3 months

Frequency	Frequency	Percent
1-3 times	61	20.33%
4-6 times	105	35.00%
7-10 times	61	20.33%
11-15 times	45	15.00%
16-20 times	28	9.33%
Total	300	100.0%

Source: Developed for the research

Figure 4.5:Respondents' Frequency Of Visiting the Mobile Loyalty App within 3 months



Source: Developed for the research

Based on Table 4.5 and Figure 4.5, the number of respondents who visit the mobile loyalty app for 1 to 3 times within 3 months represents 20.33% out of the total respondents consists of 61 respondents. The majority of respondents have visited the mobile loyalty app for 4 to 6 times within 3 months which consists of 105 respondents (35.00%). Besides, a number of respondents who visit the mobile loyalty app for 7 to 10 times within 3 months are same as the number of respondents who visits the app for 1 to 3 times which includes 61 respondents (20.33%). There are only 15% of respondents who visit the mobile loyalty app for 11 to 15 times within 3 months which consists of 45 respondents. The least number of respondents have visited the mobile loyalty app for 16 to 20 times within 3 months which includes 28 respondents.

4.2 Measurement Model

4.2.1 Internal Consistent Reliability

Table 4.6:Internal Consistent Reliability

	Cronbach's Alpha	Composite Reliability
Continuous Usage Intention (CUI)	**0.906**	**0.930**
Habit (HA)	**0.911**	**0.933**
Perceived Enjoyment (PE)	**0.883**	**0.914**
Perceived Ease of Use (PEOU)	**0.888**	**0.918**
Perceived Usefulness (PU)	**0.854**	**0.895**
Satisfaction (S)	**0.849**	**0.892**

Source:Ringle, C.M., Wende, S., & Becker, J.-M. (2015). *SmartPLS 3*. Bönningstedt: SmartPLS.

Table 4.6 illustrated that the value of Cronbach's alpha together with composite reliability for all six constructs are greater than the satisfaction range of 0.70. The Cronbach's alpha value for the six variables is above 0.8 while the value of composite reliability for the variables also has the same result. Thus, this result concluded that all the constructs have satisfactory internal consistency reliability.

4.2.2 Convergent Validity

Table 4.7:Convergent Validity

Variables	Items	Outer Loadings	AVE
	CUI1	**0.853**	
	CUI2	**0.853**	

Continuous Usage Intention (CUI)	CUI3	**0.836**	**0.728**
	CUI4	**0.868**	
	CUI5	**0.856**	
Habit (HA)	H1	**0.843**	**0.737**
	H2	**0.854**	
	H3	**0.858**	
	H4	**0.868**	
	H5	**0.870**	
Perceived Enjoyment (PE)	PE1	**0.852**	**0.681**
	PE2	**0.827**	
	PE3	**0.786**	
	PE4	**0.834**	
	PE5	**0.826**	
Perceived Ease of Use (PEOU)	PEOU1	**0.851**	**0.691**
	PEOU2	**0.852**	
	PEOU3	**0.854**	
	PEOU4	**0.854**	
	PEOU5	**0.740**	
Perceived Usefulness (PU)	PU1	**0.806**	**0.631**
	PU2	**0.786**	
	PU3	**0.831**	
	PU4	**0.810**	
	PU5	**0.736**	
	S1	**0.819**	

Satisfaction (S)	S2	**0.781**	**0.623**
	S3	**0.775**	
	S4	**0.764**	
	S5	**0.807**	

Source: Ringle, C.M., Wende, S., & Becker, J.-M. (2015). *SmartPLS 3*. Bönningstedt: SmartPLS..

From the Table 4.7, the AVE result shows that CUI, HA, PE, PEOU, PU and S recorded as 0.728, 0.737, 0.681, 0.691, 0.631 and 0.623 respectively, they are exceeding the cut-off point of 0.50. Furthermore, in each of the variables, the highest outer loading are recorded, there are CUI4 (0.868), HA (0.870), PE1 (0.852), PEOU3 and PEOU4 (0.854), PU3 (0.831) and S1 (0.819), all are above the value of 0.7. Thus, Table 4.7 shows that all items have demonstrated satisfactory indicator reliability.

4.2.3 Discriminate Validity

4.2.3.1 Fornell-Larcker Criterion

Table 4.8:Fornell-Larcker Criterion

	CUI	HA	PE	PEOU	PU	S
CUI	**0.853**					
HA	0.521	**0.859**				
PE	0.541	0.559	**0.825**			
PEOU	0.685	0.578	0.533	**0.832**		
PU	0.640	0.452	0.602	0.634	**0.795**	

S	0.642	0.619	0.598	0.636	0.691	**0.789**

Source: Ringle, C.M., Wende, S., & Becker, J.-M. (2015). *SmartPLS 3*. Bönningstedt: SmartPLS..

Table 4.8 illustrated the result of Fornell-Lacker Criterion. The square root of AVE as shown as bold values on the diagonal should higher than correlations on the off-diagonal. Based on the output, the value of the constructs are recorded as CUI (0.853), HA (0.859), PE (0.825), PEOU (0.832), PU (0.795) and S (0.789). All these values are bigger than the correlations between each pair (off-diagonal elements)of constructs, thus we confirmed that Fornell & Lacker's criterion is met.

4.2.3.2 Cross Loading

Table 4.9:Cross Loading

	CUI	HA	PE	PEOU	PU	S
CUI1	**0.853**	0.434	0.480	0.618	0.575	0.545
CUI2	**0.853**	0.445	0.459	0.592	0.540	0.533
CUI3	**0.836**	0.436	0.449	0.535	0.516	0.536
CUI4	**0.868**	0.477	0.487	0.594	0.567	0.568
CUI5	**0.856**	0.431	0.432	0.578	0.530	0.556
HA1	0.509	**0.843**	0.491	0.571	0.470	0.556
HA2	0.416	**0.854**	0.500	0.465	0.365	0.500
HA3	0.440	**0.858**	0.497	0.438	0.327	0.528
HA4	0.434	**0.868**	0.437	0.480	0.338	0.490
HA5	0.426	**0.870**	0.469	0.513	0.427	0.574

PE1	0.477	0.508	**0.852**	0.430	0.479	0.494
PE2	0.465	0.511	**0.827**	0.461	0.490	0.497
PE3	0.391	0.378	**0.786**	0.366	0.425	0.396
PE4	0.422	0.443	**0.834**	0.454	0.545	0.540
PE5	0.469	0.452	**0.826**	0.480	0.542	0.532
PEOU1	0.564	0.433	0.428	**0.851**	0.545	0.503
PEOU2	0.564	0.501	0.449	**0.852**	0.558	0.565
PEOU3	0.590	0.505	0.490	**0.854**	0.540	0.559
PEOU4	0.602	0.495	0.447	**0.854**	0.523	0.507
PEOU5	0.521	0.468	0.398	**0.740**	0.466	0.512
PU1	0.595	0.363	0.508	0.553	**0.806**	0.646
PU2	0.466	0.386	0.525	0.519	**0.786**	0.537
PU3	0.524	0.393	0.519	0.502	**0.831**	0.535
PU4	0.543	0.327	0.423	0.526	**0.810**	0.534
PU5	0.380	0.327	0.408	0.395	**0.736**	0.465
S1	0.569	0.528	0.516	0.537	0.572	**0.819**
S2	0.520	0.483	0.457	0.502	0.536	**0.781**
S3	0.469	0.547	0.553	0.453	0.488	**0.775**
S4	0.450	0.406	0.412	0.484	0.556	**0.764**
S5	0.518	0.480	0.428	0.530	0.570	**0.807**

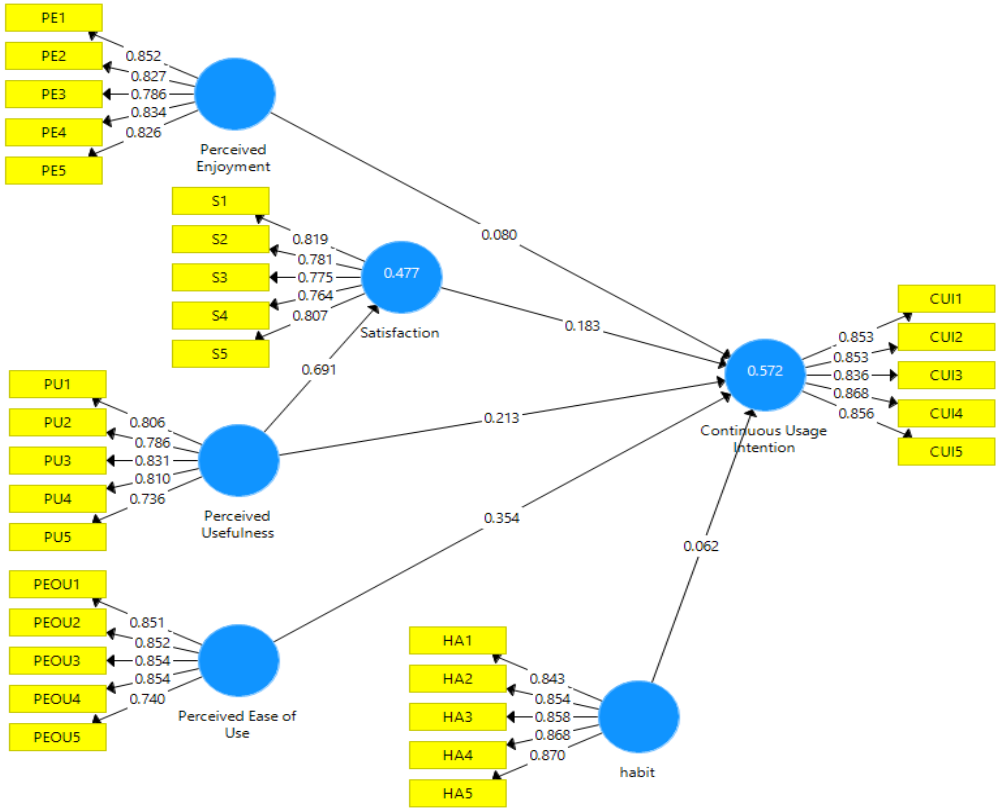
Source: Ringle, C.M., Wende, S., & Becker, J.-M. (2015). *SmartPLS 3*. Bönningstedt: SmartPLS..

From table 4.9, all the variables are showing desirable discriminate validity as they possess the highest cross-loading values in own latent variables respectively. Therefore, the measurement model has established its discriminant validity.

4.3 Structural Model

4.3.1 Path Analysis

Figure 4.6: Result from Partial Least Squares



Source: Ringle, C.M., Wende, S., & Becker, J.-M. (2015). *SmartPLS 3*.Bönningstedt: SmartPLS.

Table 4.10: Result from Partial Least Squares

		VIF	Path Coefficient	T Statistics	Results
H1	Perceived Enjoyment >				

	Continuous Usage Intention	1.924	0.080	1.080	Not support
H2	Perceived Usefulness > Continuous Usage Intention	2.387	0.213	2.509	Support
H3	Perceived Usefulness > Satisfaction	1.00	0.691	14.514	Support
H4	Satisfaction > Continuous Usage Intention	2.616	0.183	1.976	Support
H5	Perceived Ease of Use > Continuous Usage Intention	2.121	0.354	3.585	Support
H6	Habit > Continuous Usage Intention	1.937	0.062	1.154	Not Support
R^2 of Continuous Usage Intention_ = 0.572 **R^2 of Satisfaction_ = 0.477**					

Source: Developed for the research

According to the result shown in Table 4.10, the VIF for all the indicators is ranging from 1.0 to 2.387. Their values are consistently placed under the value of 0.5 (Hair, et al., 2011) and 3.3 (Diamantopulos & Siguaw, 2006). Collinearity issue will be eliminated in this research on account of all indicators for the formative construct satisfy the VIF values and below a threshold value. R-squared in this research indicates moderate predictive

accuracy level. 57.2% of CUI can be explained by PE, PU, S, PEOU and HA while 47.7% of S can be explained by PU.

Based on the outcome, CUI has been identified as a positive influence by PU, S and PEOU for the reason that they have to attain a positive figure of path coefficient at 0.213, 0.183 and 0.354 respectively. S is identified has a positive influence by PU as well. Four hypotheses are supported at the reason of their t-statistics are exceed 1.96. However, H1 and H6 fail to predict the factor that influencing the continuance usage intention of mobile loyalty application as both of the indicators obtain t-statistics values which are smaller than 1.96 Therefore, H2, H3, H4 and H5 were positively supported except H1 and H6.

4.4 Conclusion

In summary, all the measurement items are retained before the data analysis is conducted. It can be concluded that perceived usefulness, perceived ease of use, and satisfaction have a positiveinfluenceon continuous usage intention of mobile loyalty apps. Perceived usefulness is also demonstrated to have a positive influence on the satisfaction of using mobile loyalty apps.All the data is proven to be reliable in this chapter.

CHAPTER 5: DISCUSSION, CONCLUSION AND IMPLICATIONS

5.0 Introduction

This chapter involves a summary of the research's findings and discussion of major findings. In addition, the implications of this study are discussed and recommendations are given in order to improve the quality of the research study and assist the future researchers.

5.1 Summary of Statistical Analysis

5.1.1 Summary of Descriptive Analysis

In this research paper, the respondents consist of 180 or 60.0% females, while males constitute of 120 or 40.0%. Majority of the respondent is aged between 21 to 25 years old. Most of the respondents have one year to two years and eleven months' experience of using mobile loyalty apps. Grab mobile apps has been the mobile loyalty apps that respondents use the most frequent which contributes to 21.33%. Moreover, most of the respondents visit mobile loyalty apps for four to six times within three months.

5.1.2 Summary of Measurement Model

Table 5.1:Summaries of the Assessment Conducted on the Research Measurement Model

	Assessment	Criterion	Result	Comment
1	Internal Consistency	Cronbach Alpha	Cronbach Alpha value for all constructs range from 0.849 to 0.911.	All items have satisfactory internal consistency reliability.
		Composite Reliability	CR value for all constructs range from 0.892 to 0.933.	All items have satisfactory internal consistency reliability.
2	Convergent Validity	Outer Loadings	The items' outer loading exceeds 0.7, ranging from 0.736 to 0.870.	All items have demonstrated satisfactory indicator reliability.
		AVE	The AVE value of all construct range from 0.623 to 0.737.	Measurement model has demonstrate an adequate convergent validity.
3	Discriminate Validity	Fornell-Larcker Criterion	The square root of AVE > Correlations between each pair of constructs.	Fornell - Larcker's criterion is met.
		Cross Loading	The indicators' loadings are higher	Measurement model has established its

			against their respective construct compared to other constructs.	discriminant validity.

Source: Developed for the Research

5.2 Discussions of Major Findings

H1: PE has no positive influence on**CUI** of mobile loyalty applications.

The outcome of this research showed that **PE** has no positive influence on **CUI** of mobile loyalty applications. The path coefficient and T-statistics value of **CUI** of mobile loyalty applications are less than 0.1 and 1.96 respectively. This result is consistent with the past studies which conducted by Kim et al. (2014), stated that **PE**has insignificant impactonthe behavioural intention of Augmented Reality (AR) applications as they stated that focusing on the hedonic nature of AR mobile applications may lead to failure.

H2: PU has a positive influence on**CUI** of mobile loyalty applications.

The outcome of this research showed **PU** has a positive influence on **CUI** of mobile loyalty applications. The finding is supportedby past research from Lu (2014) proved that perceived usefulness is a strong determinant for continuance intention of mobile commerce. Past study from Okumus et al. (2018) also said that **CUI**of smartphones is significantly affected by **PE**. This shows that consumers who gain more benefits than what they expected from the mobile loyalty applications are more likely to use the apps again in the future.

H3: PU has a positive influence on**S**of mobile loyalty applications.

The outcome of this research showed that **PU** has a positive influence on **S** of mobile loyalty applications. From the path coefficient result 0.691 and T-statistics 14.514, the relationship is proven as positive. The result is aligned with past research from Ghazal et al. (2016) stated that satisfaction towards mobile applications was significantly influenced by **PU**. Tam et al. (2018) said that mobile apps users are getting more satisfaction when they found that mobile apps are very useful.

H4: S has a positive influence on**CUI** of mobile loyalty applications.

The outcome of this research showed that **S** has a positive influence on **CUI** of mobile loyalty applications. As the path coefficient result and T-statistics are higher than 0.1 and 1.96 respectively thus the relationship is proven as positive. This result is aligned with past research from Hsiao et al. (2016) stated that **CUI**of mobile social applications was significantly influenced by **S**. Humbani and Wiese (2019) also said that satisfaction is an important factor in determining the continuous usage intention of mobile payment apps and users are more likely to use the app repeatedly if they are satisfied with the service provided. Thus, this shows that users will tend to continue to use mobile loyalty apps when they satisfied with the overall quality and functionality of the app itself.

H5: PEOU has a positive influence on**CUI** of mobile loyalty applications.

The outcome of this research showed that **PEOU** has a positive influence on **CUI** of mobile loyalty applications. This relationship is proven as positive because the path coefficient result is 0.354 which more than 0.1. Besides, the T-statistics are also exceeded 1.96 which is 3.585. This finding is reliable as past researches also proven that perceived ease of use has significant influenceon continuance usage intention of mobile shopping applications (Chopdar & Sivakumar, 2018). Users are more likely to use the mobile apps repeatedly in the future if they found that it requires less effort to operate whether is physically or mentally (Tam et al., 2018).

Thus, this shows that users will keep using the mobile loyalty apps if it only requires a few taps to finish their task rather than complicated steps.

H6: HA has no positive influence on **CUI** of mobile loyalty applications.

There is quite a number of past researches proved the effect of habit on continuance intention with mobile apps (Amoroso and Chen, 2017; Tam et al., 2018). However, this research finding showed that **HA** has no positive influence on **CUI** of mobile loyalty applications. The path coefficient and T-statistics value on **CUI** of mobile loyalty applications are less than 0.1 and 1.96 respectively. This might probably due to most of the respondents said that usage of mobile loyalty apps is becoming natural and automatic for them. This can be supported by Jia, Hall, and Sun (2014), said that users' mobile usage habit does not affect their continuance intention of mobile apps because of using a mobile phone is too common for users. This finding is also justified another past study which stated that when a particular practice is performed by people in a consistent way, the habit is formed and this behaviour is less likely to be guided by intention. In other words, the behaviour is initiated by habit without much consideration (Danner, Aarts, & Vries, 2008).

5.3 Implications of Study

5.3.1 Managerial Implication

In the research, it had investigated the factors that influence continuous usage intention of mobile loyalty applications, which was measured by four variables and one mediator. The purpose of this study is to explore

how **PE, PU, PEOU, HA,** and **S**influence continuous usage intention of mobile loyalty applications.

PE has no positive influence on continuous usage intention in mobile loyalty applications, which shows that the willingness of users to adapt and continue their use behavior for mobile apps is low and it is hard to determine whether the user is enjoying or satisfied with the functional property provided by the apps. Since **PE** will not influence the continuous usage intention in mobile loyalty applications, the developer should stop focusing on **PE** and enhances the functionality of the apps itself. The developers should also conduct maintenance regularly to test its mobile loyalty applications regularly and repairing any bugs to maximizes the efficiency of the apps itself.

Besides, **PU, S** and **CUI** have a positive influence on continuous usage intention of mobile loyalty applications. This result proves that mobile loyalty applications are able to meet the expectations of mobile apps users as well as satisfy their needs. There is also a positive influence between **PU** and **S** with **CUI** of mobile loyalty applications, which shows the importance of these two variables. To increase the **PU** and **S,** the developer could offer additional features that would maximizes the **PU** and **S.**Additional features such as event rewards and accumulative attendance rewards may be induced. Accumulative attendance rewards are a features in which user have to login for a cumulative time period to enjoy a certain discount and benefits tend to increase over the login time. This would prompt the user to revisit the apps occasionally on daily basis and increases its **PU** and **S** where each daily cumulative login for 15 minutes, 30 minutes and 1 hour entitled them with different rebates and rewards point. Not only that, notification that notify the user whenever they are within the radius of 5km from one of the apps retail store may be induced as well, which let the user to enjoy up a certain discount if they visited the store. For example, SushiKing App can notify the user whenever they are a

nearby store and dining in would entitle them for 20% discount. S could also be increased through scheduling the maintenance of the apps at the right time, a time period where the traffic count of the apps was at the lowest to ensure that user's experience towards the apps remains undeterred. Further in-ads advertisement and pop up could also be removed, and updating the apps consistently to prevent misunderstanding that may occur due to misinterpretation of the information provided on the apps, thus keeping the satisfaction level of the user in check. All this would help developers in increasing the satisfaction and usefulness of the apps as a whole, thus ensuring the continuous usage intention on the apps itself.

PEOU also has a positive relationship on continuous usage intention of mobile loyalty applications. It demonstrates that mobile loyalty applications are easy to use for users able to increase the usage of the apps compared to compact apps. Developer could provide simple steps-by-steps guidelines to educate its users on how to use its applications during their first login to the apps, educating them on how to earn their rebates, get their discounts, membership status and so on. Developer should also ensure that the apps consistently use a user-friendly interface instead of a complicated interface, even after new features are being added. The developer of mobile loyalty applications could also provide a feedback form on its apps, to collect feedback on how people feel about its applications after each addition.

Lastly, **HA** has no positive influence on continuous usage intention of mobile loyalty applications. Therefore, instead of focusing on instilling a habitual act on the user, in accordance to the rapid growth of technology, developer should focus more on the changes in tech may offer to them, such as the introduction of 5G. Developer may want to move fast to adapt to the latest technology in the shortest time possible. Besides, different

developers will have their own ways for its app development and each of them tends to focus on differentiating their apps from others.

5.3.2 Theoretical Implication

In this research, the adopted theoretical framework of ECM and TAM are used to identify the factors that influence the continuous usage intention of mobile loyalty applications. This study also used an additional variable – habit, which does not belong to ECM and TAM for further investigation. The two models and the variable provide a deeper understanding of the factors that influence the continuous usage intention of mobile loyalty applications. In the near future, this research can be used for the researchers who are interested and keen in studying the continuous usage intention of mobile loyalty applications. It helps to build a better connection on related studies and contribute knowledge for future researchers.

5.4Limitations of the Study

There are a number of setbacks that occur in the midst of completing this research. First and foremost, the limitation of this study is the generalizability of thefindings is limited in terms of mobile loyalty apps in Malaysia context only. The data collected is based in Malaysia and it is only reflecting the consumers' behaviour of Malaysian. As a culture, habit, and behaviour change across countries, the result of this research might not be appropriate for foreign countries.

Besides, another setback that occursis the data collection due to the fact that we are conducting our collection of data using a cross-sectional data collection method, a method in which the data is collected and interpreted without taking

into consideration to differences in time. As such, the result of the study may only be relevant and dependable for a relatively short time frame due to the changing consumers' behaviours and preferences. In this case, time is presumed to have a random effect which will produce a variance on the research findings.

Lastly, since there are only 5 independent variables used in examining the factors that influence the continuous usage intention of mobile loyalty apps, which might affect the accuracy of this research paper. The continuous usage intention of mobile loyalty apps can be affected by various variables which are not used by our research paper. As such, other variables that should be included in exploring the continuous usage intention of mobile loyalty apps and such variables are excluded in our study reduce the accuracy and reliability of this research paper.

5.5 Recommendations for Future Research

As previously mentioned,the findings of this research paper might not be suitable for foreign countries. Therefore, we encouragethe future researcher to conduct more research that focuses oncontinuous usage intention of mobile loyalty apps in foreign countries context. By doing so, it allows the mobile apps developers and mobile marketers to have a better understanding of consumers' continuous usage intention. Therefore, they are capable of developing mobile loyalty apps that meet the needs and expectations of consumers and consumers can also be benefited from this by having a user-friendly mobile loyalty app.

Not only that, we also proposed that future researcher uses longitudinal data collection method instead of the cross-sectional data collection method. By using longitudinal data collection, data are collected from the same respondent group over a period of time. By doing so, it can reduce the variance of data that occurs due to time changing and lead to a more concise and accurate finding.

Last but not least, the research framework is suggested to be further developed by future researchers so that the accuracy of research study can be improved. This can be done by including other independent variables that deem appropriate in contributing towards their study. Independent variables such as mobile app design, security privacy, and social influence can be added in the future studies as it may contribute greatly towards their findings at the end of their study, resulting in obtaining more accurate and reliable data.

5.6 Conclusion

In conclusion, this study identifies three independent variables includeperceived usefulness, perceived ease of use, and satisfaction havea positiveinfluenceoncontinuous usage intention of mobile loyalty apps. Besides, perceived usefulness is also proven to have a positive influence on the satisfaction of using mobile loyalty apps. However, for another two independent variables, thehabit and perceived enjoyment have no positive influences. Eventually, this study could be beneficial for future researchers and businesses from different perspectives.

REFERENCES

Ali Harasis, A., Imran Qureshi, M., & Rasli, A. (2018). Development of research continuous usage intention of e-commerce. A systematic review of literature from 2009 to 2015. *International Journal Of Engineering & Technology*, *7*(2.29), 73-78.

Amoroso, D., & Chen, Y. (2017). Constructs Affecting Continuance Intention in Consumers with Mobile Financial Apps: A Dual Factor Approach. *Journal of Information Technology Management. 28*(3), 1-24.

Amoroso, D., & Lim, R. (2017). The Mediating Effects of Habit on Continuance Intention. *International Journal of Information Management. 37*(6), 693-702.

Avcilar, M., & Ozsoy, T. (2015). Determining the Effects of Perceived Utilitarian and Hedonic Value on Online Shopping Intentions. *International Journal of Marketing Studies*, *7*(6), 27-49.

Bacon, J. (2015). *Is the future for loyalty schemes in mobile apps?* Retrieved June 29, 2019, from https://www.marketingweek.com/2015/06/26/is-the-future-for-loyalty-schemes-in-mobile-apps/

Bagozzi, R. P., & Yi, Y. (1998). On the Evaluation of Structural Equation Models. *Academy of Marketing Science*, *16*(1), 74-94.

Bhattacherjee, A. (2001a). An empirical analysis of the antecedents of electronic commerce service continuance. *Decision Support Systems, 32*(2), 201–214.

Bhattacherjee, A. (2001b). Understanding Information System Continuance: An Expectation-Confirmation Model. *MIS Quartely. 25*(3), 351-370.

Bhattarcherjee, A., & Barfar, A. (2011). Information Technology Continuance Research: Current State and Future Directions. *Asia Pacific Journal of Information Systems. 21*(2), 1-17.

Bryman, A. (2012). *Social research methods* (4th ed.). New York: Oxford University Press.

Burns, A. C., & Bush, R. F. (2010). *Marketing Research* (6th ed.). Pearson/Prentice Hall.

Canavan, M. (2017). *What Makes Mobile Loyalty Programs Work?* Retrieved July, 26, from http://info.localytics.com/blog/what-makes-mobile-loyalty-programs-work

Carlson, K. D., & Herdman, A. O. (2012). Understanding the Impact of Convergent Validity on Research Results. *Organizational Research Methods, 15*(1), 17-32.

Chang, I.-C., Liu, C.-C., & Chen, K. (2014). The effects of hedonic/ utilitarian expectations and social influence on continuance intention to play online games. *Internet Research, 24(*1), 21–45.

Chin, W. W. (1998). The Partial Least Squares Approach for Structural Equation Modeling. In G. A. Marcoulides (Eds.), *Modern Methods for Business Research* (pp 295–236). London: Lawrence Erlbaum Associates.

Chiu, C. M., & Wang, E. T. (2008). Understanding Web-based learning continuance intention: The role of subjective task value. *Information & Management, 45*(3), 194-201.

Chong, A. (2013a). A two-staged SEM-neural network approach for understanding and predicting the determinants of m-commerce adoption. *Expert Systems with Applications, 40*(4), 1240-1247.

Chong, A. (2013b). Understanding mobile commerce continuance intentions: an empirical analysis of Chinese consumers. *Journal of Computer Information System. 53*(1), 22-30.

Chong, A. Y. L., Chan, F. T. S., & Ooi, K. B. (2012). Predicting Consumer Decisions to Adopt Mobile Commerce: Cross Country Empirical Examination Between China and Malaysia. *Decision Support Systems, 53*(1), 34-43.

Chong, A. Y. L., Ooi, K. B., Lin, B., & Bao, H. J. (2012). An empirical analysis of the determinants of 3G adoption in China. *Computers in Human Behavior, 28*(2), 360–369.

Chopdar, P. K., & Sivakumar, V. J. (2018). Understanding continuance usage of mobile shopping applications in India: the role of espoused cultural values and perceived risk. *Behaviour & Information Technology*, 1–23.

Christodoulou, E.G., Koukia, E., Apostolara, P., Zyha, S., Kalokairinou, A., Goerge, I. & Daglas, A. (2015). The Test- Retest Reliability and Pilot Testing of the "New Technology and Nursing Students' Learning Styles" Questionnaire. *International Journal of Caring Sciences. 8*(3), 567-576.

Coursaris, C., & Sung, J. (2012). Antecedents and consequents of a mobile website's interactivity. *New Media Soc. 14*(7), 1128–1146.

CrowdTwist. (2018). *CrowdTwist Consumer Loyalty Study Shows 87% of Gen Z Consumers Want Omnichannel Loyalty Programs.* Retrieved May 1, 2019, from https://www.prnewswire.com/news-releases/crowdtwist-consumer-loyalty-study-shows-87-of-gen-z-consumers-want-omnichannel-loyalty-programs-300729728.html

Danner, U. N., Aarts, H., & Vries, N. K. (2008). Habit vs. intention in the prediction of future behaviour: The role of frequency, context stability and mental accessibility of past behaviour. *British Journal of Social Psychology, 47*(2), 245-265.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use and user acceptance of information technology. *MIS Quartely, 13*(3), 319-340.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and intrinsic motivation to use computers in the workplace1. *Journal of Applied Social Psychology, 22*(14), 1111-1132.

Diamantopoulos, A. & Siguaw, J. (2006). Formative Versus Reflective Indicators in Organizational Measure Development: A Comparison and Empirical Illustration. *British Journal of Management, 17*(4), 263-282.

Digi Telecommunications Sdn Bhd. (n.d.). *MyDigi Rewards Support.* Retrieved July 25, 2019, from https://new.digi.com.my/mydigi-rewards-faq

Dunn, S. L., Arslanian-Engoren, C., DeKoekkoek, T., Jadack, R., & Scott, L. D. (2015). Secondary Data Analysis as an Efficient and Effective Approach to Nursing Research. *Western Journal of Nursing Research, 37*(10), 1295–1307.

Etikan, I., & Bala, K. (2017). Sampling and Sampling Methods. *Biometrics & Biostatics International Journal*, *5*(6), 149-151.

Fornell, C., & Lacker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variance and Measurement Error. *Journal of Marketing Research*, *18*(1), 39-50.

Gartner. (2016). *Gartner Survey Reveals Enterprise Spending on Mobile App Development Remains Low.* Retrieved July 27, 2019, from https://www.gartner.com/en/newsroom/press-releases/2016-06-21-gartner-survey-reveals-enterprise-spending-on-mobile-app-development-remains-low

Ghalandari, K. (2012). The Effect of Performance Expectancy, Effort Expectancy, Social Influence and Facilitating Conditions on Acceptance of E-Banking Service in Iran: the moderating role of Age and Gender. *Middle-East Journal of Scientific Research, 12*(6), 801-807.

Ghazal, M., Akmal, M., Iyanna, S., & Ghoudi, K. (2016). Smart plugs: perceived usefulness and satisfaction: evidence from United Arab Emirates. *Renewable and Sustainable Energy Reviews,* 55, 1248–1259.

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A Primer on Partial Least Squares Structural Equation Modeling*(2nd ed). Thousand Oaks: Sage Publication Inc.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a Silver Bullet. *Journal of Marketing Theory and Practice, 19*(2), 139-152.

Han, M., Wu, J., Wang, Y., & Hong, M. (2018). A Model and Empirical Study on the User's Continuance Intention in Online China Brand Communities Based on Customer-Perceived Benefits. *Journal of Open Innovation: Technology, Market, and Complexity. 4*(46), 1-20.

Harris, M. A., Brookshire, R., & Chin, A. G. (2016). Identifying factors influencing consumers' intent to install mobile applications. *International Journal of Information Management, 36*(3), 441-450.

Hawk Incentives. (2018). *Long Live the Loyalty Program: Hawk Incentives Research Finds Millennials Embrace Loyalty Programs at High Rates.* Retrieved May 3, 2019, from https://www.prnewswire.com/news-releases/long-live-the-loyalty-program-hawk-incentives-research-finds-millennials-embrace-loyalty-programs-at-high-rates-300656309.html

Henseler, J., Ringle, C. M., &Sinkovics, R. R (2009). The Use of Partial Least Squares Path Modeling in International Marketing. In Sinkovics, R. and Ghauri, P. (Eds.), *New Challenges to International Marketing* (Advances in International Marketing) (pp. 277-319). Bingley, Emerald Group Publishing Limited.

Hoehle, H., Zhang, X., & Venkatesh, V. (2015). An espoused cultural perspective to understand continued intention to use mobile applications: a four-country study of mobile social media application usability. *European Journal of Information Systems, 24*(3), 337-359.

Hong, S, J., Thong, J, Y, L., & Tam, K. Y. (2006). Understanding continued information technology usage behaviour: a comparison of three models in the context of mobile internet. *Decision Support System, 42*, 1819-1834.

Hossain, M., & Quaddus, M. (2012). Expectation-Confirmation Theory in information system research: a review and analysis. In Dwivedi, Y. K., Wade, M. R., & Schneberger, S. L. (Eds.), *Information Systems Theory: Explaining and Predicting Our Digital Society* (pp. 441-470). New York, United States of America: Springer Science+Business Media.

Hsiao, C., Chang, J., & Tang, K. (2016). Exploring the Influential Factors in Continuance Usage of Mobile Social Apps: Satisfaction, Habit, and Customer Value Perspectives. *Telematics and Informatics, 33*(2), 342-355.

Hsin, H. L., & Wang, Y. S. (2006). An examination of the determinants of customer loyalty in mobile commerce contexts. *Journal of Information Management, 43*, 271-282.

Hsu, C.-L., & Lin, J. C.-C. (2015). What drives purchase intention for paid mobile apps? –An expectation confirmation model with perceived value. *Electronic Commerce Research and Applications, 14*(1), 46-57.

Humbani, M., & Wiese, M. (2019). An integrated framework for the adoption and continuance intention to use mobile payment apps. *International Journal of Bank Marketing. 37*(2), 646-664.

Iqbal, M. (2019). *App Download and Usage Statistics (2018)*. Retrieved July 25, 2019, from http://www.businessofapps.com/data/app-statistics/#1.

Iranmanesh, M., Zailani, S., & Nikbin, D. (2017). RFID Continuance Usage Intention in Health Care Industry. *Quality Management in Healthcare*, *26*(2), 116–123.

Jia, L., Hall, D., & Sun, S. (2014). The effect of technology usage habits on consumers' intention to continue use mobile payments. *Twentieth Americas Conference on Information Systems, Savannah,* 1-12.

Kaliyadan, F., & Kulkarni, V. (2018). Types of Variables, Descriptive Statistics, and Sample Size. *Indian Dermatology Online Journal. 10*(1), 82-86.

Kim, C., Mirusmonov, M., & Lee, I. (2010). An empirical examination of factors influencing the intention to use mobile payment. *Computer in Human Behaviour, 26,* 310-322.

Kim, K., Hwang, J., Zo, H., & Lee, H. (2014). Understanding users' continuance intention toward smartphone augmented reality applications. *Information Development, 32(2),* 161-174.

Kuryliak, O. (2018). *31% of Mobile App Budgets is Spent On Marketing in 2018.* Retrieved from July 29, 2019, from https://productcoalition.com/31-of-mobile-app-budgets-is-spent-on-marketing-in-2018-the-manifest-says-3b892cc96a3

Kwong, K., & Wong, K. (2013). Partial Least Squares Structural Equation Modelling (PLS-SEM) Techniques Using SmartPLS. *Marketing Bulletin, 24*(1), 1-32.

Kyguoliene, A., Zikiene, K., & Grigaliunaite, V. (2017). The Influence of Perceive Benefits on the Satisfaction with the Loyalty Program. *Engineering Economics, 28*(1), 101-109.

Landau, S. (2017). *Mobile apps are changing the future of loyalty.* Retrieved July 25, 2019 from https://www.mobilemarketer.com/ex/mobilemarketer/cms/opinion/columns/24634.html

Lee, M.-C. (2010). Explaining and predicting users' continuance intention toward e-learning: An extension of the expectation-confirmation model. *Computer & Education, 54*(2), 506–516.

Lee, Y., & Kwon, O. (2011). Intimacy, familiarity and continuance intention: An extended expectation-confirmation model in web-based services. *Electronic Commerce Research and Applications, 10*(3), 342–357.

Limayem, M., & Cheung, C. M. K. (2008). Understanding information systems continuance: The case of Internetbased learning technologies. *Information and Management, 45*(4), 227–232.

Limayem, M., & Hirt, S. (2003). Force of Habit and Information Systems Usage: Theory and Initial Validation. *Journal of the Association for Information Systems, 4,* 65-97.

Limayen, M., Hirt, S. G., & Cheung, C. M. K. (2007). How Habit Limits the Predictice Power of Intention: The Case of Information System Continuance. *MIS Quarterly, 31*(4), 705-737.

Lu, J. (2014). Are personal innovativeness and social influence critical to continue with mobile commerce?*Internet Research, 24(2),* 134-159.

MacCallum, R. C., Widaman, K. F., Zhang, S., & Hong, S. (1999). Sample size in factor analysis. *Psychological methods, 4*(1), 84-99.

Manikandan, S. (2011). Frequency Distribution. *Journal of Pharmacology and Pharmacotherapeutics, 2*(1), 54-56.

Memon, A. H., & Rahman, I. A. (2014). SEM-PLS Analysis of Inhibiting Factors of Cost Performance for Large Construction Projects in Malaysia: Perspective of Clients and Consultants. *Scientific World Journal,* 1-9.

Meyer-Waarden, L., Benavent, C., & Casteran, H. (2013). The effects of purchase orientations on perceived loyalty programmes' benefits and loyalty. *International Journal of Retail & Distribution Management, 41*(3), 201-225.

Moon, J. W., & Kim, Y. G. (2001). Extending the TAM for a World-Wide-Web context. *Information & Management, 38*(4), 217-230.

Mouakket, S. (2014). Investigating the Motives of Customers' Continuance Intentions towards Online Reservation: The Role of E-Service Quality. *Journal of Organizational and End User Computing, 26*(2), 18-40.

Musa, R., Saidon, J., Harun, M., Adam, A., Dzahar, D., Haussain, S., & Lokman, W. (2016). The Predictors and Consequences of Consumers' Attitude Towards Mobile Shopping Application. *Procedia Economics and Finance, 37*, 447-452.

Nielsen Global Retail Loyalty-Sentiment Survey. (2016). *GLOBAL RETAIL LOYALTY SENTIMENT REPORT.* Retrieved July 30, from https://www.nielsen.com/wp-content/uploads/sites/3/2019/04/nielsen-global-retail-loyalty-sentiment-report.pdf

Oghuma, A. P., Libaque-Saenz, C. F., Wong, S. F., & Chang, Y. (2016). An expectation-confirmation model of continuance intention to use mobile instant messaging. *Telematics Informatics, 33*(1), 34–47.

Okumus, B., Ali, F., Bilgihan, A., & Ozturk, A. B. (2018). Psychological factors influencing customers' acceptance of smartphone diet apps when ordering food at restaurants. *International Journal of Hospitality Management, 72*, 67–77.

Oracle. (2018). *"The Loyalty Divide - Operator and Consumer Perspectives, Hotels 2018" Reveals Operators Are Struggling to Find Relevance Among Younger Guests that Demand More Personalized Incentives and Experiences.* Retrieved August 1, 2019, from https://www.prnewswire.com/news-releases/the-loyalty-divide---operator-and-consumer-perspectives-hotels-2018-reveals-operators-are-struggling-to-find-relevance-among-younger-guests-that-demand-more-personalized-incentives-and-experiences-300626659.html

Penwarden, R. (2014). *Descriptive Research: Defining Your Respondents and Drawing Conclusions.* Retrieved August 1, 2019, from http://fluidsurveys.com/university/descriptive-research-defining-respondentsdrawing-conclusions/

Pereira, F., Ramos, A., Gouvea, M., & Costa, M. (2015). Satisfaction and continuous use intention of e-learning service in Brazilian public organizations. *Computers in Human Behavior, 46*, 139-148.

Perro, J. (2018). *Mobile Apps: What's A Good Retention Rate?* Retrieved July 28, 2019, from http://info.localytics.com/blog/mobile-apps-whats-a-good-retention-rate

Peter, J, D., Laszlo, S., & Tracey, S, D. (2016). Does the reward match the effort for loyalty program members? *Journal of Retailing and Consumer Services. 32*, 23-31.

Polit, D. F. & Hungler, B. P. (1999). *Nursing Research: Principles and Methods* (6th ed.) Philadelphia: Lippincott.

Rahman, M. N., Zamri, S. N. A. & Leong, K.E (2017). A Meta-Analysis Study of Satisfaction and Continuance Intention to Use Educational Technology. *International Journal Of Academic Research In Business And Social Sciences, 7*(4), 1059-1072.

Roscoe, J. (1975). *In Fundamental Research Statistics for the Behavioural Sciences* (2nd ed). New York: Rinehart & Winston.

Rumsey, D. J. (2005). *How Sample Size Affects the Margin of Error*. Retrieved May 20, 2019, from http://www.dummies.com/how-to/content/how-samplesize-affects-the-margin-of- error.html

Saadé, R., & Bahli, B. (2005). The impact of cognitive absorption on perceived usefulness and perceived ease of use in online learning: An extension of the Technology Acceptance Model. *Information & Management, 42*(2), 317-327.

Saunders, M., Lewis, P. & Thornhill, A. (2012). *Research Methods for Business Student* (6th ed.). Pearson Education Limited.

Scacca, S. (2018). *Reasons Your Mobile App Retention Rate Might Be So Low*. Retrieved July 28, 2019, from https://www.smashingmagazine.com/2018/10/mobile-app-retention-rate/

Serafino, J. (2018). *New Guidelines Redefine Birth Years for Millennials, Gen-X, and 'Post-Millennials'*. Retrieved August 1, 2019, from http://mentalfloss.com/article/533632/new-guidelines-redefine-birth-years-millennials-gen-x-and-post-millennials

Simona, V. (2013). The Impact of Customer Perceptions and Satisfaction on E-loyalty. *Expert Journal of Marketing. 1*, 4-16.

Statista. (2018). *Mobile application user retention rate worldwide from 2012 to 2018*. Retrieved July 28, 2019, from https://www.statista.com/statistics/751532/worldwide-application-user-retention-rate/

Statista. (2019). *Number of smartphone users in Malaysia from 2017 to 2023 (in millions)*. Retrieved July 28, 2019, from https://www.statista.com/statistics/494587/smartphone-users-in-malaysia/

Tam, C., Santos, D., & Olivera, T. (2018). Exploring the Influential Factors of Continuance Intention to use Mobile Apps: Extending the Expectation Confirmation Model. *Information System Frontiers. 12*, 1-15.

Tang, A. (2016). Mobile App Monetization App Business Models in the Digital Era. *International Journal of Innovation, Management and Technology*, *7*(5), *224-227.*

Thompson, C. B. (2009). Descriptive Data Analysis. *Air Medical Journal, 28*(2), 56-59.

Thong, J. Y. L., Hong, S. J., & Tam, K. Y. (2006). The effects of post-adoption beliefs on the expectation-confirmation model for information technology

continuance. *International Journal of Human-Computer Studies*, *64*(9), 799- 810.

Venkatesh, V., Thong, J. L. Y., & Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *MIS Quarterly*, *36*(1), 157-178.

Weng, G. S., Zailani, S., Iranmanesh, M., & Hyun, S. (2017). Mobile taxi booking application service's continuance usage intention by users. *Transportation Research Part D: Transport and Environment, 57*, 207-216.

Winnie, W. P. M., Lo, M. C., & Ramayah, T. (2014). *The Effect of Technology Acceptance Factors on Customer E-loyalty and E-Satisfaction in Malaysia. International Journal of Business and Society, 15*(3), 477-502.

Woodward, S. (2017). *How To Create A Successful Mobile Loyalty Program.* Retrieved July 30, from https://stablekernel.com/create-successful-mobile-loyalty-program/

Ye, Q., Luo, Y., Chen, G., Guo, X., Wei, Q., & Tan, S. (2019). Users intention for continuous usage of mobile news apps: the roles of quality, switching costs, and personalization. *Journal of Systems Science and Systems Engineering, 28*(1), 91-109.

Zhao, Z. & Balagué, C. (2015). Designing branded mobile apps: fundamentals and recommendations. *Bus. Horiz*, *58*(3), 305–315.

Zhong, Z., Luo, J., & Zhang, M. (2015). Understanding antecedents of continuance intention in mobile travel booking service. *International Journal of Business and Management, 10(*9), 156-162.

APPENDICES

Appendix 2.1: Template of Hypotheses

No	Authors	Year	Country	Title	Context	IV	DV	Findings
1	Hsiao, Chang & Tang	2015	Taiwan	Exploring the influential factors in continuance usage of mobile social Apps: Satisfaction, habit, and customer value perspectives	Mobile Social Apps	Satisfaction, perceived enjoyment, habitual use and social ties	Continuance intention	All significantly influence users' continuance intention
2	Amoroso and Chen	2017	China	Constructs Affecting Continuance Intention in Consumers with Mobile Financial Apps: A Dual Factor Approach	Mobile Financial Apps	Perceived value, perceived enjoyment, perceived innovativeness, switching cost, habit, satisfaction and loyalty	Continuance intention	All strongyly influence continuance intention except loyalty. Loyalty was not predictive in understanding continuance intention
3	Lu	2014	USA	Are personal innovativeness and social influence critical to continue with mobile commerce?	Mobile commerce	Social influence, perceived innovativeness, perceived usefulness and perceived ease of use	Continuance intention	1) social influence does not serve as a determinant of continuance intention 2) perceived innovativeness is an important determinant of continuance intention 3) perceived usefulness remain as the strong determinant for continuance intention 4) Perceived ease of use lose its position as a determinant for continuance intention
4	Oghuma, Libaque-Saenz, Wong & Chang	2016	South Korea	An expectation-confirmation model of continuance intention to use mobile instant messaging	mobile instant messaging	Confirmation, satisfaction, perceived usefulness, perceived service quality (perceived performance), perceived enjoyment and user interface (perceived usability), perceived security	Continuance intention	1) perceived service quality and perceived usability significantly affect user satisfaction and continuance intention 2) Perceived service quality also influences confirmation, which in turns affects perceived usability 3)The effect of perceived security on user satisfaction, however, is not significant
5	Tam, C., Santos, D., & Oliveira	2018	USA	Exploring the influential factors of continuance intention to use mobile Apps: Extending the expectation confirmation model	Mobile applications	Performance expectancy, Effort expectancy, Satisfaction, Facilitating Conditions, Hedonic motivation, price value, habit and social influence	Continuance intention	1) Effort expectancy, habit, performance expectancy and satisfaction are important in continuance intention 2) Social influence, facilitating conditions, hedonic motivation and price value shows no importance in explaining continuance intention
6	Kim, Hwang, Zo & Lee	2014	Korea	Understanding users' continuance intention toward smartphone augmented reality applications	Augmented Reality Applications	Perceived enjoyment, perceived usefulness, information quality, visual quality and satisfaction	Continuance intention	All has strong significant on continuance intention except perceived enjoyment and interactivity

7	Pereira, Ramos, Gouvea & Costa	2015	Brasil	Satisfaction and continuous use intention of e-learning service in Brazilian public organizations.	E-learning service	Satisfaction	Continuance intention	Satisfcation has significant influence on continuance intention
8	Tang	2016	Hong Kong	Mobile App Monetization App Business Models in the Digital Era	Mobile applications	Convenience, Communication, social networking, entertainment, and value expression	Acceptance on mobile apps	All significantly influence the acceptance on mobile apps
9	Chong	2013	China	A two-staged SEM-neural network approach for understanding and predicting the determinants of m-commerce adoption	M-commerce	Perceived ease of use, perceived usefulness, perceived enjoyment, trust, perceived cost, network influence and variety of services	Intention to adopt m-commerce	1) Trust, network influence, enjoyment, perceived usefulness and variety of services shows significantly influence on adoption of m-commerce 2) Cost and perceived ease of use found no significant relationship on adoption of m-commerce
10	Okumus, Ali, Bilgihan & Ozturk	2018	USA	Psychological factors influencing customers' acceptance of smartphone diet apps when ordering food at restaurants	Smartphone diet apps	Performance expectancy, effort expectancy, social influence, facilitating condition, personal innovativenss	Intention to use	All are significant predictors of intention to use diet apps except facilitating conditons
11	Ye, Luo, Chen, Guo, Wei & Tan	2019	China	Users intention for continuous usage of mobile news apps: the roles of quality, switching costs, and personalization	Mobile news apps	Usefulness, satisfcation, switching costs, system quality, service quality	Continuance Intention	All are significant relationshio with continuance intention of mobile new apps
12	Humbani & Wiese	2019	South Arica	An integrated framework for the adoption and continuance intention to use mobile payment apps	Mobile payment apps	Perceived usefulness, perceived ease of use, satisfaction	Continuance Intention	1) Usefulness also emerged as a significant predictor of satisfaction but it was not found directly affect the intention to use 2) satisafaction and perceived ease of use have significant effect on continuance intention to use mobile payment apps
13	Zhong, Luo, & Zhang	2015	China	Understanding Antecedents of Continuance Intention in Mobile Travel Booking Service	Mobile travel booking services	Perceived usefulness, satisfaction, subjective norm, perceived behavioral control	Continuance Intention	Perceived usefulness, satisfaction, subjective norm and perceived behavioral control have a direct positive impact continuance intention. Morever, the authors found that satisfaction has a greater impact on continuance intention than perceived usefulness

14	Chopdar & Sivakumar	2018	India	Understanding continuance usage of mobile shopping applications in India: the role of espoused cultural values and perceived risk	Mobile shopping applications	Performance expectancy, effort expectancy, social influence, facilitating condition, hedonic motivation, price value, habit, perceived risk	Continuance Intention	1) FC,PR no significant effect on intention of mobile shopping apps2) SI, EE, HM, PV, PE, HM, HB are significant effect continuance intention of mobile shopping apps
15	Amoroso, D., & Lim	2017	USA	The mediating effects of habit on continuance intention	Mobile applications	Customer attitudes, habit and customer satisfaction	Continuance Intention	All are significant to continuance inention of mobile apps

Source: Developed from the Research

Appendix 3.1: Summary of Current Studies' Measurement Items

Construct	Items	Adapted from
Perceived Enjoyment	1. Using loyalty apps is fun.	(Aromoso & Chen, 2017)
	2. Using loyalty apps is very entertaining.	(Tam, Santos & Oliveira, 2018)
	3. Collecting point from loyalty apps is fun.	(Omar, Ramlyn, Alam & Nazri, 2015)
	4. When I redeem my point from the loyalty apps, I feel good to myself. 5. I discover new products of the company when using loyalty apps.	(Kang, 2014)
Perceived Usefulness	1. I find mobile loyalty apps is useful to me	(Tam, Santos & Oliveira, 2018)
	2. Using loyalty apps increase my chance of getting reward as a result	
	3. Using loyalty apps will increase productivity in managing personal finance	(Chong, Chan & Ooi, 2012)
	4. Loyalty apps is more convenient than loyalty card 5. Using loyalty apps help me accomplish things quickly	(Kang, 2014)
Perceived Ease of Use	1. I would find the loyalty apps easy to use	(Bhattacherjee, 2001b)

	2. Using loyalty apps require minimum effort 3. My interaction with loyalty apps is clear and understandable 4. Learning how to use loyalty apps is easy for me 5. It is easy for me to become skilful at using loyalty apps	(Kang, 2014)
Habit	1. The use of loyalty apps has become an automatic to me	(Aromoso & Chen, 2017)
	2. I am addicted to use loyalty apps 3. I must use the loyalty apps	(Hsiao, Chang & Tang, 2016)
	4. Using loyalty apps has become natural to me 5. I find it is difficult to stop using loyalty apps once I have started to use it	(Aromoso & Chen, 2017)
Satisfaction	1. I am satisfied with the performance of the loyalty apps	(Gao, Waechter & Bai , 2015)
	2. I consider myself to be very loyal in using certain loyalty apps	(Aromoso & Chen, 2017)
	3. Loyalty apps always meets my expectation	(Bhattacherjee, 2001b)
	4. I think I made a wise decision in using loyalty apps	(Tam, Santos & Oliveira, 2018)

	5. My experience with using the loyalty apps was satisfactory	(Hsiao, Chang & Tang, 2016)
Continuance Usage Intention	1. I would consider using the loyalty app in the long term	(Aromoso & Chen, 2017)
	2. I will keep using the loyalty app as regularly as I do now	(Hsiao, Chang & Tang, 2016)
	3. I intend to continue using the loyalty apps rather than discontinue its use	(Bhattacherjee, 2001b)
	4. I will encourage other to use certain mobile app	(Shahrom, Kassim, Humaidi, Zamzuri & Rahim, 2016)
	5. I will continue using loyalty apps in future	(Wu & Chen, 2016)

Source: Developed from the Research

Appendix 3.2: Online Questionnaire

Factors that Influence Continuous Usage Intention of Mobile Loyalty Applications

Dear respondents,

We are final year undergraduate students from Universiti Tunku Abdul Rahman (UTAR) who pursuing Bachelor of Marketing (Hons). Currently, we are conducting our final year project research which aimed to study the factors that influence continuous usage intention of mobile loyalty applications.

Please answer all questions to the best of your knowledge. There are no right or wrong responses to any of these statements. All responses from the survey are anonymous and will be kept strictly confidential. Thank you for your participation.

Instructions:
1) There are 2 sections in this questionnaire. Please answer ALL questions in ALL sections.
2) Completion of this questionnaire will take you approximately 10 to 20 minutes.

*Required

Qualifying Question

Mobile loyalty app is a type of mobile app that offers rewards to loyal customers. These rewards include vouchers, discounts, points, and free gifts.

Examples of mobile loyalty apps: Bonuslink, MY Watsons, B Infinite, Genting Rewards, Starbucks App, Sushi King MY

1. **In the last 3 months, have you ever used any mobile loyalty app in your mobile device?** *
   Mark only one oval.
   - ◯ Yes
   - ◯ No *Stop filling out this form.*

Section A: Demographic Profile

In this section, we are interested in your background in brief. Please tick your answer and answer will be kept strictly confidential.

2. **Your Gender** *
   Mark only one oval.
   - ◯ Female
   - ◯ Male

3. **Your Age** *
Mark only one oval.

- ◯ Below 20 years old
- ◯ 21 - 25 years old
- ◯ 26 - 30 years old
- ◯ 31 - 35 years old
- ◯ 36 – 40 years old
- ◯ 41 – 45 years old
- ◯ 46 – 50 years old
- ◯ 51 and above

4. **Your experience in using mobile loyalty apps** *
Mark only one oval.

- ◯ Less than 1 year
- ◯ 1 year – 2 years 11 months
- ◯ 3 years – 4 years 11 months
- ◯ 5 years – 6 years 11 months
- ◯ More than 7 years

5. **Which mobile loyalty app that you used the most frequent? (Please Choose One Only)** *
Mark only one oval.

- ◯ MyDigi App
- ◯ Sushi King
- ◯ Starbucks MY
- ◯ Genting Rewards
- ◯ Grab
- ◯ Tesco Clubcard
- ◯ Bonuslink
- ◯ AirAsia BIG
- ◯ MyUMobile
- ◯ Uniqlo MY
- ◯ MY Watsons
- ◯ B Infinite
- ◯ Caring Pharmarcy
- ◯ Aeon Card Mobile

6. **How many times do you visit the app within 3 months?** *
Mark only one oval.

- 1-3
- 4-6
- 7-10
- 11-15
- 16-20

Section B

This section is seeking your opinion on the factors that influence the continuous usage intention of mobile loyalty applications. Respondents are asked to CHOOSE ONE number per line with each statement.
(1) = strongly disagree
(2) = disagree
(3) = neutral
(4) = agree
(5) = strongly agree

Based on the mobile loyalty app that you used the most frequent:

Perceived Enjoyment

7. **1. Using loyalty apps is fun.** *
Mark only one oval.

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

8. **2. Using loyalty apps is entertaining.** *
Mark only one oval.

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

9. **3. Collecting points from loyalty apps is fun.** *
Mark only one oval.

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

10. **4. I find loyalty apps to be interesting.** *
Mark only one oval.

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

11. **5. Using loyalty apps is enjoyable.** *
Mark only one oval.

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

Perceived Usefulness

12. **1. I find loyalty apps to be useful to me.** *
Mark only one oval.

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

13. **2. Using loyalty apps increase my chance of getting more rewards.** *
Mark only one oval.

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

14. **3. Using loyalty apps enables me to get rewards more quickly.** *
Mark only one oval.

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

15. **4. Loyalty apps is more convenient than loyalty card.** *
Mark only one oval.

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

16. **5. Using loyalty apps enhance my effectiveness in saving money.** *
Mark only one oval.

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

Perceived Ease of Use

17. **1. I find loyalty apps to be easy to use.** *
Mark only one oval.

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

18. **2. Using loyalty apps require minimum effort.** *
Mark only one oval.

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

19. **3. My interaction with loyalty apps is clear and understandable.** *
Mark only one oval.

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

20. **4. Learning how to use loyalty apps is easy for me.** *
Mark only one oval.

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

21. **5. It is easy for me to become skillful at using loyalty apps.** *
Mark only one oval.

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

Habit

22. **1. The use of loyalty apps has become automatic to me.** *
Mark only one oval.

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

23. **2. I am addicted to use loyalty apps.** *
Mark only one oval.

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

24. **3. I must use the loyalty apps.** *
Mark only one oval.

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

25. **4. Using loyalty apps has become natural to me.** *
Mark only one oval.

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

26. **5. I find it difficult to stop using loyalty apps once I have started to use it.** *
Mark only one oval.

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

Satisfaction

27. **1. I am satisfied with the performance of the loyalty apps.** *
Mark only one oval.

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

28. **2. I am pleased with the loyalty apps.** *
Mark only one oval.

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

29. **3. Loyalty apps always meets my expectation.** *
Mark only one oval.

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

30. **4. I think I made a wise decision in using loyalty apps.** *
Mark only one oval.

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

31. **5. My experience with using the loyalty apps was satisfactory.** *
Mark only one oval.

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

Continuance Usage Intention

32. **1. I would consider using the loyalty app in the long term.** *
Mark only one oval.

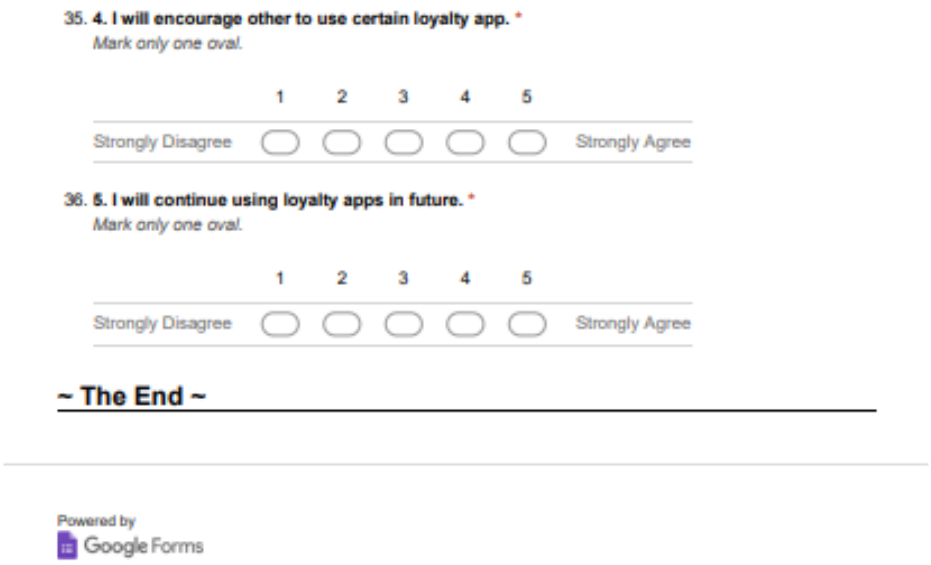
	1	2	3	4	5	
Strongly Disagree	◯	◯	◯	◯	◯	Strongly Agree

33. **2. I will keep using the loyalty app as regularly as I do now.** *
Mark only one oval.

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

34. **3. I intend to continue using the loyalty apps rather than discontinue its use.** *
Mark only one oval.

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



35. **4. I will encourage other to use certain loyalty app.** *
Mark only one oval.

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

36. **5. I will continue using loyalty apps in future.** *
Mark only one oval.

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

~ The End ~

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Google Form Link:

https://docs.google.com/forms/d/e/1FAIpQLSd_676-RpOKkDfk8_AQuV-J6DA1PLoVKD-sVZg7vv7a410yKw/viewform

Appendix 3.3: Pilot Test Result (Reliability Test)

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
CUI	0.894	0.895	0.922	0.704
H	0.913	1.012	0.930	0.727
PE	0.926	0.959	0.942	0.767
PEOU	0.828	0.853	0.879	0.594
PU	0.934	0.941	0.950	0.793
S	0.852	0.881	0.897	0.640

Appendix 4.1: Raw Data

Gender	Age	Experience	Most Frequent Used Apps	Visit Times	PE1	PE2	PE3	PE4	PE5	PU1	PU2	PU3	PU4	PU5	PEOU1	PEOU2	PEOU3	PEOU4	PEOU5	HA1	HA2	HA3	HA4	HA5	S1	S2	S3	S4	S5	CUI1	CUI2	CUI3	CUI4	CUI5
1	1	1	13	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4	4	4	4	4	5	5	4	5	5	4	4	5	5
2	5	1	14	5	5	5	5	4	4	4	4	4	5	4	4	4	5	4	4	4	4	4	4	5	4	5	4	4	5	4	4	4	5	4
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1	8	5	5	1	4	5	4	4	4	5	4	5	5	4	4	5	4	4	5	4	5	4	5	4	4	5	5	4	5	5	4	4	5	5
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Source: Developed for the Research

Factors that Influence Continuous Usage Intention of Mobile Loyalty Applications in Malaysia

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CHAPTER 1: RESEARCH OVERVIEW

1.0 Introduction

Background, problem statement, research objectives together with questions will be discussed in this topic. Lastly, the significance of this study is also reviewed in this topic.

1.1 Research Background

The number of smartphone subscribers has increased and this has increased the adoption of mobile application software nowadays, which also known as mobile "apps" (Hsu & Lin, 2015). Mobile apps are often used to display a brand identity and are designed to be installed in a mobile device (Zhao and Balagué, 2015). During the year 2017, the number of mobile apps downloads has accumulated to 178.1 billion U.S. dollar and it is projected that there will be 260 billion U.S. dollar total app downloads by the year 2022 (Iqbal, 2019). This huge growth of mobile apps benefits the consumers by reducing the number of loyalty cards they carry (Landau, 2017). Therefore, companies are increasing their efforts in developing enterprise mobile loyalty applications for their customers. According to Kuryliak (2018), eighth-eight percent of brands hold an opinion that their return on investment (ROI) rely on mobile app success. Both card-based and digital-based loyalty programs are designed to recognize customers, especially repeat customers (Landau, 2017). Moreover, the cost of acquisition is also one of the reasons why companies want to build relationships with the customers and reward the most loyal customers (Canavan, 2017). According to Woodward (2017), Code

Broker said that seventy-one percent of shoppers would like to make use of their loyalty cards if the cards and rewards can be accessed via mobile phone.

In fact, according to The Nielsen Global Retail Loyalty-Sentiment Survey (2016), Malaysia is one of the countries that have the highest self-reported rates of loyalty program participation (77%). It also stated that there is about 40% of Malaysians are using a retailer's mobile application. In Malaysia, there is quite a number of business companies have developed a mobile loyalty program for the customers such as Sushi King MY, Starbucks Malaysia, as well as MYDigi. Consumers will be rewarded based on frequent purchase history. For instance, every single RM1 spent on MYDIGI app earns 1 Digi Point and the particular customer who earns an accumulated point of 1500 within one cycle (6 months) will become Platinum-tier customer automatically. These Platinum customers can enjoy their privileges and benefits such as exclusive Digi deals, exclusive event invites, and priority queue on Digi Helpline (Digi Telecommunications Sdn Bhd, n.d.). By developing mobile loyalty programs, customer experiences can be improved and organizations can have a better understanding of customers' behaviors and are more capable in capturing customers' loyalty towards the brands (Woodward, 2017).

1.2 Research Problem

According to Statista (2019), there have been 15.6 million smartphone users in Malaysia during the year 2017 and it is estimated to reach 18.4 million smartphone users during the year 2019. This huge smartphone usage has led to the rapid growth of mobile apps download rate and the companies are involving aggressively in developing their companies' mobile applications. Forty-two percent of organizations anticipate increasing spending on mobile app development as compared to an average of thirty-one percent in 2016 (Gartner, 2016). However, this large number of installs only indicates that the particular app

is in favor of users initially (Scacca, 2018). Although the mobile loyalty apps itself bring forward benefits and more convenience, research from Centre of Retail Research (CRR) shows that only 16% of retails apps are been used 'a lot' and more than a quarter (approximately 27%) were downloaded but never been used (Bacon, 2015). In addition, there are only 38% of users who use an application for eleven times and above during the year 2018 (Statista, 2018). According to Perro (2018), she also found out that the average mobile app retention rate was 29% after 90 days during the year 2017. This is also indicating that 71% of all app users churn within 90 days (Perro, 2018). This had become clear that although certain mobile loyalty apps are being downloaded, the numbers of users of the apps itself continuously throughout the span of its introduction are relatively low.

Besides that, there is a limited understanding of continuous usage intention towards mobile loyalty applications. For instance, a great number of prior researches emphasized on mobile social media application (Hoehle, Zhang & Venkatesh, 2015), mobile shopping application (Musa et al., 2016), and mobile booking application (Weng, Zailani, Iranmanesh & Hyun, 2017). Some recent researches focused on the adoption of the mobile application instead of the continuous usage intention of the mobile application. These studies include Hsu and Lin (2015) which examined the purchase intention of paid mobile application; Harris, Brookshire, and Chin (2016) studied the determinants of mobile application adoption.

In order for a mobile application to be successful, the organization must have a deep understanding on the behavior of users and the app should have loyal subscribers who keep using the app once the app is being downloaded. In this case, the retention rate should be the main concern of the organization. Users are considered as losing their interests towards an application if there is a constant lack of usage of the app itself (Scacca, 2018).

In short, this study will focus on users' continuous usage intention of mobile loyalty application in Malaysia. As users' retention rate is important for mobile apps success, factors that influence the continuous usage intention of mobile loyalty application will be examined in this study. This might be beneficial for organizations that wish to develop an app that meets the needs of users.

1.3 Research Objectives

1.3.1 General Objective

The main aim of the research was to study and investigate the factors that influence the continuous usage intention of mobile loyalty apps.

1.3.2 Specific Objectives

1. To investigate the influence of perceived usefulness on continuous usage intention of mobile loyalty apps.

2. To investigate the influence of perceived ease of use on continuous usage intention of mobile loyalty apps.

3. To investigate the influence of habit on continuous usage intention of mobile loyalty apps.

4. To investigate the influence of perceived enjoyment on continuous usage intention of mobile loyalty apps.

5. To investigate the influence of perceived usefulness on the satisfaction of using mobile loyalty apps.
6. To investigate the influence of users' satisfaction on continuous usage intention of mobile loyalty apps.

1.4 Research Questions

In accordance with our research objectives, several questions had been designed to be answered once this research is completed. The questions are as follows:

1.4.1 General Question

What are the factors that influence the continuous intention of using mobile loyalty apps and how does it affects them?

1.4.2 Specific Questions

1. What is the determinant(s) of continuous usage intention of mobile loyalty apps?
2. What is the influence of the determinant(s) towards continuous usage intention of mobile loyalty apps?
3. Which are the determinant(s) that positively influence the continuous usage intention of mobile loyalty apps?

4. Which are the most significant determinant(s) that imposes the highest effect in influencing the continuous usage intention of mobile loyalty apps?

1.5 Research Significance

This particular research may able to help practitioners to understand the relationship loyalty program itself as a whole on the mobile apps platform and continuous usage intention of mobile loyalty apps. From a profitable organization perspective, they able to further capture the heart of the user thus helping them to retain the customer in their organization. For mobile app marketers, this research able to let them have an understanding in regards to the user's satisfaction and expectation towards a mobile-based loyalty app thus could be implemented by practitioners to further increase the competitive advantages of the organization in terms of their offering in their loyalty program apps. Through this, they could then able to design a strategy to enhance the continuous intention of using mobile loyalty apps rather than depending on the traditional loyalty scheme and further advance towards a fully digitalized-based loyalty scheme. They also can ensure the users will constantly use the apps itself rather than just downloading it and being forgotten or worst ended up being uninstalled. For mobile app developers, they can have a deep understanding of users' behaviors, which enable them to develop loyalty apps that meet the needs and requirements of users. Not only that, through this research as well, they able to understand and gain knowledge on the user's intention or drive that probe them to continuously use the mobile loyalty apps and why they do not condone the mobile loyalty apps introduction. Finally, through all the variables identified, the public as a whole able to understand more about what the mobile loyalty apps future withhold in the e-commerce platform and the growth opportunity of digitalized-based loyalty scheme, other than providing an in-depth insight for the user to understand their own drive-in accessing certain mobile loyalty apps.

From a research perspective and purposes is enabling readers to have a deeper insight of mobile loyalty scheme and the factors that influence the users nowadays to continuously use the apps on their smartphones. Apart from that, this research may also act as a reference in future studies for researchers that wish to study on the mobile loyalty scheme-based research. As such, it clears to say it may come in handy due to relatively low-availability reference on past research conducted, both online and offline on mobile loyalty apps as most of the research were much more general, focusing on the adoption and continuous intention of usage on mobile apps. Through an in-depth reading of this research, readers able to know exactly why the users continue to use mobile loyalty apps and why they don't.

1.6 Conclusion

Explosive uses of the smartphone, growth of mobile loyalty apps adoption, research target respondents and their continuous usage intention have been assessed and discussed in this chapter. The objective of this research is to examine the influence of perceived usefulness, perceived ease of use, perceived enjoyment, habit, and satisfaction on continuous usage intention of mobile loyalty apps in Malaysia. This research will also explore the influence of perceived usefulness on the satisfaction of using mobile loyalty apps. The conceptual models and past literature that are relates to this research will be reviewed in the chapter below.

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CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

Chapter 2 analyses past literature relevant to this research study (factors that influence continuous usage intention of mobile loyalty applications). ECM was referred to this study for the explanation of continuous usage intention towards mobile loyalty applications. This chapter also includes an illustration of the research framework and discussion on hypotheses development.

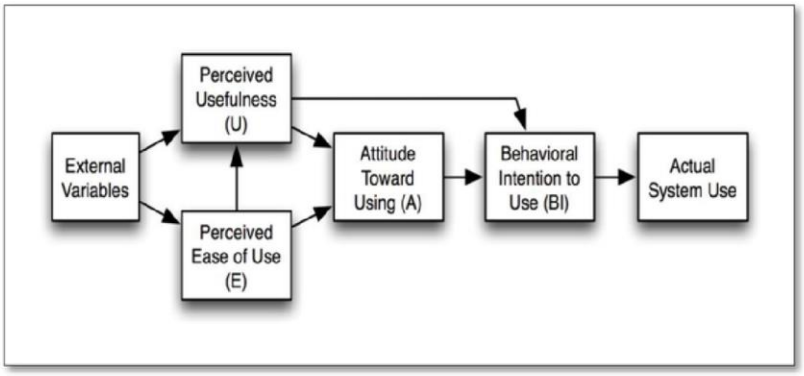
2.1 Underlying Theory

2.1.1 Expectation Confirmation Model (ECM)

The suitable model for this study is the expectation confirmation theory (ECM). Expectation-confirmation model was introduced by Bhattacherjee and the purpose of this model is to investigate the continued usage of technologies and information systems (IS) (Rahman, Zamri & Leong, 2017).

Based on ECM, the initial use of this model does not automatically influence the continued use, but a key role to affect the success of a system rather than the initial use. According to past studies, it shows that ECM had adopted by many researchers to examine users' continued usage of IS such as Internet-based learning technologies (Limayem & Cheung, 2008), e-learning (Lee, 2010), and online shopping (Lee & Kwon, 2011), which prove that ECM is appropriate to use in predicting continuance intention in

Figure 2.2: Technology Acceptance Model (TAM)



Source: Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13(*3), 319-340.

2.1.3 Limayem - Habit

Limayem and Hirt (2003) stated that habit can be evaluated and adapted to IS usage. IS habit is referring to the extent of consumers who response automatically by learning, and it can be applied to understand the adoption of IS usage (Limayem, Hirt & Cheung, 2007). Besides, the habit has less conceptual overlap with intentions which provide an additional factor for IS to explain the usage of new technologies (Limayem & Hirt, 2003).

There are several researchers stated that the original ECM is not comprehensive enough for the investigation. For a clear comprehension of the continuance usage intention, there is a need to further develop it (Ali Harasis, Imran Qureshi & Rasli, 2018). To address these issues, this research seeks to construct a new theoretical model in order to deepen and investigate the relationship between customer perceived usefulness, perceived enjoyment, perceived ease of use, habit, satisfaction, and user's

continuance intention in the context of mobile loyalty applications. In ECM, confirmation is the gap to which an individual's initial expectation of system use and its actual performance with the system (Bhattacherjee, 2001b). Due to the confirmation has no direct effect on continuance usage intention, so we do not encourage confirmation as one of the variables in this study.

2.2 Review of Relevant Literature

2.2.1 Dependent Variable: Continuance Usage Intention

In accordance with Han, Wu, Wang, and Hong (2018), continuous usage intention (CUI) can be used to examine the user's decision to continue to use specific product or service that users have experienced. It is also considered as a way to test one's intention to consistently perform a specific behavior (Amoroso & Chen, 2017). Amoroso and Lim (2017) said that CUI is inherently by intentional actions and decisions such as ease of use, belief and expectation from prior experience as well as an affective and emotional decision which including satisfaction and cognitive absorption. In the IS context, continuance has been labeled post-adoptive behavior, which is a term that encompasses continuance intention, continued usage, intention to recommend, satisfaction and loyalty (Bhattarcherjee & Barfar, 2011; Hossain & Quaddus, 2012).

2.2.2 Mediator: Satisfaction

Satisfaction considered as the cumulative feelings created by a consumer when they have repeated interactions towards a product and service (Amoroso & Chen, 2017). Bhattacherjee (2001a) stated that positive (satisfaction) and negative (dissatisfaction) feeling will affect the behavior of consumers after their initial experience. In addition, Bhattacherjee also proposed that satisfaction can have direct influences on continuous intention (Bhattacherjee, 2001b). In Expectation Confirmation Model (ECM), satisfaction occurs when expectations of consumers towards products and services are met and eventually encourage them to repeat their purchase behavior (Chong, Chan & Ooi, 2012).

2.2.3 Independent variable: Perceived Usefulness

Davis (1989) stated that perceived usefulness or effort expectancy is a method to evaluate a person whether he or she is able to improve their job performance if they use a specific system. Bhattacherjee (2001b) said that perceived usefulness is an adequate expectation of benefits from the system. The purpose of collecting points through loyalty application is to get some rewards such as free flight ticket (Peter, Laszlo & Tracey, 2016) and price reduction (Meyer-Waarden, Benavent & Casteran, 2013). Many studies stress that continuance intentions of technology are represented by perceived usefulness (Kim, Mirusmonov & Lee, 2010). In addition, Thong, Hong and Tam (2006) stated that perceived usefulness can be used in determining the users' satisfaction and continuance intentions.

2.2.4 Independent variable: Perceived enjoyment

Perceived enjoyment shows the extent to which the user experiences enjoyment or fun towards the adoption of an information system (Hsiao, Chang & Tang, 2016). Perceived enjoyment is regarded as the main hedonic and utilitarian elements (Coursaris & Sung, 2012). The hedonic system guides the users to interact with others and this can be seen as evoking the positive feelings of users and increase their continued usage intention to a higher level (Hsiao et al, 2016). According to Kyguoliene, Zikiene and Grigaliunaite (2017), the advantages of hedonic can be discovered through entertainment and exploration which lead to increase their pleasure and satisfaction.

2.2.5 Independent variable: Ease of use

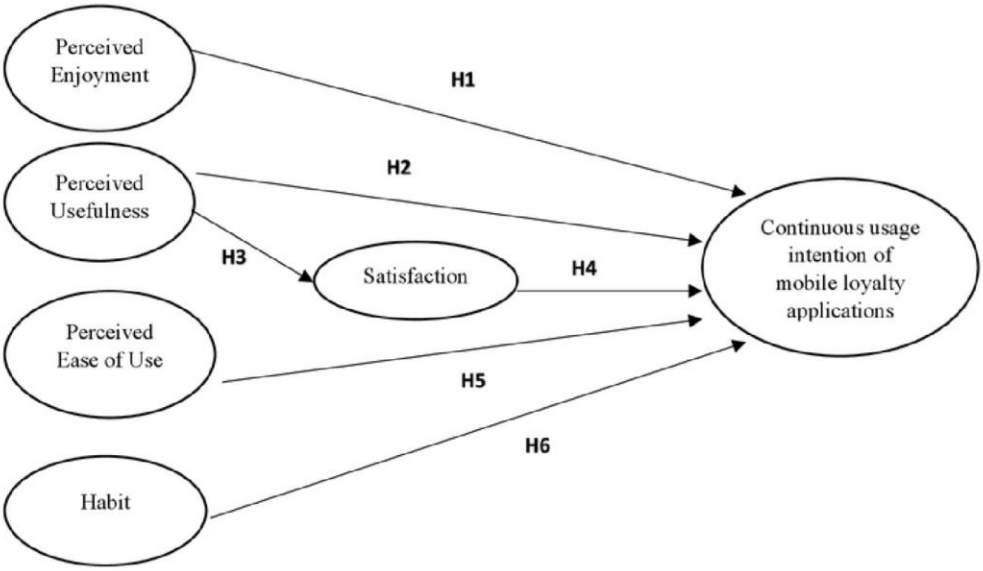
According to Venkatesh, Thong, and Xu (2012), ease of use is to assess how easy of a system can be used by different users. In other word, it indicates that what a system can do and what it approves its customers to do like the functions and capabilities embedded in the area of e-service technology (Simona, 2013). It has similar meaning with effort expectancy (Saadé & Bahli, 2005). Ghalandari (2012) stated that any technology can be considered useful if the users can use it easily and least of efforts. In addition, user-friendliness is one of the key factors that influence some particular loyalty applications such as highly accessible, quick to download, easy to read and good navigation (Winnie, Lo & Ramayah, 2014).

2.2.6 Independent variable: Habit

Habit is referring to the extent of people who perform their behavior and response automatically because of learning. It shows that users who have been using a particular technology in a period of time are predisposed to remain and continue to use it automatically (Amoroso & Lim, 2017; Limayen et al., 2007). According to Chong (2013a), habitual use shows that consumers have current met their needs and expectations in using a particular technology. Studies also have demonstrated that habitual behavior promotes the continuation of the same response and behavior (Hsin & Wang, 2006).

2.3 Development of Research Framework

Figure 2.4: Research Framework



Source: Developed for Research

apps are more likely to form habitual behavior towards apps and hence they willing to keep use mobile payments in the hotel sector.

2.6 Conclusion

The conceptual framework and hypotheses proposed were established on the basis of prior studies and conceptual model reviewed. The following chapter will emphasize on the research methodology.

CHAPTER 3: METHODOLOGY

3.0 Introduction

The research design, data acquiring method, and sampling design will be discussed in this chapter. The creation of a questionnaire, measurement of the construct, data processing steps, and data analysis will be identified in this chapter as well.

3.1 Research Design

3.1.1 Quantitative Research

Quantitative research is a research strategy that emphasizes quantification in the collection and analysis of data (Bryman, 2012). By using this method, the findings are more likely to be generalized to the whole population as it enables us to target a larger population which is randomly selected. Therefore, it is used to explore the influence of independent variables towards the continuous usage intention of mobile loyalty applications.

3.1.2 Descriptive Research

Descriptive design was chosen for this study. This is due to descriptive research can be deployed in order to explain the characteristic of a population (Burns & Bush, 2010). It can be designed in the form of closed-ended questions, which limits the unique insight (Penwarden, 2014). We collect data and explain a certain individual, group or situation through this research design (Polit & Hungler, 1999). Thus, questionnaires are disseminated to the targeted population for data collection.

3.2 Sampling Design

3.2.1 Target Population

The targeted population of this study is millennials and pre-millennials group of people, who also known as Generation Y or Gen Y. Besides, this research also targets Generation X which aged from 38 to 53 years old (Serafino, 2018). According to Oracle (2018), the millennials are within the age range of 25 to 34 and pre-millennials is within the age of 18 to 24. These millennials are selected because over 70% of millennials and pre-millennials were members of loyalty programs (Oracle, 2018). Membership of an online retailer's program is more probable among millennials than any other age group as there are 41% of millennials belong to an online retailer loyalty program and 65% of millennials say they prefer digital rewards (Hawk Incentives, 2018). Gen X participates

sample size is increased. In addition, Rumsey (2005) stated that the larger the sample size, the smaller the sampling error will be.

3.2.5 Sampling Technique

Non-probability sampling is adopted in this study. Etikan and Bala (2017) said that a non-probability sampling technique does not offer equal chances for elements in the universe to be selected in the study sample. By using this sampling technique, our tasks become more cost- and time-effective.

Convenient sampling is used in the data collection process of this study. We collect data from population members who are convenient data sources for our study. The first available primary data source will be used for the research without additional requirements (Saunders, Lewis, & Thornhill, 2012). The main reason that we are choosing this sampling method is that this sampling technique allows us to gather the primary data regarding the topic and such findings will be useful as pointers and help in the decision for further action.

3.3 Data Collection Methods

3.3.1 Primary data

300 questionnaires sets are assigned in Google forms via online to our target respondents. The reasons we use online questionnaire method is because of its convenience and the low cost incurred. We mainly send to our friends and families through social apps include Facebook and encourage them to share the links to others in order to acquire more respondents.

3.3.1.1 Pre-test

Five sets questionnaires were printed and distributed by person-administered survey method to five lecturers in UTAR. They were requested to leave their comments regarding the questionnaires. We choose lecturers as our testers because they are more professional in the research field and they are easy to approach. The questionnaire was amended and improved according to their comments and advice afterward to ensure these questions are relevant, comprehensive and free of errors.

3.3.1.2 Pilot study

The pilot study will be carried out after the pre-test had conducted. A pilot study performed is to retest the reliability and the stability of the survey (Christodoulou et al, 2015). In the study, a small group of 30 targeted respondents will be chosen to fill up the questionnaire. After that, the result was collected and analyzed to figure out the errors and correct them. Any unnecessary and overly hard to understand questions will be removed. After the pilot test was completed accurate, 300 sets of questionnaires were distributed through online in Google form.

3.3.2 Secondary data

Secondary data relates to the existing information which already collected and produced from others (Dunn, Arslanian-Engoren, Dekoekkoek, Jadack & Scott, 2015). In our study, we obtained the relevant data from the journals and articles on the internet by accessing the UTAR Library e-databases such as Science Direct and Google Scholar. All the information we found are peer-reviewed and how the loyalty program works in a particular company were retrieved from their own official website.

3.3.3 Research Instrument

Questionnaires were designed in two sections which were Section A and Section B. The questionnaire was designated in English version only.

Section A is asked about the general demographics of the respondents. The respondents are required to answer pertaining to their demographic information including gender, age, income level and highest academic qualifications and frequency using loyalty apps per week. The nominal and ordinal scale will be applied in this section. Respondents have to choose one of the options from the multiple-choice question given.

Section B consists of the items regarding the independent variables that influence the continuous usage intention of loyalty apps. Likert scale with a five-point scale which ranging from strongly disagree, disagree, neutral, agree to strongly agree has been applied in this section.

3.4 Analysis Tools

3.4.1 Descriptive Analysis

Kaliyadan and Kulkarni (2018) say that descriptive analysis can be served in two ways. There are sorting or grouping the raw data and use for summary statistics which showing in a more understandable display. In our study, we use frequency distribution as the method to explain and present the data which had collected from Section A in the questionnaire.

3.4.1.1 Frequency distribution

Based on Manikandan (2011), frequency distribution uses to displays the different measurement categories and the number of observation in each of the category. It is the worth method to describe nominal and ordinal data (Thompson, 2009). In our research, the data will be summarized and presented in table form to enhance the understanding of the result obtained.

3.4.2 Inferential Analysis

3.4.2.1 Partial Least Squares Structural Equation Modelling (PLS-SEM)

PLS-SEM can be used to describe the structural model. It is emphasizing in prediction and research of the causal relationship between the constructs (Hair, Ringle & Sarstedt, 2011). It is appropriate when the study had encountered a smaller sample size (Chin, 1998).

Path coefficient represents the hypothesized relationships linking the constructs. Coefficients located closer to +1 representing a strong positive relationship. In contrast, values closer to -1 showing a strong negative relationship (Hair et al, 2011). The path coefficient will be significant if its value is exceeding 0.1 and T-statistics is larger than 1.96 (Kwong & Wong, 2013).

$\mathbf{R}^2$ measures the model's predictive accuracy and it explained the effect of exogenous variables on the endogenous variable. $\mathbf{R}^2$ with 0.75, 0.50, 0.25, respectively are symbolizing substantial, moderate, or weak levels of predictive accuracy (Hair et al, 2011; Henseler, Ringle & Sinkovics, 2009).

Variance Inflation Factor (VIF) is an index to test the level of collinearity among the formative indicators. The value should not higher than the threshold value of 5 (Hair et al, 2011) and in a more stringent standard of 3.3 (Diamantopoulos & Siguaw, 2006).

3.4.2.2 Convergent Validity

Convergent validity designed to conclude the inter-correlations of the construct (Carlson & Herdman, 2012). The average variance extracted (AVE) used to study how each of the indicators is reciprocal to every construct. Supposing AVE value is 0.5 and above, it shows the measurement model reach a significant convergent validity (Kwong & Wong, 2013).

Outer loading serves as a tool to evaluate the consistency of variables (Memon & Rahman, 2014). Outer loadings are reliable when its loading is larger than 0.70. However, the measurement model also considers satisfactory indicator reliability if its value is at a minimum of 0.5 (Bagozzi & Yi, 1988).

Cronbach Alpha and composite reliability are two common measurements of internal consistency reliability. The value of composite reliability situated between 0.70 and 0.90 prove adequate internal consistency reliability (Bagozzi & Yi, 1988). It is

generally interpreted in a similar way as Cronbach's Alpha (Hair, Hult, Ringle & Sarstedt, 2017).

3.4.2.3 Discriminate validity

Discriminate validity implies the occurrence that a construct is distinctive which they are not represented to other constructs (Hair et al., 2011). According to Chin (1998), discriminate validity can be assessed by using cross-loading and Fornell-Lacker criterion.

For cross-loading, the factor loading must be higher than for its designed construct when compared to other constructs on the condition that its factor loading must higher than cut-off point of 0.70 (Hair et al., 2011).

Fornell-Larcker criterion stated √ AVE of each construct must be greater than the correlation of another latent construct to prove that they are unique (Fornell & Larcker, 1981).

3.5 Conclusion

This chapter explains the research methodology includes the creation of a questionnaire, data acquiring methods, data processing, and others. This information will act as guidance for Chapter 4.

CHAPTER 4: DATA ANALYSIS

4.0 Introduction

This chapter will interpret the data collected from respondents through online questionnaires. SmartPLS 3 statistical software is used to analyze these collected respondents' data.

4.1 Descriptive Analysis

4.1.1 Survey Responses

Questionnaires were distributed through online private messages and there are 322 sets of questionnaires had been collected while 22 sets with an unqualified answer or incomplete answers. There are 6.83% unqualified questionnaire included respondents who never used any mobile loyalty application in the three months previously.

59 respondents. There are only 10 respondents who use mobile loyalty apps for more than 7 years (3.33%).

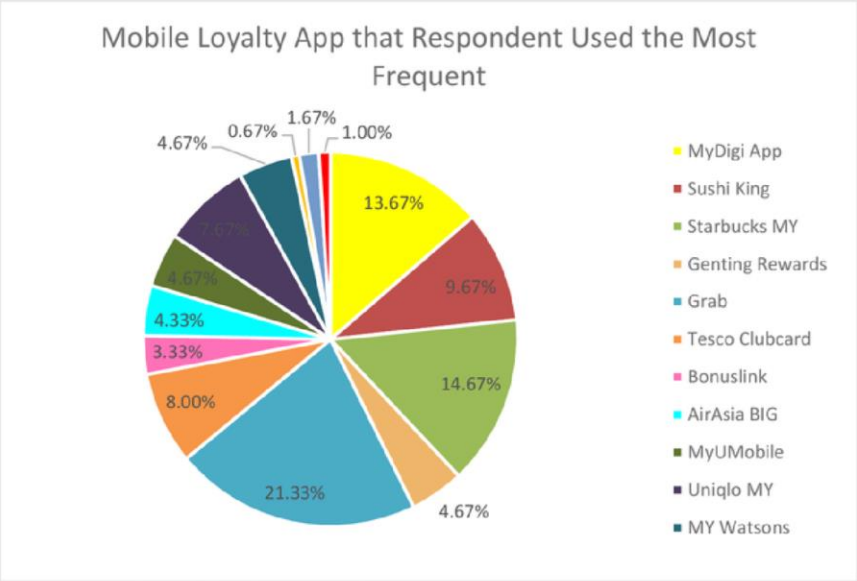
4.1.2.4 Mobile Loyalty App that Respondent Used the Most Frequent

Table 4.4: *Mobile Loyalty App that Respondent Used the Most Frequent*

Mobile Loyalty Apps	Frequency	Percent
MyDigi App	41	13.67%
Sushi King	29	9.67%
Starbucks	44	14.67%
MYGenting Rewards	14	4.67%
Grab	64	21.33%
Tesco Clubcard	24	8.00%
Bonuslink	10	3.33%
AirAsia BIG	13	4.33%
MyUMobile	14	4.67%
Uniqlo MY	23	7.67%
MY Watsons	14	4.67%
B Infinite	2	0.67%
Caring Pharmacy	5	1.67%
Aeon Card Mobile	3	1.00%
Total	300	100.0%

Source: Developed for the research

Figure 4.4: Mobile Loyalty App that Respondent Used the Most Frequent



Source: Developed for the research

Table 4.4 and Figure 4.4 illustrated that there are 41 respondents out of the total respondents who use MYDigi app the most frequent (13.67%). Next, a number of respondents who use Sushi King app the most frequent have accumulated to 29 respondents (9.67%). Respondents also frequently use Starbucks MY app which consists of 44 respondents out of the 300 respondents (14.67%). There is some amount of respondents who frequently use Genting Rewards, MyUMobile, and MY Watsons apps which consists of 14 respondents respectively (4.67%). The majority of respondents has use Grab app the most frequently which represents 21.33% out of the 300 respondents. Next, there are 24 respondents use Tesco Clubcard the most frequent (8.00%). The number of respondents who frequently use Bonus link and AirAsia BIG apps represents 3.33% and 4.33% respectively which consists of 10 respondents and 13 respondents respectively. There are 23 respondents who use Uniqlo MY app the most frequent (7.67%). B Infinite, Caring Pharmacy, and Aeon Card Mobile apps have the least number of respondents

Perceived Ease of Use (PEOU)	PEOU2	**0.852**	**0.691**
	PEOU3	**0.854**	
	PEOU4	**0.854**	
	PEOU5	**0.740**	
Perceived Usefulness (PU)	PU1	**0.806**	**0.631**
	PU2	**0.786**	
	PU3	**0.831**	
	PU4	**0.810**	
	PU5	**0.736**	
Satisfaction (S)	S1	**0.819**	**0.623**
	S2	**0.781**	
	S3	**0.775**	
	S4	**0.764**	
	S5	**0.807**	

Source: Ringle, C.M., Wende, S., & Becker, J.-M. (2015). *SmartPLS 3*. Bönningstedt: SmartPLS..

From the Table 4.7, the AVE result shows that CUI, HA, PE, PEOU, PU and S recorded as 0.728, 0.737, 0.681, 0.691, 0.631 and 0.623 respectively, they are exceeding the cut-off point of 0.50. Furthermore, in each of the variables, the highest outer loading are recorded, there are CUI4 (0.868), HA (0.870), PE1 (0.852), PEOU3 and PEOU4 (0.854), PU3 (0.831) and S1 (0.819), all are above the value of 0.7. Thus, Table 4.7 shows that all items have demonstrated satisfactory indicator reliability.

4.2.3.2 Cross Loading

Table 4.9 *Cross Loading*

	CUI	HA	PE	PEOU	PU	S
CUI1	**0.853**	0.434	0.480	0.618	0.575	0.545
CUI2	**0.853**	0.445	0.459	0.592	0.540	0.533
CUI3	**0.836**	0.436	0.449	0.535	0.516	0.536
CUI4	**0.868**	0.477	0.487	0.594	0.567	0.568
CUI5	**0.856**	0.431	0.432	0.578	0.530	0.556
HA1	0.509	**0.843**	0.491	0.571	0.470	0.556
HA2	0.416	**0.854**	0.500	0.465	0.365	0.500
HA3	0.440	**0.858**	0.497	0.438	0.327	0.528
HA4	0.434	**0.868**	0.437	0.480	0.338	0.490
HA5	0.426	**0.870**	0.469	0.513	0.427	0.574
PE1	0.477	0.508	**0.852**	0.430	0.479	0.494
PE2	0.465	0.511	**0.827**	0.461	0.490	0.497
PE3	0.391	0.378	**0.786**	0.366	0.425	0.396
PE4	0.422	0.443	**0.834**	0.454	0.545	0.540
PE5	0.469	0.452	**0.826**	0.480	0.542	0.532
PEOU1	0.564	0.433	0.428	**0.851**	0.545	0.503
PEOU2	0.564	0.501	0.449	**0.852**	0.558	0.565
PEOU3	0.590	0.505	0.490	**0.854**	0.540	0.559
PEOU4	0.602	0.495	0.447	**0.854**	0.523	0.507
PEOU5	0.521	0.468	0.398	**0.740**	0.466	0.512
PU1	0.595	0.363	0.508	0.553	**0.806**	0.646
PU2	0.466	0.386	0.525	0.519	**0.786**	0.537
PU3	0.524	0.393	0.519	0.502	**0.831**	0.535
PU4	0.543	0.327	0.423	0.526	**0.810**	0.534
PU5	0.380	0.327	0.408	0.395	**0.736**	0.465
S1	0.569	0.528	0.516	0.537	0.572	**0.819**
S2	0.520	0.483	0.457	0.502	0.536	**0.781**
S3	0.469	0.547	0.553	0.453	0.488	**0.775**
S4	0.450	0.406	0.412	0.484	0.556	**0.764**
S5	0.518	0.480	0.428	0.530	0.570	**0.807**

Source: Ringle, C.M., Wende, S., & Becker, J.-M. (2015). *SmartPLS 3*. Bönningstedt: SmartPLS..

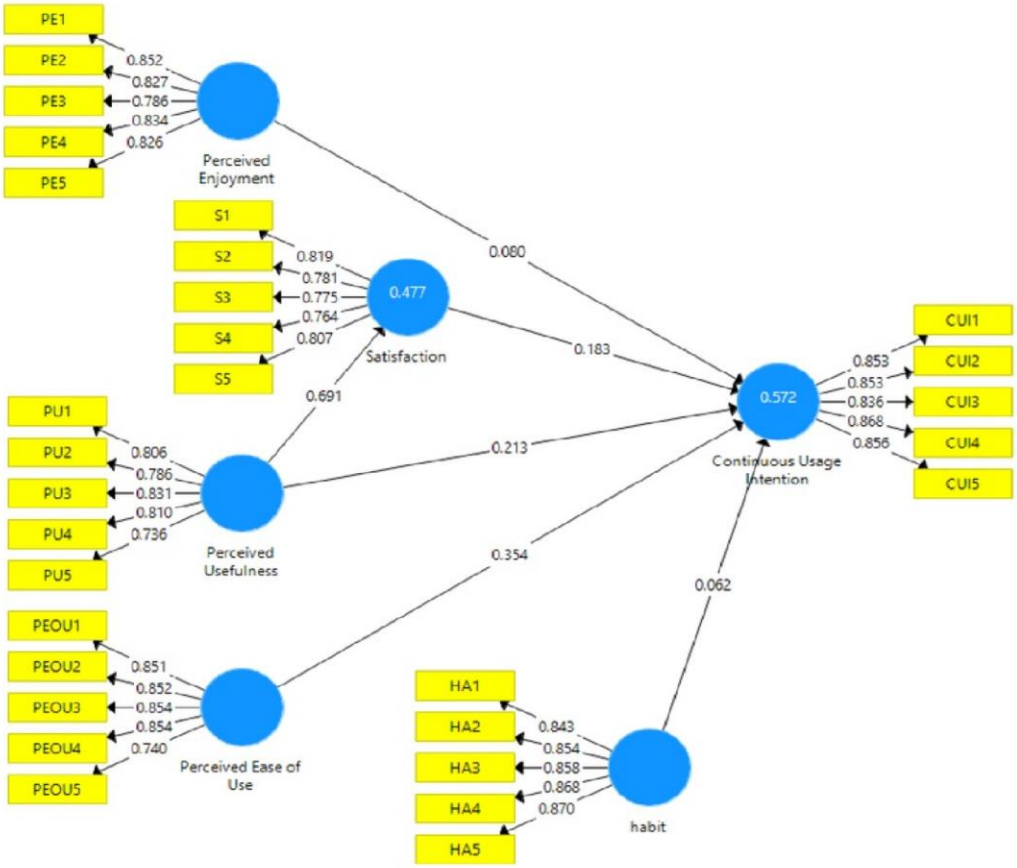
From table 4.9, all the variables are showing desirable discriminate validity as they possess the highest cross-loading values in own

latent variables respectively. Therefore, the measurement model has established its discriminant validity.

4.3 Structural Model

4.3.1 Path Analysis

Figure 4.6: Result from Partial Least Squares



Source: Ringle, C.M., Wende, S., & Becker, J.-M. (2015). *SmartPLS 3.* Bönningstedt: SmartPLS.

Table 4.10: *Result from Partial Least Squares*

		VIF	Path Coefficient	T Statistics	Results
H1	Perceived Enjoyment > Continuous Usage Intention	1.924	0.080	1.080	Not support
H2	Perceived Usefulness > Continuous Usage Intention	2.387	0.213	2.509	Support
H3	Perceived Usefulness > Satisfaction	1.00	0.691	14.514	Support
H4	Satisfaction > Continuous Usage Intention	2.616	0.183	1.976	Support
H5	Perceived Ease of Use > Continuous Usage Intention	2.121	0.354	3.585	Support
H6	Habit > Continuous Usage Intention	1.937	0.062	1.154	Not Support
R^2 of Continuous Usage Intention_ = 0.572 **R^2 of Satisfaction_ = 0.477**					

According to the result shown in Table 4.10, the VIF for all the indicators is ranging from 1.0 to 2.387. Their values are consistently placed under the value of 0.5 (Hair, et al., 2011) and 3.3 (Diamantopulos & Siguaw, 2006). Collinearity issue will be eliminated in this research on account of all indicators for the formative construct satisfy the VIF values and below a threshold value. R-squared in this research indicates moderate predictive accuracy level. 57.2% of CUI can be explained by PE, PU, S, PEOU and HA while 47.7% of S can be explained by PU.

Based on the outcome, CUI has been identified as a positive influence by PU, S and PEOU for the reason that they have to attain a positive figure of path coefficient at 0.213, 0.183 and 0.354 respectively. S is identified has a positive influence by PU as well. Four hypotheses are supported at the reason of their t-statistics are exceed 1.96. However, H1 and H6 fail to predict the factor that influencing the continuance usage intention of mobile loyalty application as both of the indicators obtain t-statistics values which are smaller than 1.96 Therefore, H2, H3, H4 and H5 were positively supported except H1 and H6.

4.4 Conclusion

In summary, all the measurement items are retained before the data analysis is conducted. It can be concluded that perceived usefulness, perceived ease of use, and satisfaction have a positive influence on continuous usage intention of mobile loyalty apps. Perceived usefulness is also demonstrated to have a positive influence on the satisfaction of using mobile loyalty apps. All the data is proven to be reliable in this chapter.

on **CUI** of mobile loyalty applications. The path coefficient and T-statistics value on **CUI** of mobile loyalty applications are less than 0.1 and 1.96 respectively. This might probably due to most of the respondents said that usage of mobile loyalty apps is becoming natural and automatic for them. This can be supported by Jia, Hall, and Sun (2014), said that users' mobile usage habit does not affect their continuance intention of mobile apps because of using a mobile phone is too common for users. This finding is also justified another past study which stated that when a particular practice is performed by people in a consistent way, the habit is formed and this behaviour is less likely to be guided by intention. In other words, the behaviour is initiated by habit without much consideration (Danner, Aarts, & Vries, 2008).

5.4 Implications of Study

5.4.1 Managerial Implication

In the research, it had investigated the factors that influence continuous usage intention of mobile loyalty applications, which was measured by four variables and one mediator. The purpose of this study is to explore how **PE, PU, PEOU, HA,** and **S** influence continuous usage intention of mobile loyalty applications.

PE has no positive influence on continuous usage intention in mobile loyalty applications, which shows that the willingness of users to adapt and continue their use behavior for mobile apps is low and it is hard to determine whether the user is enjoying or satisfied with the functional property provided by the apps. Since **PE** will not influence the continuous usage intention in mobile loyalty applications, the developer should stop

focusing on **PE** and enhances the functionality of the apps itself. The developers should also conduct maintenance regularly to test its mobile loyalty applications regularly and repairing any bugs to maximizes the efficiency of the apps itself.

Besides, **PU, S** and **CUI** have a positive influence on continuous usage intention of mobile loyalty applications. This result proves that mobile loyalty applications are able to meet the expectations of mobile apps users as well as satisfy their needs. There is also a positive influence between **PU** and **S** with **CUI** of mobile loyalty applications, which shows the importance of these two variables. To increase the **PU** and **S,** the developer could offer additional features that would maximizes the **PU** and **S.** Additional features such as event rewards and accumulative attendance rewards may be induced. Accumulative attendance rewards are a features in which user have to login for a cumulative time period to enjoy a certain discount and benefits tend to increase over the login time. This would prompt the user to revisit the apps occasionally on daily basis and increases its **PU** and **S** where each daily cumulative login for 15 minutes, 30 minutes and 1 hour entitled them with different rebates and rewards point. Not only that, notification that notify the user whenever they are within the radius of 5 km from one of the apps retail store may be induced as well, which let the user to enjoy up a certain discount if they visited the store. For example, SushiKing App can notify the user whenever they are a nearby store and dining in would entitle them for 20% discount. S could also be increased through scheduling the maintenance of the apps at the right time, a time period where the traffic count of the apps was at the lowest to ensure that user's experience towards the apps remains undeterred. Further in-ads advertisement and pop up could also be removed, and updating the apps consistently to prevent misunderstanding that may occur due to misinterpretation of the information provided on the apps, thus keeping the satisfaction level of the user in check. All this would help developers in increasing the satisfaction and usefulness of the

apps as a whole, thus ensuring the continuous usage intention on the apps itself.

PEOU also has a positive relationship on continuous usage intention of mobile loyalty applications. It demonstrates that mobile loyalty applications are easy to use for users able to increase the usage of the apps compared to compact apps. Developer could provide simple steps-by-steps guidelines to educate its users on how to use its applications during their first login to the apps, educating them on how to earn their rebates, get their discounts, membership status and so on. Developer should also ensure that the apps consistently use a user-friendly interface instead of a complicated interface, even after new features are being added. The developer of mobile loyalty applications could also provide a feedback form on its apps, to collect feedback on how people feel about its applications after each addition.

Lastly, **HA** has no positive influence on continuous usage intention of mobile loyalty applications. Therefore, instead of focusing on instilling a habitual act on the user, in accordance to the rapid growth of technology, developer should focus more on the changes in tech may offer to them, such as the introduction of 5G. Developer may want to move fast to adapt to the latest technology in the shortest time possible. Besides, different developers will have their own ways for its app development and each of them tends to focus on differentiating their apps from others.

5.4.2 Theoretical Implication

In this research, the adopted theoretical framework of ECM and TAM are used to identify the factors that influence the continuous usage intention of mobile loyalty applications. This study also used an additional variable –

continuous usage intention of mobile loyalty apps and such variables are excluded in our study reduce the accuracy and reliability of this research paper.

5.6 Recommendations for Future Research

As previously mentioned, the findings of this research paper might not be suitable for foreign countries. Therefore, we encourage the future researcher to conduct more research that focuses on continuous usage intention of mobile loyalty apps in foreign countries context. By doing so, it allows the mobile apps developers and mobile marketers to have a better understanding of consumers' continuous usage intention. Therefore, they are capable of developing mobile loyalty apps that meet the needs and expectations of consumers and consumers can also be benefited from this by having a user-friendly mobile loyalty app.

Not only that, we also proposed that future researcher uses longitudinal data collection method instead of the cross-sectional data collection method. By using longitudinal data collection, data are collected from the same respondent group over a period of time. By doing so, it can reduce the variance of data that occurs due to time changing and lead to a more concise and accurate finding.

Last but not least, the research framework is suggested to be further developed by future researchers so that the accuracy of research study can be improved. This can be done by including other independent variables that deem appropriate in contributing towards their study. Independent variables such as mobile app design, security privacy, and social influence can be added in the future studies as it may contribute greatly towards their findings at the end of their study, resulting in obtaining more accurate and reliable data.

5.7 Conclusion

In conclusion, this study identifies three independent variables include perceived usefulness, perceived ease of use, and satisfaction have a positive influence on continuous usage intention of mobile loyalty apps. Besides, perceived usefulness is also proven to have a positive influence on the satisfaction of using mobile loyalty apps. However, for another two independent variables, the habit and perceived enjoyment have no positive influences. Eventually, this study could be beneficial for future researchers and businesses from different perspectives.

Factors that Influence Continuous Usage Intention of Mobile Loyalty Applications in Malaysia

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