DECLARATION

I hereby declare that:

(1) This postgraduate project is the end result of my own work and that due acknowledgement has been given in the references to ALL sources of information be printed, electronic, or personal.

(2) No portion of this research has been submitted in support of any application for any other degree or qualification of this or any other university, or other institutes of learning

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

Name of Student: Student ID: Signature:

Chong Jian Hui   150ABM6637   _____

Date: _____

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Page

LIST OF ABBREVIATIONS

AVE	Average variance extracted
BI	Behavioural Intention
C	Complexity
DOI	Diffusion of Innovation
PEj	Perceived Enjoyment
PLS-SEM	Partial Least Square – Structural Equation Modelling
QR	Quick Response
RA	Relative advantage
SB	Sense of Belonging
SEM	Structural Equation Modelling
SMS	Short Message System
TST	Technical Support & Training
URL	Uniform Resource Locator
WoM	Word of Mouth

LIST OF APPENDICES

PREFACE

This research is submitted in as a fulfilment of the requirement for the pursuit of the Master Degree in Business Administration (Corporate Management). This research is focusing on the acceptance of QR code as an organization marketing tool that concerns with the future and upcoming trend of the marketing environment especially in Malaysia context. Today, almost everyone has a smartphone with them which actually provided a great opportunity and platform for QR code. Nevertheless, QR code has becoming more and more to be seen on various product labels, poster, bunting and many more, thus, it raised the curiosity of the researcher to actually find out more on this area. The researcher would like to find out on the factors motivating the users to accept QR code as an organization marketing tool.

The researcher actually conducted the study by employing different theories relating to mobile technology adoption to make it relevant to the study. The researcher would like to look into different aspects of QR code, for example, the positive outcome, social factor, usage process, entertainment and also on the guidance and help provided to the user and how all these aspect actually contributed to the consumer behavioural intention to accept and get involved with QR code.

Abstract

Smartphones is one of the greatest innovation of the recent years and becoming one of the necessity of human life. This innovation has provided the marketers a marketing and advertising platform that allows new forms and designs which are more beneficial, creative and interactive. By here, this paper will focus on the Quick Response (QR) codes as a new form of organization marketing tool. QR codes is one of the product application of smartphones that allow quick communication of information. The main reason for this paper is to study about the consumers' acceptance of QR codes as a new form of organization's marketing tool. Nonetheless, this is also in hope to tackle the barriers restricting the consumer to try out or accept QR codes. The purpose of this paper is therefore to adopted the Diffusion of Innovation (DOI) model with the additional elements such as technical support and training; sense of belonging; perceived enjoyment; and word of mouth to explore on the factors motivating consumer to accept QR codes. Meantime, this paper is also excluding three factors from DOI which are compatibility, triability and observability as these factors will not be applicable in this case.

Keywords: Quick Response Code; marketing tool; acceptance; mobile communication; sense of belonging; relative advantage; complexity; word of mouth; perceived enjoyment; technical support and training

CHAPTER 1: OVERVIEW OF THE STUDY

1.0 Introduction

In this very first chapter of the research, the general overview of the whole research study will be described. There are few individual parts that will be discussed in details, for example: research background regarding mobile marketing communication, problem statement, the objectives and questions of the research, hypothesis of the study and significance of the study.

1.1 Background

Smartphone can be considered as one of the greatest invention the last decade, and it can be considered as one of the most important thing to most consumers, where everyone seems to fail living without it. This actually indicates the importance of smartphone as one of the marketing channel. The reason being is very simple, consumers will always have a smartphone within their reach and will be checking on it on a frequent basis. According to Persaud and Azhar (2012), this phenomena can be look from two different perspective which is firstly the consumer's perspective – smartphone as a personal device used to stay connect with friends and family but also as additional reflection of consumers' individuality and personality; second perspective are from the marketers side, this actually representing a huge marketing opportunity to reach and serve the consumers anytime and anywhere due to the mobility nature and widespread adoption rate.

As mentioned by some scholars (Roach, 2009; Valsecchi, Renga & Rangone, 2007) explained this as mobile marketing, which relates with the utilization of mobile phones to provide consumers with personalized information based on time and location which promotes products from any form. It can also be a form of customer relationship management via a mobile device that function to select and manage the customers in order to maximize customers' value. This is applicable to mobile phones but not smartphones as smartphones eventually allowing more functions than ever. Thus, mobile marketing also evolved from changes from classic mobile phone with very limited functions (short message system and simple, push-based applications) to today's smartphone which have almost limitless possibilities (radio frequency identification tags, e-wallets and smartphone application), therefore, marketers are allow to come out with a greater range of pull-based services and use more types of marketing techniques. For example, consumer can be reach and serve through rich media such as text, audio and video as well as a variety of pull-based applications. (Persaud & Azhar, 2012)The uprising of mobile technology – mobile application has also opened up a new page for mobile advertising as applications can be a crucial or useful tool to advertise product accordingly, it actually allows a better and interactive form of communication which is through the quick response (QR) codes.

Traditionally, all the communication process heavily relies on advertising (one-to-many communication) and/or personal selling (one-to-one communication) depending on the product nature, but with the aid from a smartphone, a more sophisticated, personalized, and interactive communication is enable and achievable within a specific cost. As mentioned by Hor-Meyll, de Lima & Ferreira (2014), mobile media can be very interactive that allows communication between the users and business that lead to potential uses for mobile marketing include advertisements, promotional activities, after-sale services, customer support and other customer relationship management functions. For example, currently in famous which is SMS marketing in which marketers sending short messages to customers to give information about promotional activities or even received messages from the customers as a regular channel for customers services (Smutkupt, Krairit, & Ba Khang, 2012), permission-based mobile marketing which can be

explained as consumers giving consent to the marketers to actually allowing the marketers to send updates or notification from mobile application to customers (Jayawardhena, Kuckertz, Karjaluoto, & Kautonen, 2009). Both SMS and permission-based marketing has its limitation which are SMS is only limited to 160 alphanumeric characters in a text format while permission-based marketing requiring the permission from the receiver which sometimes could be very difficult, therefore this research will be focusing on QR codes which can cover both these limitation, QR codes content could be limitless while it will get the consent of the customers in the communication process as they will be in action scanning the QR codes.

Back to the main focus of this research – QR codes, it is actually a type of two dimensional barcode developed by Denso Wave for the use in production control of automotive parts which latter become widespread in other fields including advertising. (Xu, 2014) It functions as a container of information in two dimensions (they go horizontally and vertically) and are strictly described as a matrix code than an ordinary barcode. (Walsh, 2009) Users can use their smartphone to scan the QR codes in a specific QR codes scanner which can be downloaded from relevant provider, then the users will be redirected to a link where they can get more information about the QR codes.

However, QR codes as a new form of communication tool is still relatively new and in infancy stage. As mentioned by Sago (2011), QR codes can be used in an advertisement to enable the recipient to link to additional information. For instance, the inclusion of QR codes in the product packaging to allow the reader the opportunity to access enhance product information. This could be a good bridge between the traditional marketing communication methods and digital marketing realm to offer users to receive a richer and more interactive marketing content. Nevertheless, as go through the literature (Coleman, 2011; Walsh, 2009; Xu, 2014), they have highlighted the use of QR code in the library because of the nature of easy simple information sharing as only needed and required by the consumers. In addition, Ashford (2010) also mentioned that QR codes are a low-threshold

technology which is low in cost, easy in implementation, and simple to use, these codes are a technology that potentially help the company to save a great cost when implemented wisely. Therefore, this paper would like to study about the motivating factors that help to improve the acceptance of QR codes as a new form of marketing tool.

1.2 Problem Statement

As mentioned early, QR codes can be bridge between the conventional marketing communication methods and the technology-based digital marketing communication, this could have representing extra value for the organization. Based on the statistics from Survey on Hand Phone Users of year 2014 carried out by Malaysian Communications and Multimedia Commission (2015), it shows that 53.4% of the users who took part in the survey do use a smartphone and the number has rose 39.4% from 2010 which is only 14% of users, nevertheless, it also mentioned that about 63.3% of users access the Internet through their hand phones This shows that smartphone and Internet is gaining their roles in the daily life of Malaysians. Thus, this paper would like to extend to QR codes which could be a very useful and effective way for marketers to advertise their products.

Coleman (2011) mentioned that QR code applications can be for a wide range of purposes such as QR code are placed on billboards to promote rapid online purchase, on food and beverage to provide more nutritional facts, on print media to encourage visitation to a specific website, on products for user manuals and instructions video, even on building such as museum to give relevant historical information or simply the map of the building. This actually illustrate how QR code can be used in different places by different parties that highlighted the multifunction nature of QR code. Nevertheless, Zhang, Yao and Zhou (2012) mentioned that QR code was used for electronic ticketing for Chinese tourism industry to ease the conventional ticketing system. QR codes were also used in a library context in which it was added

for library bibliographic records (Xu, 2014) and was also used to give some physical representative for the electronic books collection (Semenza, Koury & Gray, 2012)

However, as go through the literature (Coleman, 2011; Semenza et al., 2012; Xu, 2014; Zhang et al., 2012), past scholars have highlighted the use of QR codes in different areas but none of it in a context of a multiracial country like Malaysia. As a multiracial country, the country itself consists of different types of languages where QR codes can be used to give extra information especially in the mother language of each ethnicity especially in the marketer-consumers communication. This paper would like to fill a gap for the usage of QR codes in the marketing communication context and study about the factors motiving the acceptance of QR codes in Malaysia context.

As mentioned by Jones (2015), there are some reasons that resulted in low usage of QR codes which are (1) they can be easily substitute by shortened URLs, for instance, Bit.ly or Goo.gl., (2) QR codes can't be scan via the computer, it is also similar when users is accessing a website via a smartphone and he or she can't actually do anything to scan the QR codes because user already on his or her phone, (3) mistakes can happen easily in QR codes especially when QR codes image is blurred, wrongly assigned URL and the QR codes is damaged or isn't printed whole on the document. These factors might worked as some hints why QR codes aren't gaining its popularity despite its simple easy to use function.

In this study, the researcher is using sense of belonging, relative advantage, complexity, word of mouth, perceived enjoyment, technical support and training as the constructs to study about the factor motivating the acceptance of QR codes, because the research would be more relevant examining based on its relative advantage, complexity that frequently become the motivator of the acceptance of an innovation while strengthen by different aspect that potentially worked as a motivator of acceptance such as sense of belonging, perceived enjoyment, word of mouth, technical support and training that are widely affecting acceptance of other mobile technology. Meantime, the researcher would also like to find out on what

are the actual motivators for consumers to accept QR code as an organization marketing tool based on the constructs developed.

1.3 Objectives of the Study

1.3.1 Overall Objective

The overall objective of the study is to investigate the factors motivating consumers to accept QR codes as a new form of organization marketing tool at the same time identifying the relationship between the variables which includes sense of belonging, relative advantage, complexity, word of mouth, perceived enjoyment, technical support and training as the motivators of the acceptance of QR codes. Meantime, the relationship between the relative advantage, complexity, perceived enjoyment and technical support and training.

1.3.2 Specific Objective

1) To identify if sense of belonging and consumer behavioural intention to accept QR codes as a new form of organization marketing tool is having a significant relationship.

2) To identify if relative advantage and consumer behavioural intention to accept QR codes as a new form of organization marketing tool is having a significant relationship.

3) To identify if complexity and consumer behavioural intention to accept QR codes as a new form of organization marketing tool is having a significant relationship.

4) To identify if word of mouth and consumer behavioural intention to accept QR codes as a new form of organization marketing tool is having a significant relationship.

5) To identify perceived enjoyment and consumer behavioural intention to accept QR codes as a new form of organization marketing tool is having a significant relationship.

6) To identify technical support and training and consumer behavioural intention to accept QR codes as a new form of organization marketing tool is having a significant relationship.

7) To identify perceived enjoyment and relative advantage of using QR codes as a new form of organizational marketing tool is having a significant relationship.

8) To identify perceived enjoyment and complexity of using QR codes as a new form of organizational marketing tool is having a significant relationship.

9) To identify if technical support and training and relative advantage of using QR codes as a new form of organizational marketing tool is having a significant relationship.

10) To identify if technical support and training and relative advantage of using QR codes as a new form of organizational marketing tool is having a significant relationship.

1.4 Research Questions

Below are the research questions for this study:

1) What is the relationship between sense of belonging and consumer behavioural intention to accept QR codes as a new form of organization marketing tool?

2) What is the relationship between relative advantage and consumer behavioural intention to accept QR codes as a new form of organization marketing tool?

3) What is the relationship between complexity and consumer behavioural intention to accept QR codes as a new form of organization marketing tool?

4) What is the relationship between word of mouth and consumer behavioural intention to accept QR codes as a new form of organization marketing tool?

5) What is the relationship between perceived enjoyment and consumer behavioural intention to accept QR codes as a new form of organization marketing tool?

6) What is the relationship between technical support and training and consumer behavioural intention to accept QR codes as a new form of organization marketing tool?

7) What is the relationship between perceived enjoyment and relative advantage?

8) What is the relationship between perceived enjoyment and complexity?

9) What is the relationship between technical support and training and relative advantage?

10) What is the relationship between technical support and training and complexity?

1.5 Research Hypotheses

Hypothesis 1

H_0: Sense of belonging has no significant relationship with consumer behavioural intention to accept QR codes as a new form of organization marketing tool.

H_1: Sense of belonging has a significant relationship with consumer behavioural intention to accept QR codes as a new form of organization marketing tool.

Hypothesis 2

H_0: Relative advantage has no significant relationship with consumer behavioural intention to accept QR codes as a new form of organization marketing tool.

H_2: Relative advantage has a significant relationship with consumer behavioural intention to accept QR codes as a new form of organization marketing tool.

Hypothesis 3

H_0: Complexity has no significant relationship with consumer behavioural intention to accept QR codes as a new form of organization marketing tool.

H_3: Complexity has a significant relationship with consumer behavioural intention to accept QR codes as a new form of organization marketing tool.

Hypothesis 4

H_0: Word of mouth has no significant relationship with consumer behavioural intention to accept QR codes as a new form of organization marketing tool.

H_4: Word of mouth has a significant relationship with consumer behavioural intention to accept QR codes as a new form of organization marketing tool.

Hypothesis 5

H_0: Perceived enjoyment has no significant relationship with consumer behavioural intention to accept QR codes as a new form of organization marketing tool.

H_5: Perceived enjoyment has a significant relationship with consumer behavioural intention to accept QR codes as a new form of organization marketing tool.

Hypothesis 6

H_0: Technical support and training has no significant relationship with consumer behavioural intention to accept QR codes as a new form of organization marketing tool.

H_6: Technical support and training has a significant relationship with consumer behavioural intention to accept QR codes as a new form of organization marketing tool.

Hypothesis 7

H_0: Perceived enjoyment has no significant relationship with relative advantage.

H_7: Perceived enjoyment has a significant relationship with relative advantage.

Hypothesis 8

H_0: Perceived enjoyment has no significant relationship with complexity.

H_8: Perceived enjoyment has a significant relationship with complexity.

Hypothesis9

H0: Technical support and training has no significant relationship with relative advantage.

H9: Technical support and training has a significant relationship with relative advantage.

Hypothesis 10

H0: Technical support and training has no significant relationship with complexity.

H10: Technical support and training has a significant relationship with complexity.

1.6 Research Significance

There an increase in involvement of smartphones and mobile applications in everyone daily life in recent years. Based on the MCMC statistics mentioned earlier, Malaysian has a high adoption rate of smartphone which can be used to capitalize by the QR codes usage as every smartphone will be able to scan and access to the information of the QR codes under the voluntary action by the consumer. This is indicating the interactivity between the businesses and consumers, it is no longer reading on the labels or posters but also clicking it in a digital form which could have enable richer and more interesting contents.

For the practitioners view, the study actually helps the organization or marketers go gain more knowledge and information about how to encourage greater acceptance by customers and how to fully utilize the full potential of the technology. The reason is companies are competing even greatly in the current business environment, millions has been spent each year for their marketing activities and QR codes could have work as a new form of tool for the organization to ease their budget. It might

not be 100% helpful but at least it is able to provide another alternative for the company instead of all the traditional and digital measures. In addition, the digital nature of the QR codes as a communication tool actually enable better measurement on the marketing effort, the marketers can easily record the consumer information based on access time and location in order to make their best decision. It provides advantage over traditional marketing tool that most of the time, hard to measure the result of the campaign.

Based on the past research, QR codes has not widely being study in the marketing context, it just focused on the communication especially in the library context. Thus, this paper aim to cover the gap of QR codes as a organization marketing tool especially in Malaysia context and how to motivate consumers to accept QR codes and at the same time increase the total usage rate. The study could have provide some insights for the future researcher regarding the framework to explain QR code acceptance.

1.7 Conclusion

Overall, the researcher are giving on the whole picture of the research in order to bring out some basic understanding for the reader as the researcher go through the background of study, as well as the problem and significance of the research. In the next chapter, there will more reviews on the past literature relating to this study.

CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

In this particular chapter, the researcher will be discussing and explaining about the relevant theoretical model, the conceptual framework of the study in details, as well as the dependent variable and independent variables related to the study of factors motivating the acceptance of QR code. The independent variables being review are sense of belonging, relative advantage, complexity, word of mouth, perceived enjoyment, technical support and training.

2.1 Review of Relevant Theoretical Model

Diffusion of Innovation Theory

One of the most cited theory in the technology acceptance and adoption theory is the Diffusion of Innovation Theory where it concerns about how is the speed of diffusion of a certain new technology. It was explaining how a technology is being adopted by the consumers from the innovators, early adopters, early majority of adopters, late majority of adopters and finally the laggards, these 5 categories are being illustrated in a mathematical bell-curved. (Rogers, 1976) Rogers (1995) defined diffusion as the process of how an innovation is adopted and accepted by a specific group of community members.

Rogers provided a sophisticated view on the diffusion of innovation based on different stage and process that ultimately lead to adoption, the scholar identified 5 elements that could have affected the adoption of innovation by the users which are as shown in the Figure 2.1 below.

Figure 2.1 Innovation Diffusion Theory
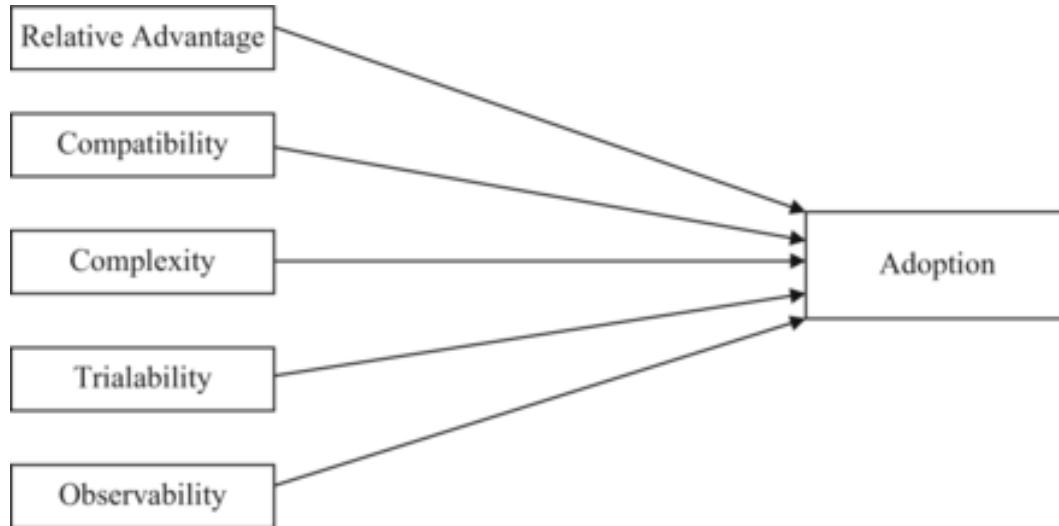
Adapted from: Rogers (1995).

And in the book by Rogers (2010), he explained that there are 5 characteristics of an innovation which are (1) relative advantage, (2) compatibility, (3) complexity, (4) triability and lastly (5) observability. These 5 attributes can be the determinant of its rate of adoption and prediction can be made on an innovation's rate of adoption based on individual's perception on these attributes. The first relative advantage is regarding the benefits and gains an individual get from involved in such technology, compatibility is on the extent to which the technology is align with the users lifestyle and usage, complexity is on the extent to which the technology is perceived as hard to understand and use, triability is the degree to which a technology is able to be tried out and tested before actual adoption; and lastly observability is regarding the degree of the product is seen and being observe on the actual usage and function by the users.

Motivational Model

Motivational model is a very important foundation of research in psychology that explained the behaviour of a person based on a sustained general motivation theory and consists of extrinsic motivation and subjective norm. Extrinsic motivation can be explained as the perception that users will be wanting to involve with an action due to the reason it is perceived to be helpful in achieving positive outcomes that are differentiated from the activity itself, such as better performance and efficiencies whereas subjective norm can be explained the perception that users wanted to perform a behaviour for no obvious reinforcement other than the process of the performing a behaviour. (Davis, Bagozzi, & Warshaw, 1992)

It was adopted by Davis et al. (1992) in their study on the motivation to use computers in the workplace. They found out past research often omitted the enjoyment part of the users, only emphasizing on the main determinant perceived usefulness and other determinant such as perceived ease of use, perceived output quality. Therefore, in their study they actually included both the intrinsic and extrinsic motivators to use a specific technology concerning about the enjoyment of using a specific technology.

2.2 Conceptual Framework

Figure 2.2: Proposed Conceptual Framework
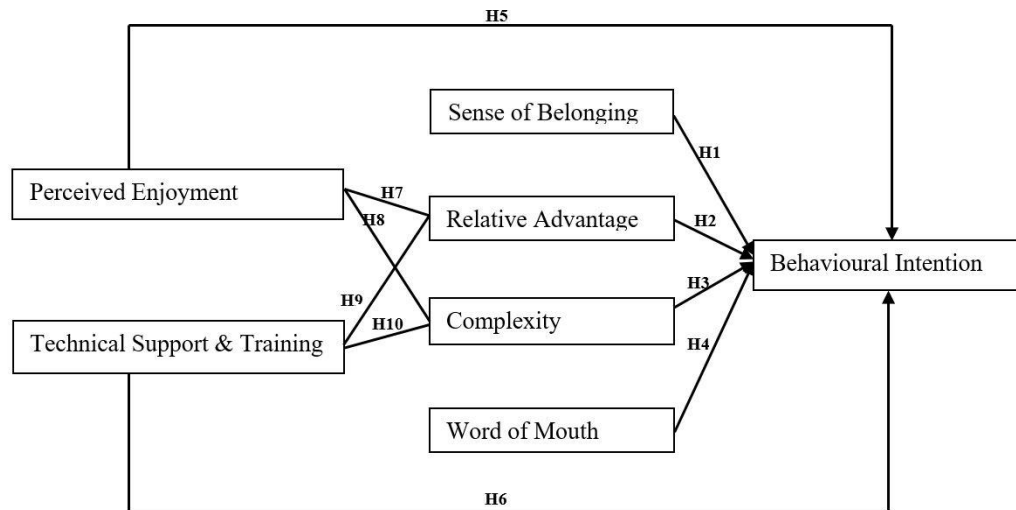
Source: Developed for the study

As seen in the Figure 2.2 above, the conceptual framework of the study actually consist of 7 variables in which 1 dependent variable and 6 independent variables. The behavioural intention is the sole dependent variable while the remained sense of belonging, relative advantage, complexity, word of mouth, perceived enjoyment, lastly technical support and training. The cause-and-effect relationship are also illustrated in the Figure 2.2 above. The conceptual model is based on Diffusion of Innovation Theory, particularly the relative advantage and complexity are the elements of the DOI theory. The reason DOI was chosen is due to the popularity of them model in this technology field and secondly is because the aim of study of individual decision in adopting a specific technology. For example, mobile banking adoption (Al-Jabri & Sohail, 2012), Internet adoption (Martins, Steil, & Todesco, 2004), adoption of Internet (Sin, Osman, Salahuddin, Abdullah, Lim & Sim, 2016), and adoption of mobile marketing (Maduku, Mpinganjira & Duh, 2016)

By here, sense of belonging and word of mouth are added to the model as a social factor in which explaining the effect of peers towards behavioural intention. To be added. As sense of belonging and word of mouth these two are relevant to the social effect onto the consumers, it actually would be an interesting discovery for the research regarding the relationship of both independent variables on QR code adoption intention. Word of mouth has been quite a strong predictor of behavioural intention as according to studies by Yu (2012); and Reza Jalilvand, Mohammad, and Neda Samiei (2012)

Perceived enjoyment was added into the model due to the reason of its increasing number of inclusion in mobile adoption study in the recent decade. For example, study by Cheong and Park (2005) and Zhang, Zhu and Liu (2012) found strong correlation between perceived enjoyment and behavioural intention

On the other hand, technical support and training was identified as an important factor in facilitating the acceptance of a specific innovation by providing all the technical support and skills required by the users. (Bedard, Jackson, Ettredge & Johnstone, 2003; Wong, Tan, Hew & Ooi, 2016)

2.3 Dependent Variable: Behavioural Intention

Based on Theory of Reasoned Action by Fishbein and Ajzen (1975), they introduced the concept of behavioural intention as a person's motivation to involve in a particular behaviour is defined by attitudes that influence the behaviour. In the study by Saadeghvaziri, Dehdashti & Kheyrkhah Askarabad (2013), they found out that regarding the purchase intention and behaviour are both affected by attitude in their web advertising context, their study found out that attitude can be predicted based on few major elements such as hedonic, product information, social role, and irritation. Their study is mainly on the attitude developed that affects the purchase

intention behaviour of the customers which goes similar with the study by Püschel, Afonso Mazzon, and Mauro C. Hernandez (2010), behavioural intention to adopt or continue using mobile banking was studied based on attitude as well.

Lastly, this research selected behavioural intention instead of behaviour because the purpose of this study is to explore on different motivators on the adoption intention.

2.4 Independent Variables:

2.4.1 Sense of Belonging

Based on Hagerty, Lynch-Sauer, Patusky, Bouwsemaand Collier (1992), sense of belonging can be defined as an individual experience of getting involved in a group so that the person feel that himself or herself to be a part of the group along with emotional attachment with this identity. Nevertheless, Zhao, Lu, Wang, Chau and Zhang (2012) actually mentioned that sense of belonging has very similar twin which is affective commitment that explain as the person emotional attachment to an organization and how the person identify and involve with the organization. In addition, the sense of belonging can be further enhanced through social identity when users view themselves as the member of the community. (Cheung, Chiu & Lee, 2011) As explained by Cheung and Lee (2012), sense of belonging is related to collective motivation relating to the aim to increase the welfare of a group or collective, and users will be willing to do something beneficial to or for others.

Zhao et al. (2012) found out that familiarity, trust and perceived similarity actually having a significant relationship with sense of belonging and in the

same study, they actually found out that sense of belonging is having a significant effect on the behavioural intention to share and get knowledge in a virtual community. This is very similar to our study as it involves with getting extra information through the scanning of QR codes. Meantime, Casaló, Flavián, and Guinalíu (2010) also mentioned that motivation to participate in relationship with other users is positively affected by the individual identification with the group. This indicating that the great association between the behavioural intention of an individual and its own identification with the group. As a social community that uses QR code frequently, an individual might have greater motivation to use QR code as a communication tool. As mentioned by Thomas, Herbert and Teras (2014), these scholars mentioned that a strong sense of belonging will be able to boost the individual participation and will have less likely to withdraw from the action in an online learning context.

2.4.2 Relative Advantage

According to Rogers (2010), relative advantage can be explained as the extent to which an individual perceived an innovation is better than the technology it replaced, at the same time considering about the cost and benefits resulting from a specific adoption decision. As mentioned by Tan and Lau (2016), relative advantage tends to share similar characteristics with constructs from different models, for example, performance expectancy from Unified Theory of Acceptance and Use of Technology, perceived usefulness from Technology Acceptance Model, extrinsic motivation from Motivation Model, job-fit from Model of PC Utilization, and outcome expectations from Social Cognition Theory, in addition, all the models mentioned were the popular model regarding the usage, acceptance and adoption of a specific innovation which highlighted the importance of this specific variable.

In the relationship of relative advantage and adoption, Püschel et al. (2010) found out that relative advantage is one of the main contributor to the attitude of consumer that ultimately affecting the behavioural intention. In contrast, in another study by Martins, Steil and Todesco (2004), they found out that relative advantage is not a significant predictor of the adoption of Internet as a teaching tool at foreign language teaching institutes. In the latest study on e-commerce by Sin, Osman, Salahuddin, Abdullah, Lim and Sim (2016), they actually found out that there is a significant relationship between relative advantage and the adoption of e-commerce in small medium enterprises, the result of the study also align with the study by Maduku, Mpinganjira and Duh (2016) regarding the adoption intention of mobile marketing in which they found out positive association between relative advantage and adoption intention. In the study of a broadband adoption context, relative advantage also found out to be significant in determining the behavioural intention to adopt. (Ooi, Sim, Yew & Lin, 2011)

2.4.3 Complexity

Complexity is defined as the level of difficulty to understand and to use a specific innovation which is negatively related to its rate of adoption. (Rogers, 2010) Al-Jabri and Sohail (2012) mentioned that complexity is the opposite of ease of use that can be explained as the degree to which an innovation is perceived as easy to understand and use.

This will be concerning about the intention to accept QR code if users are having a perception of hard and uneasy to use QR code. Nevertheless, complexity is found to share similar traits with perceived ease of use from Technology Acceptance Model as mentioned by Mallat, Rossi, Tuunainen, and Oorni (2006) and ease of use is found to be having a significant

relationship with enjoyment in a causal study. (Rodrigues, Oliveira & Costa, 2016)

Au and Kauffman (2008) found out that perceived complexity will be significantly affecting the intention to adopt relating to mobile payment study, they further mentioned that the complexity will be directly affecting the replacement of the prior method. However, there are some scholars that found out a contradicting result, for example, Maduku et al. (2016) also found out a similar result which the complexity do not have a significant relationship with adoption intention in the context of mobile marketing; Al-Jabri and Sohail (2012) also found out insignificant relationship between complexity and adoption of mobile banking. In addition, as mentioned by Jahangir and Begum (2008), the perception on ease of use by user will be direct affecting the adoption of mobile banking.

2.4.4 Word of Mouth

Word of mouth can be defined as the informal verbal communication between consumer concerning on a brand, product or a service offered. (Mehrad & Mohammadi, 2016) As mentioned by Erkan and Evans (2016), electronic word of mouth has been an important marketing tool in which customers looking through information posted by previous customers to enhance their comfortability before making a purchase. As mentioned by Cheung, Lee and Rabjohn (2008), electronic word of mouth can be explained the new generation of online community as an extension of conventional interpersonal communication. However, word of mouth can be differentiate into two different categories which are positive word of mouth that could have enhance the buying intention of customers while negative word of mouth could adversely affect the attitude and buying intention of customers. Mentioned by Chan and Ngai (2011), electronic

word of mouth may help to boost the company marketing efforts but it might also kill well-established organization and brand images when information shared are unfavourable to the organization.

Based on past researchers (Chan & Ngai, 2011; See-To &Ho, 2014), electronic word of mouth has found to be having a significant influence on consumers' purchase intention, they found out that both positive and negative word of mouth will be affecting on consumers' intention to purchase or dropping the action. Cheung et al. (2008) also highlighted the role of electronic word of mouth on information adoption that are determined by its relevance and comprehensiveness. Furthermore, Mehrad and Mohammadi (2016) stated that word of mouth will be impacting on the adoption of mobile banking in Iranian context. For QR code as a communication tool, the word of mouth plays a role where the relevance and comprehensiveness of information will be affecting the adoption of QR code.

2.4.5 Perceived Enjoyment

Davis and Bagozzi (1992) actually defined perceived enjoyment as the degree of fun, enjoyment and pleasure in an individual perspective when using a communication technology setting aside from any performance consequences from the action. On the other hand, perceived enjoyment can be considered as a type of intrinsic motivator relating to satisfaction and pleasure received from doing an activity. (Sung & Yun, 2010)

Sun and Zhang (2006) also mentioned about utilitarian and hedonic aspects on the adoption of a technology, for example, utilitarian aspect will be focusing on the instrumental value (information to perform a task) whereas

hedonic aspect will be focusing on the provision of self-serving value to user (the enjoyment of usage). Therefore, the enjoyment of using a particular technology can somewhat link to the adoption of it.

In the research by Davis and Bagozzi (1992), they highlighted that perceived enjoyment and perceived usefulness explained 62% and 75% of the variance in usage intention on two different settings (word processing software and business graphic program). This showed the strength of perceived enjoyment to predict the behavioural intention to use a specific technology. As mentioned by Wong, Tan, Tan and Ooi (2015) in their paper regarding the behavioral intention to use mobile advertising, they actually included perceived enjoyment as one of the independent variable of the model. Meantime, Zhang, Zhu and Liu (2012) also highlighted the impact of perceived enjoyment in the adoption of mobile commerce indicating its important effect on customer behavioral intention.

These researchers are suggesting positive relationship between perceived enjoyment and behavioral intention which findings showed that perceived enjoyment has the strongest predictions toward behavioral intention to use mobile-advertising.

2.4.6 Technical Support and Training

Technical support and training can be defined as the support and amount of training relating to the technology that are provided by individuals or groups with the relevant knowledge and expertise. (Wu, Wang & Lin, 2007) Technical support and training can be separated into two different elements in which the supporting will be regarding the knowledge and mechanism an individual requires when involved in a specific action whereas training will

be associated with the real form of action and technologies and ensuring true understanding from the user. They further mentioned that technical support must be before training as the individual will need to have some basic knowledge and understanding before going through the training of the usage (Drlik & Skalka, 2011).

In the study by Ahearne, Jelinek and Rapp (2005), insufficient training and support for users on specific technology could be found to reduce overall efficiency and effectiveness in their study relating to salesperson and automation tools. This means that training and support will be affecting an individual behavioural intention to use a specific technology as it will be directly affecting the person effectiveness and efficiency. As found out by Wong, Tan, Hew and Ooi (2016), technical support and training is having a significant relationship with behavioural intention based on the mobile television context.

2.5 Conclusion

The main focus of this particular chapter is on the proposed conceptual framework as it will be representing the core of the study, it actually provides guidance and a clearer picture for the upcoming chapter to ensure that everything is this research is proceeding in the right track. There are also reviews on all the variables including both dependent and independent variables, discussion on the relationship with each other which provides important insight for the researcher while conducting the research.

CHAPTER 3: RESEARCH METHODOLOGY

3.0   Introduction

The methodology to conduct the research will be discussed in details, it will be including the research design, the data collection method, the research instrument, the sampling design, as well as the measurement of constructs. Nevertheless, the processing and analysing of data will also be discussed in this chapter.

3.1 Research Design

Research can be explain as the overall framework being adopted in a research project in which it actually helps in classifying the work to be done. In this study, quantitative research design is being employed to further study on the acceptance of QR code.

3.1.1 Quantitative Research Design

Quantitative design is the collection of numerical data to be analysed using mathematically based methods to apply for the statistical analysis that will be used to explain a specific situation. It was conducted by assigning numbers to different responses allowing for data analysis and it was aim to analyse a target concept and find out accurate measurement via surveys and questionnaires.

This research paper is on the factors motivating consumers to accept QR code as an organization marketing tool in Malaysia context and quantitative research was chosen due to the reason of greater efficiency and its ability to identify relationship between variables. Meanwhile, the extensive study on the acceptance of technology is the reason quantitative research was chosen as there are sufficient studies on the field and it is more towards a causal study than an exploratory research. In this paper, it actually formulated the conceptual framework by adopting constructs from different models and theories, the association and linkage between the constructs will be identified and found out by the end of the study.

3.1.2 Causal Research

This paper is intended to find out the cause-and-effect relationship between the independent variables and dependent variable and thus it is a causal research. It will be highlighted the effect of each individual independent variables on dependent variable which is the acceptance of QR code of this study. On the other hand, causal studies also enabling the researchers to have understanding on the relationship allowing the making of prediction about the variables. In this study, the paper will explore on the cause-and-effect of each factor (independent variables – sense of belonging, relative advantage, complexity, perceived enjoyment, word of mouth and technical support and training) on the acceptance of QR code (dependent variable – behavioural intention).

3.2 Data Collection Method

In this part, it will be concerning on what are the way being employed by the researcher to collect all the relevant information needed in the study. It actually consists of both primary and secondary data which will be explained in the following section.

3.2.1 Primary Data

As mentioned by Sekaran (2010), primary data is referring to the first-hand information which researcher gathers and assembled for a specific research study. In this study, the researcher is using questionnaire to collect data, it is considered as primary data in which the information is originate from the researcher for a particular reason of addressing the current circumstance. (Sekaran & Bougie, 2010) Questionnaire was chosen as the tool to collect data from respondents allowing easy comparison, at the same time help to save time and reducing the bias of the study. (Zikmund, Babin, Carr, & Griffin, 2013) The research questionnaire is separated into two sections in which the first section is consist of multiple choice questions to identify the demographic data of respondents while the second section consists of questions with 7-point rating scale in which respondents are able to express their perception and idea toward the research study allowing good and accurate measurement on the constructs. All the questionnaires are distributed online via google form and was collected through the sharing in Malaysia consumer forum (forum.lowyat.net), these members of online communities participated in the survey form online and it can be considered a quick collection due to the large number of members online which helps the researcher to further his studies on acceptance of QR code. The researcher also gave some brief explanation and example of QR code to the respondents to let the respondents have more information and brighter picture about QR code that leads to an accurate and reliable responses. The

data collection period is from 1st of August 2016 to 18th of August 2016 which is 18 days period.

3.2.2 Secondary Data

Nevertheless, the researcher was also involved with a substantial amount of secondary data when dealing with the study. Secondary data was defined as the data that gone through the process of collection for a purpose to study on a specific phenomenon (Sekaran & Bougie, 2010), it is also crucial for the reason it worked as the foundation for the whole study where different theories and models were sourced online in order to explain the current situation faced. For this specific research study, the main source of secondary data was online database whereby scholarly journal articles, textbook, and other were sourced, nevertheless, the research study also utilized few website from the Internet to get any relevant information needed. The online databases used were Google Scholar, ScienceDirect, EmeraldInsight and etc as the main sources of journal articles that formed up a large portion of the study. Nevertheless, the textbook of research methodology was utilized to provide good definitions of some important terms in the study.

3.3 Sampling Design

In this study, the researcher is using a sample from the population to generalize the population because as according to Sekaran and Bougie (2010), it is nearly impossible to actually collect information from the whole population. Therefore, a

process of selecting a confident amount of elements from the population was carried out and the result will be analyse to provide value and insights to the readers.

3.3.1 Target Population

The paper aims to investigate about the factors motivating the acceptance of QR code which at the same time identifying the relationship of these factors (sense of belonging, relative advantage, complexity, word of mouth, perceived enjoyment, technical support and training) onto the intention to use (adoption). Apparently, the target population would be the target of marketing communication that possibly means almost everyone in the region, therefore, it is impossible for the researcher to actually target the whole population. As mentioned by the Malaysia Department of Statistics (2016), there is an estimated population of 31.7 million persons, therefore it would be a difficult task for the researcher to actually target the population.

3.3.2 Sampling frame

For this paper, there's actually no sampling frame as non-probability sampling is adopted due to the massive number of Malaysia consumers, therefore, the researcher choose to target the respondents based on a localize consumer forum in which it consists of users from all over Malaysia, another reason is that these forum members are more active and will be more willing to try out a new tech which potentially useful for the study. The online forum chosen to collect data is forum.lowyat.net, it is the largest online community in Malaysia which serves as one of the rational of being chosen. In addition, lowyat.net actually has a daily unique visitors of 121,250 based on the

statistics on www.alexa.com (lowyat.net Site Overview, 2016). For this study, the research do not set any limit onto the number of respondents and it was distributed through Google form link in the forum.

3.3.3 Sampling elements

As the study concerning on QR code acceptance, the study actually set some criteria towards the respondents as long as they are Malaysian citizens. The criteria are as following:

i)   Have experience with QR code before
ii)   Malaysian citizen

The rational is that we would like to identified what could be possible reason of an involved in QR code usage.

3.3.4 Sampling Technique

As mentioned earlier, the study is using non-probability sampling technique due to the lack of sampling frame in research which can ensure the chances of everyone to be selected in study. Hence, in order to carry the research, the researcher has chosen to use convenience sampling due to the randomness of online community members that participate in the study, this is due to the reason of impossible to reach the whole population. Nevertheless, the method was chosen for its characteristics of fast, convenience, low-cost and readily respondents compare to other methods which are more sophisticated.

3.3.5 Sampling Size

Sampling size meaning the total number of respondents the researcher need for the study. Due to the reason of using PLS-SEM, the modelling actually requires a minimal sample size of 10 times the biggest number of structural paths directed towards a specific latent construct in the structural model as according to Sarstedt, Henseler, and Christian (2011). Therefore, the minimal sample size required for the study is 10 paths X 10 times = 100 sample size.

3.4 Research Instrument

3.4.1 Questionnaire design

For this research, self-administrated questionnaire was used in order to provides better convenience to respondents as they can answer it at their convenience, remove the necessity of setting up an interview as well as the present of interviewer, it also enables the questionnaires to be delivered wherever it goes, and it is also a low cost economical method to survey a large samples. (Advantages of Self-Administered Surveys | Readex Research, 2014) However, the researcher do give some brief explanation about QR code as well as some example of actual usage of QR code to let the respondents understand better about this particular technology, nevertheless, in the google form questionnaire, the researcher actually set restrictions for respondents to actually answer all questions to avoid any careless ignorance on question by respondents.

The questionnaire consists of 2 sections that totalled up to 37 questions. There are 10 questions in Section A relating to the demographic information of the respondents where gender, marital status, respondent's age, Internet access on mobile device, experience with QR code, past usage rate, ownership of mobile devices, academic level, career industry and monthly income are included. The remained 27 questions are in Section B where questions are relating to the independent variables and dependent variable of the researcher, there are 4 questions for each of the 6 independent variables (sense of belonging, relative advantage, complexity, word of mouth, perceived enjoyment and technical support and training) that sum up to 24 questions and last 3 questions for the dependent variables of behavioural intention.

For the questions in Section A, multiple-choice questions are used to collect data regarding demographic background of respondents whereas for the questions in Section B, all the questions were asked based on a 7-point Likert scale to identify the actual expression by respondents toward each of the individual constructs.

3.4.2 Pre-test

Pre-test can be another alternative for Pilot test, as mentioned by Presser, Couper, Lessler, Martin, Martin, Rothgeb, and Singer (2004), pretesting as a method to evaluate beforehand whether a questionnaire creating issues for interviewers or respondents. It is actually the pretesting the instrument, questionnaire whereby it actually involves with distributing the questionnaire to a person who is expert or relevant in the particular field. In this study, it involves with QR code as a marketing communication, therefore, the researcher actually pretested the survey with someone who have lots of experience dealing with QR code usage. The researcher

pretested the questionnaire with two marketing communication executives and few of consumers that actually interact a lot with QR code. Result found out that actually the question has no major issue which allow the researcher to proceed with the data collection of the research.

Another reason why this research actually dropped the pilot test is due to the reason that all constructs are adopted from past researcher that potentially opt out any issue on reliability of the instrument. The literature where constructs are adopted will be listed in the following part following by the operational definitions of each and every variables.

During the pre-test of the study, all the responses are being check and go through by the researcher to ensure no errors or issue in the questionnaire. The potential error such as arrangement of the questions, grammar mistake are being taken care of being going to the actual distribution. All the questions are being 'trimmed' and modified in order to make it better for respondents understanding as well as to reduce any potential issue caused to both respondents and researcher.

3.5 Construction Measurement

Basically, construction measurement will be concerning on the constructs source as well as the scales will be used in this research study. Each of every survey questions will be equipped with its own scale measurement during the design of it, the primary scales involved in this study are nominal scale, ordinal scale and lastly scaling technique employed is Likert scale.

All the constructs were adopted from the literature review and the source of constructs will be listed in the Table 3.1 below.

Table 3.1 Origin of Constructs

Construct	Number of questions	Adapted from
Sense of belonging	4	Cheung & Lee, 2012
Relative advantage	4	Martins, Steil & Todesco, 2004
Complexity	4	Martins, Steil & Todesco, 2004
Word of Mouth	4	Jalilvand & Samiet, 2012
Perceived enjoyment	4	Wei & Zhang, 2008
Technical support and training	4	Wu, Wang, & Lin, 2007
Intention to use	3	Wong, Tan, Loke, & Ooi, 2014

Source: Develop for the study

3.5.1 Operational Definitions

Table 3.2: Operational Definitions

Variables	Questions
Sense of Belonging (SB)	1. QR code users and I share the same objectives. 2. I see myself as a part of QR code users. 3. I am attached to the community of QR code users 4. If other QR code users did something, I would think of as "we" did something rather than "they" did something.
Relative advantage (RA)	1. Using the QR code allow me to access to more information. 2. Using the QR code helps me to save my time. 3. Using the QR code makes it easier find more information. 4. QR code is a convenient way to get more information.
Complexity (C)	1. My usage with the QR Code is clear and understandable. 2. I think that it is easy to scan a QR code and to information I want to get. 3. Scanning a QR code doesn't require much mental effort. 4. Overall, I believe that interact with QR code is easy.
Word of Mouth (WoM)	1. I frequently gather information from users' reviews before I use any communication tool. 2. I often consult other users' reviews to help choose the right communication tool. 3. If I don't read other users reviews when I use QR code, I worry about my decision. 4. When I use QR code, users' online reviews make me confident in using it.
Perceived Enjoyment (PEj)	1. I find using the QR codes to be enjoyable. 2. The actual process of using the QR codes is pleasant. 3. I have fun using QR codes for getting more interaction. 4. I like working with the QR codes.
Technical Support & Training (TST)	1. Online manuals on how to use QR code is available to me. 2. A technical support team is available when there is a technical problem. 3. Email enquiries can be made when there is any technical issue. 4. Training workshops on the operation on QR code is available to me.
Behavioural Intention (BI)	1. I intend to increase my use of QR code 2. I intend to invest my time and effort to QR code 3. I intend to use QR codes in the future.

Source: Developed for the study

3.5.2 Primary scale

There are three primary scale involved in this particular research, both nominal and ordinal scale are in Section A and interval scale is employed in the following section - Section B.

Nominal scale is a non-metric scale and it is the simplest scale of measurement in which it deals with the classification that describes the characteristic of the information, in other words, it just the labels of the characteristics of the information. In Section A, nominal scale is used in the questions such as gender, marital status, accessibility of mobile data, and etc. relatively, these questions are having a fixed answer based on the demographic background of the respondents.

Figure 3.1: Sample of Nominal Scale in Question

Source: Developed for the study

As another of the non-metric scale – ordinal scale is also another type of scale of measurement used in the research, the questions involved are in Section A relating to demographic data of the respondents. For instance, questions related to income level of respondents, the usage rate of QR code and so on. For this type of scale, it is associated with the rank order of the data by which the data can be arranged and sorted based on it but it doesn't allow for the further differentiation between them.

Figure 3.2: Sample of Ordinal Scale in Question

QA2: Age: ❑ Below 20 years old   ❑ 21 - 25 years old   ❑ 26 - 30 years old
             ❑ 31 - 35 years old   ❑ 36 - 40 years old   ❑ Above 40 years old

QA6: In the past one year, how many times you use QR code?
             ❑ 0   ❑ 1 - 10   ❑ 11 - 20
             ❑ 21 - 30   ❑ 31 - 40   ❑ Above 40

Source: Developed for the study

Lastly, interval scale which is relatively different compare to ordinal scale and nominal scale is metric scale, it consists of ranking order assumes same distance between the numbers. For example, the questions in section B are all consists of interval scale in which it assumes ranking and same distance between each intervals.

Figure 3.3: Sample of Interval Scale in Question

No	Questions	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
B7	**Intention to Use (IU)**							
IU1	I intend to increase my use of QR code	1	2	3	4	5	6	7

Source: Developed for the study

3.5.3 Scaling Technique

Based on the research study, the researcher employed Likert scale in the Section B questions in relative to the both dependent variable and independent variables of the study, therefore the scale is associated with the respondents' likeness toward the different constructs. For example, the behavioural intention that linked with the degree of agree or disagree toward the usage of QR code in future where the respondent can choose from the 7 points available from strongly disagree, disagree, slightly disagree, a mid-point of neutral, slightly agree, agree, to strongly agree, this allows the respondents to actually choose the best statement that closest to their agreeableness.

Figure 3.4: Sample of Likert Scale in Question

This section is seeking your opinion regarding the factors that influence your intention to adopt QR code. Respondents are asked to indicate the extent to which they agreed or disagreed with each statement using 7 Likert scale [(1) = strongly disagree; (2) = disagree; (3) = slightly disagree; (4) = neutral; (5) = slightly agree; (6) = agree; (7) = strongly agree] response framework.
Please circle one number per line to indicate the extent to which you agree or disagree with the following statements

No	Questions	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
B1	**Sense of Belonging (SB)**							
SB1	QR code users and I share the same objectives.	1	2	3	4	5	6	7

Source: Developed for the study

3.6 Data Processing

The subsequent step is data processing in which data will be process before the researcher can do any analysis on it. In this process, the unprocessed data collected from the questionnaires will be going through the process of checking, coding, transcribing and cleaning.

3.6.1 Data Checking

During the step, it actually involves very minimal effort from the researcher as in the online survey, the researcher actually set all the questions to be done in order to proceed to next step, and thus it is able to minimize any human error of not answering the questions. It just a brief go through from the researcher in this step.

3.6.2 Data Editing

The data editing can be relates with the modifying the data for greater conformity reliability and accuracy. According to Kothari (2013), data editing will be able to improve on the overall information quality.

3.6.3 Data Coding

The questions such as gender, ownership and accessibility of data comes in letter form therefore, it requires coding by assigning a number for each of the answer that ease the arrangement of analysis in future. All the responses will be in a similar format that ultimately make it easy to be analyse and systematic. At the same time, in the reverse questions of Complexity construct, the researcher actually involves with some activity of reversing all the responses.

3.6.4 Data Transcribing

In this part, the researcher actually involves very minimal effort as the survey was conducted in a digital form (Google Form) and the website actually provided the service of putting all the data in an excel file. All the data in the excel file is arranged accordingly based on the questions which actually reduce the workload of putting it in a digital form from physical questionnaires.

3.7 Data Analysing

The following step is data analysis which concerns with the employ of statistical or logical techniques in order to explain, illustrate, compress, and evaluate the data. The software employed by the researcher is SmartPLS software that enables for Partial Least Squares Structural Equation Modelling (PLS-SEM), as mentioned by Wong et al. (2015), PLS-SEM has gained attention over the years and by using replacement sampling method, the software will be bootstrap a random samples of 5000 from the actual data collected (n=134). At the same time, Microsoft Excel was also use to compiling all the data collected as well as making some less complex computation.

3.7.1 Descriptive analysis of Research

In this part, the analysis will be summarizing on the raw data of the research indicating the both the frequency and central tendency. Researcher will be able to find out on the overall responses of the respondents as all the information obtained will be presented in table form for easier interpretation.

3.7.1.1 Frequency Distribution

Frequency distribution will be concerning on the number counts of the selected answer from the respondents to be presented in a table format, it also often being illustrate in pie chart and bar charts for easy understanding and reading. Frequency distribution can assist the researcher by giving an overview on the data.

3.7.1.2 Central Tendency Analysis

This section will be highlighting the overall data collected for the study, it involves some basic calculation such as the average mean as well as standard deviation. It is able to indicate which of the items of a variables that actually contributing greatest value to the variable while showing the overall difference of the responses by respondents on each item.

3.7.2 Scale Measurement

3.7.2.1 Test of Reliability

Test of reliability can be explain of the examination of the degree of the consistency and stability of a specific construct. In this research, Cronbach's Alpha was adopted to determine the reliability of the data, the value of Cronbach Alpha will be ranging of 0 to 1 in which a reliability coefficient of more than 0.7 will be acceptable, as

mentioned by Santos (1999), 0.7 is the cut-off point of acceptable level.

3.7.2.2 Validity Test

There are two validity test being conducted in order to assess the measurement model which are (i) convergent validity and (ii) discriminant validity.

Convergent validity can be explain as an indication of the degree to which the assessment actually measures correlate with other measures that it should be related with theoretically. (Jiang, Yang, & Jun, 2013) As mentioned by Hair, Ringle, and Sarstedt (2011), the rule of thumb for convergent validity is to have average variance extracted (AVE) value of more than 0.50.

Discriminant validity can be explain as the extent to which items differentiate between variables. The rule of thumb of discriminant validity is that the inter-construct correlations among the variables must be lower than the square root of AVE values. (Hair et al., 2011)

3.7.3 Inferential Analysis of Research

PLS-SEM is a causal modelling approach intended to maximizing the explanation of variance of the dependent latent constructs. Nevertheless, as mentioned by Hair et al. (2011), PLS-SEM often provides more robust estimations of the structural model other SEMs. It also allows

bootstrapping that enable a smaller size of sample to be conducted for a study.

3.8 Conclusion

In this chapter, it is outlining the methodologies used to carry out the research. Overall, the researcher set out sample respondents for the study, determining the research activity as well as the data to be utilize, methods of obtaining the data as well as analysis methodologies. The researcher actually conducted the causal research with quantitative method (questionnaires) to obtain data and information which later used for the analysis of the study. The analysis done by smartPLS software allowing PLS-SEM method. Next chapter, it will be regarding the analysis of the data obtain.

CHAPTER 4: ANALYSIS OF DATA

4.0 Introduction

In this specific chapter, discussion on the analysis of data collected for the study will be carried out in details. Researcher used SmartPLS software in order to compute and analyse the data collected and process it into useful information for further interpretation.

4.1 Descriptive analysis of Research

4.1.1 Demographic Profile of Respondent

4.1.1.1 Gender

Figure 4.1: Gender of Respondents
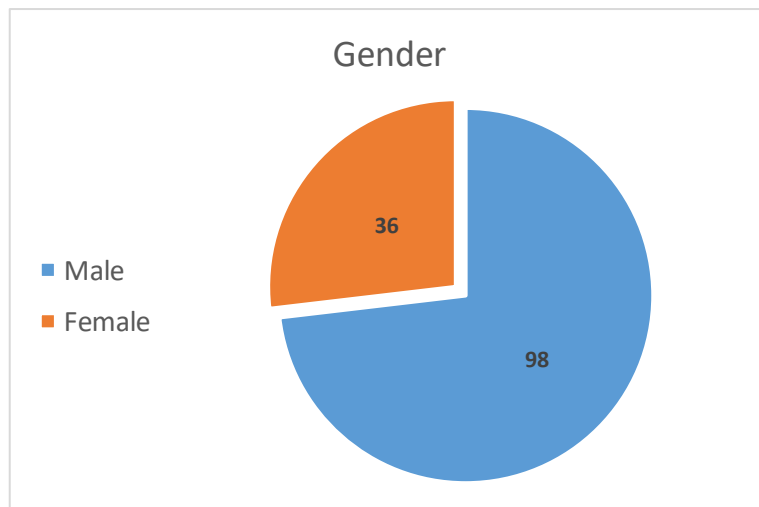
Source: Developed for the study

Based on the Figure 4.1 pie chart, the gender distribution of the respondents in the questionnaire survey are 98 males respondents (73.1%) and 36 females respondents (26.9).

4.1.1.2 Age

Table 4.1: Age of Respondents

Age	Frequency	Cumulative Frequency	Percentage(%)
Below age of 21	5	5	3.7%
21 to 25 years old	59	64	44%
26 to 30 years old	30	94	22.4%
31 to 35 years old	22	116	16.4%
36 to 40 years old	8	124	6%
Above age of 40	10	134	7.5%

Source: Developed for the study

Figure 4.2: Age of Respondents
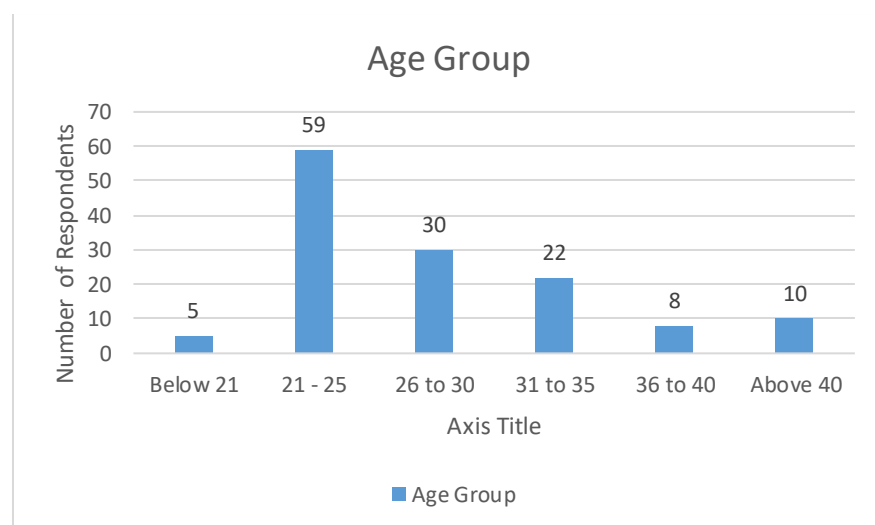
Source: Developed for the study

For respondents' age group, the Table 4.1 indicates that it has 5 respondents below the age of 21, 59 respondents for age between 21 and 25, 30 respondents for age between 26 and 30, 22 respondents for the age between 31 and 35, 8 for the age between 36 and 40 and 10 for age more than 40. So, the biggest group of respondent come from age group of 21 to 25 that totalled up to 44 % while the smallest group is respondents below the age of 20 which has only 3.7 %.

4.1.1.3 Marital Status

Figure 4.3: Marital Status of Respondents
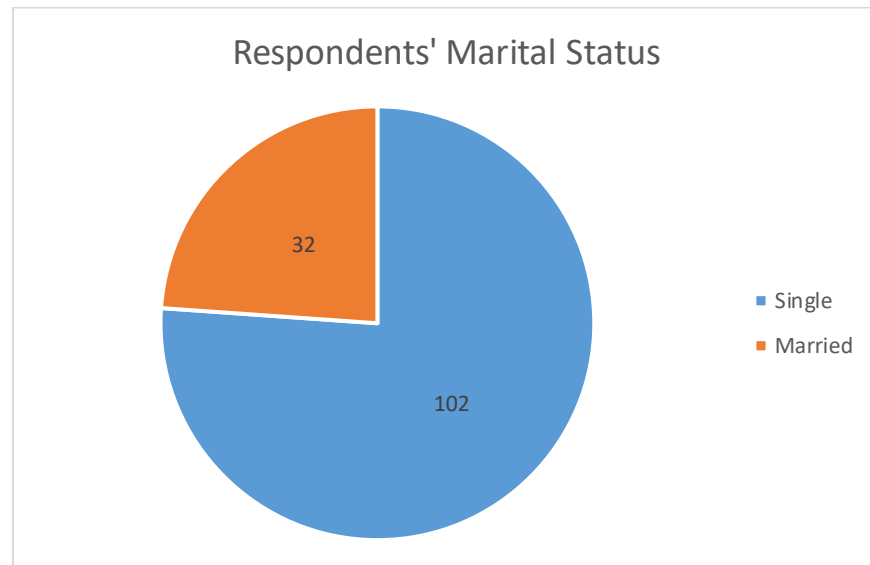
Source: Developed for the study

According to the Figure 4.3, 102 of the respondents are single while the remained 32 are married. The percentage of respondents who are single is 76.1% whereas the percentage of respondents who are married is 23.9%.

4.1.1.4 Mobile Internet Access

Figure 4.4: Mobile Internet Access of Respondents
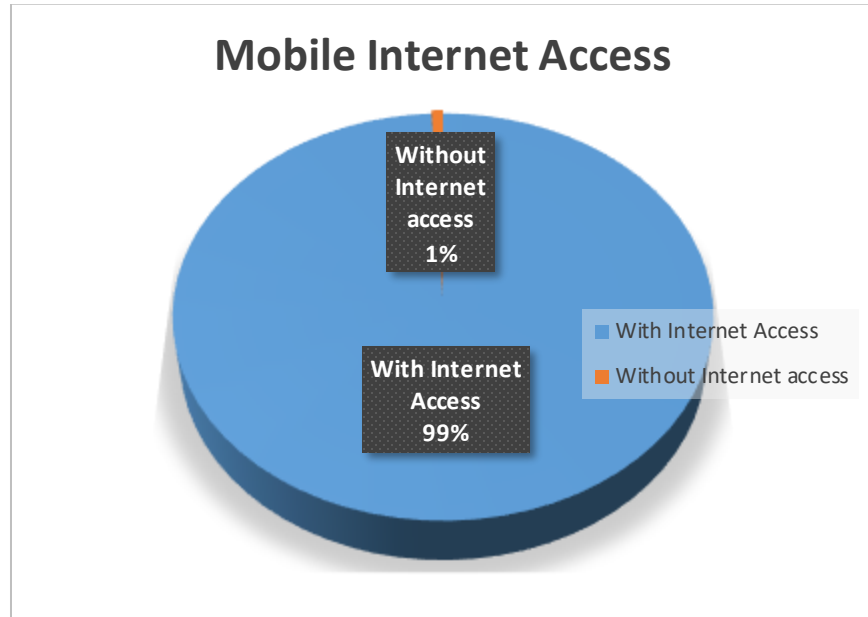
Source: Developed for the study

There're totalled to 133 users who has Internet connection in their mobile device(s), meanwhile there are only 1 user who doesn't have an Internet connection in their mobile device(s). The ratio is 133:1 for users with Internet connection against user who doesn't have an Internet connection in their mobile device.

4.1.1.5 QR code experience

All of the qualified respondents actually have experienced dealing with QR code before. The total number of respondents is 134. The reason is because this question is actually a sorting question where respondents with no QR code experience are not applicable as the research sample. There are a total of 14 respondents who has no experience on QR code usage which is exempted from the study.

4.1.1.6 Usage rate of past 1 year (12 months)

Figure 4.5: Usage rate of past 1 year (12 months)
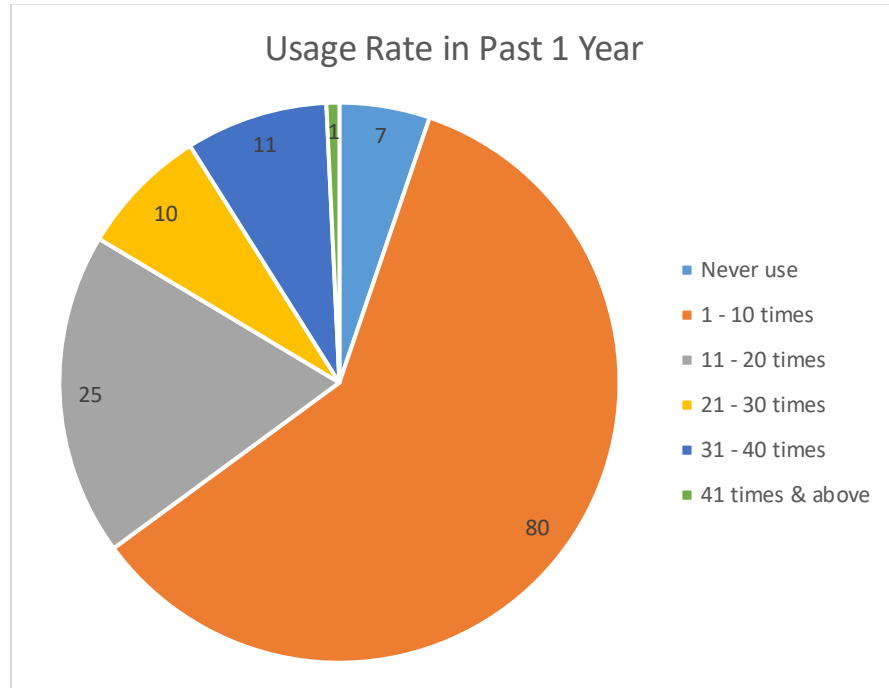
Source: Developed for the study

In past 1 year, there are 7 respondents who has not use QR code in the last year period, 80 respondents who actually use QR code from 1 to 10 times, while 25 respondents use QR code from 11 to 20 times, 10 respondents use QR code from 21-30 times, 11 respondents use QR from 31 to 40 times and 1 respondents use QR code from more than 40 times in a 12 months period. Therefore, it indicates that the largest group of respondents actually from

4.1.1.7 Ownership of Mobile Products

Figure 4.6: Ownership of Mobile Products
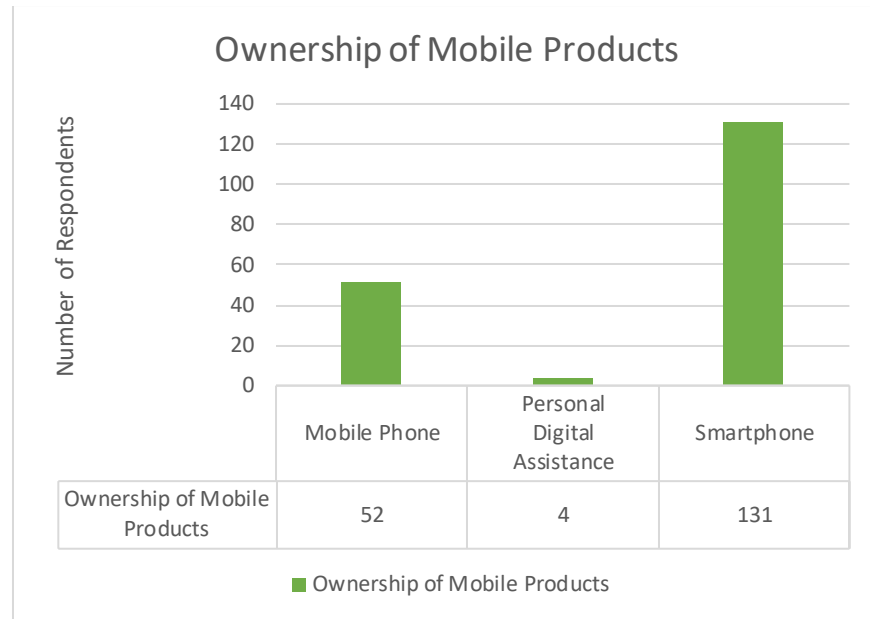
Source: Developed for the study

For the mobile products, Figure 4.6 actually allows the respondents to choose more than 1 product. There are 131 respondents who own a smartphone which is the largest group, 52 respondents own a mobile phone as the second group and 4 respondents own a personal digital assistance (PDA) as the smallest group.

4.1.1.8 Academic Qualification

Figure 4.7: Usage rate of past 1 year (12 months)
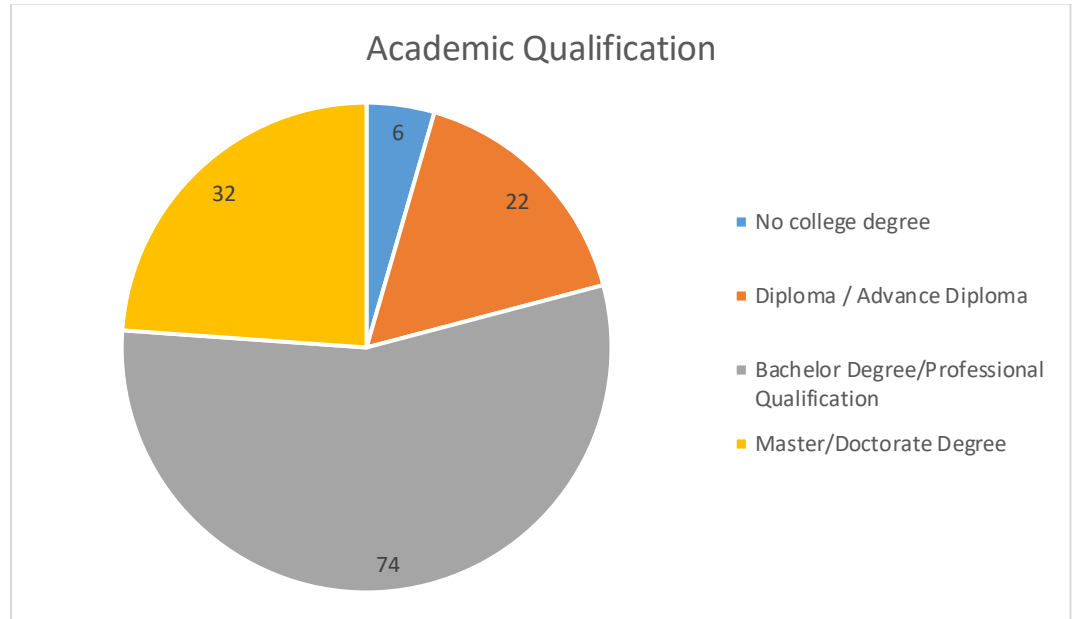
Source: Developed for the study

As for the respondents' academic qualification, Figure 4.7 showed that a total of 6 respondents with no college degree, 22 respondents with a diploma or advanced diploma, 74 respondents with a bachelor degree or any professional qualification and 32 respondents with a master or doctorate degree. Thus, the biggest group of respondent has a bachelor degree or any professional qualification.

4.1.1.9 Working Industry

Figure 4.8: Working Industry of Respondents
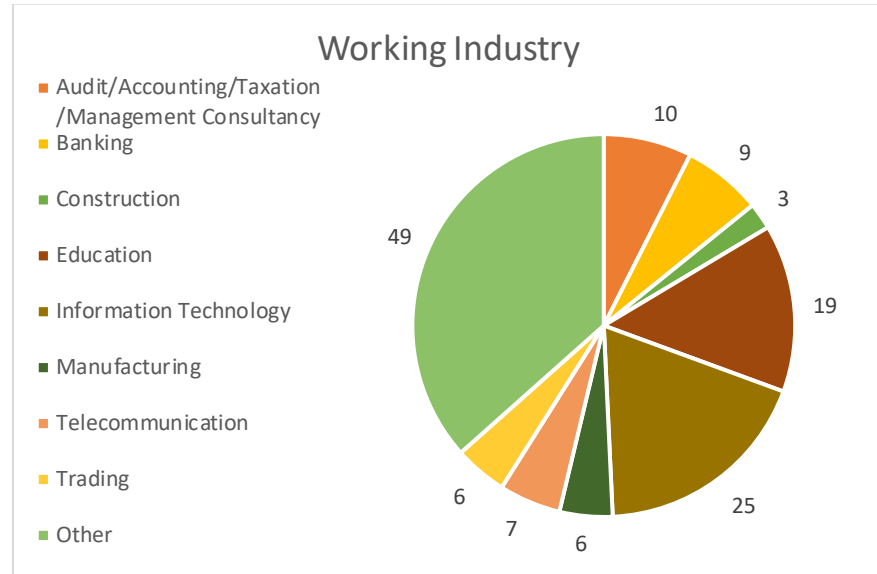
Source: Developed for the study

For the respondents' working industry, it actually consists of few industry in which there are 10 respondents working in audit/accounting/taxation/ management consultancy relevant job, 9 respondents from the banking line, 3 respondents from the construction industry, 19 respondents from the education industry, 25 from information technology relevant industry, 6 respondents from manufacturing industry, 7 respondents from the telecommunication industry, 6 respondents from trading industry and a total of 49 respondents from the 'other' group.

4.1.1.10 Monthly Income

Figure 4.9: Monthly Income of Respondents
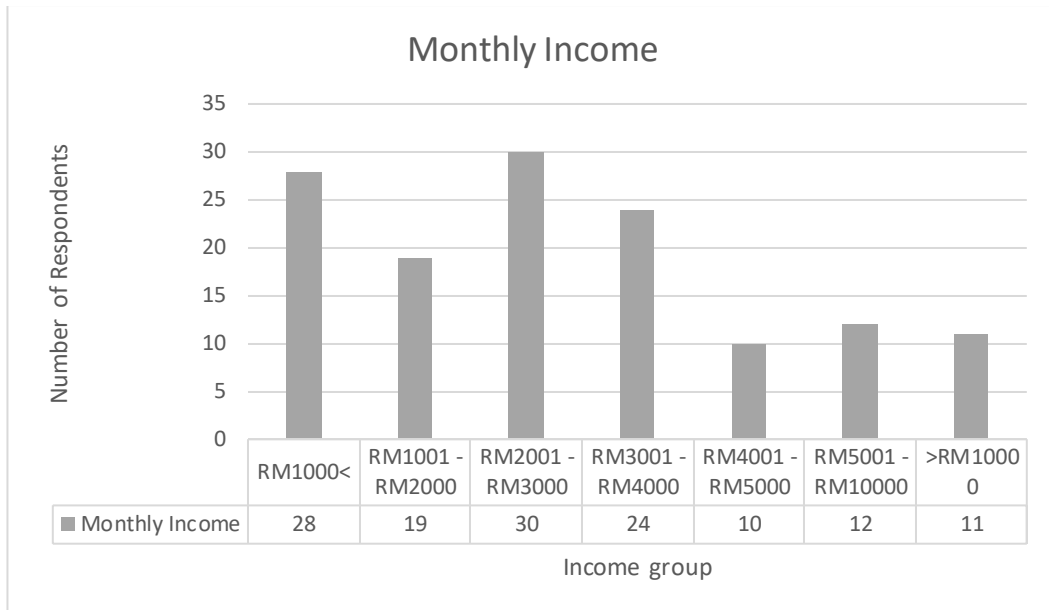
Source: Developed for the study

As indicated by Figure 4.9, there are 28 respondents who earns a monthly income of less than RM1000, 19 respondents who earns a monthly income of RM1001 - RM2000, 30 respondents who earns a monthly income RM2001 - RM3000, 24 respondents who earns a monthly income of RM3001 - RM4000, 10 respondents who earns a monthly income of RM4001 - RM5000. 12 respondents who earns a monthly income of RM5000 - RM10000 and 11 respondents who earns a monthly income of more than RM10000.

4.1.2 Central Tendencies Measurement of Constructs

The central of tendencies such as mean and standard deviation are used to find out about the more about a specific construct in this following part. There are a total of 27 questions being measured and compute using Microsoft Excel. The researcher actually obtained the mean and standard deviation of each item based on Microsoft Excel computation.

4.1.2.1 Sense of Belonging

Table 4.2: Central Tendency for Sense of Belonging

No	Questions	Mean	Standard Deviation	Rank
B1	**Sense of Belonging (SB)**			
SB1	QR code users and I share the same objectives.	4.45	1.32	1
SB2	I see myself as a part of QR code users.	4.38	1.56	2
SB3	I am attached to the community of QR code users	3.31	1.55	4
SB4	If other QR code users did something, I would think of as "we" did something rather than "they" did something.	3.53	1.52	3

Source: Developed for the study

The Table 4.2 above revealed that, there are 4 instruments in order to test on the sense of belonging of the consumer. SB1 has the highest score of mean of 4.45 and standard deviation of 1.32 where as SB3 has the lowest score of mean of 3.31 and a standard deviation of 3.31.

4.1.2.2 Relative Advantage

Table 4.3: Central Tendency for Relative Advantage

No	Questions	Mean	Standard Deviation	Rank
B2	**Relative Advantage (RA)**			
RA1	Using the QR code allow me to access to more information.	5.28	1.28	4
RA2	Using the QR code helps me to save my time.	5.69	1.28	1
RA3	Using the QR code makes it easier find more information.	5.51	1.47	2
RA4	QR code is a convenient way to get more information.	5.51	1.37	3

Source: Developed for the study

As indicated by the Table 4.3 above, there are 4 questions under the variable of relative advantage, RA2 has the highest score of mean of 5.69 and a standard deviation of 1.28. On the other hand, RA1 has the lowest score of mean of 5.28 and a standard deviation of 1.28 as compare with other variables.

4.1.2.2 Complexity

Table 4.4: Central Tendency for Complexity

No	Questions	Mean	Standard Deviation	Rank
B3	**Complexity (C)**			
C1	My usage with the QR Code is clear and understandable.	2.55	1.29	1
C2	I think that it is easy to scan a QR code and to information I want to get.	2.53	1.53	2
C3	Scanning a QR code doesn't require much mental effort.	2.20	1.28	4
C4	Overall, I believe that interact with QR code is easy.	2.26	1.20	3

Source: Developed for the study

As observed in Table 4.4 above, there are 4 questions under the variable of complexity, C1 has the highest score of mean of 2.55 and a standard deviation of 1.29 and C3 has the lowest score of mean of 2.20 and a standard deviation of 1.28.

4.1.2.4 Word of Mouth

Table 4.5: Central Tendency for Word of Mouth

No	Questions	Mean	Standard Deviation	Rank
B4	**Word of mouth (WoM)**			
WoM1	I frequently gather information from users' reviews before I use any communication tool.	4.54	1.58	1
WoM2	I often consult other users' reviews to help choose the right communication tool.	4.43	1.65	2
WoM3	If I don't read other users reviews when I use QR code, I worry about my decision.	3.70	1.52	4
WoM4	When I use QR code, users' online reviews make me confident in using it.	4.34	1.54	3

Source: Developed for the study

As reported by Table 4.5, there are 4 questions under the variable of word of mouth, WoM1 has the highest score of mean of 4.54 and a standard deviation of 1.58 meanwhile WoM3 has the lowest score of mean of 3.70 and a standard deviation of 1.52

4.1.2.5 Perceived Enjoyment

Table 4.6: Central Tendency for Perceived Enjoyment

No	Questions	Mean	Standard Deviation	Rank
B5	**Perceived Enjoyment (PEj)**			
PEj1	I find using the QR codes to be enjoyable.	4.94	1.40	2
PEj2	The actual process of using the QR codes is pleasant.	5.02	1.33	1
PEj3	I have fun using QR codes for getting more interaction.	4.85	1.33	3
PEj4	I like working with the QR codes.	4.80	1.28	4

Source: Developed for the study

According to the Table 4.6 above, there're 4 questions under the variable of perceived enjoyment, PEj2 has the highest score of mean of 5.02 and a standard deviation of 1.33, PEj4 on the other hand has the lowest score of mean of 4.80 and a standard deviation of 1.28.

4.1.2.6 Technical Support and Training

Table 4.7: Central Tendency for Technical Support and Training

No	Questions	Mean	Standard Deviation	Rank
B6	**Technical Support and Training (TST)**			
TST1	Online manuals on how to use QR code is available to me.	4.22	1.60	1
TST2	A technical support team is available when there is a technical problem.	3.78	1.54	3
TST3	Email enquiries can be made when there is any technical issue.	4.04	1.49	2
TST4	Training workshops on the operation on QR code is available to me.	3.28	1.45	4

Source: Developed for the study

As seen from the Table 4.7, there are 4 questions under the variable of technical support and training, among the instrument, TST1 has the highest score of mean of 4.22 and a standard deviation of 1.60 as compare to TST4 which has the lowest score of mean of 3.28 and a standard deviation of 1.45.

4.1.2.7 Behavioural Intention

Table 4.8: Central Tendency for Behavioural Intention

No	Questions	Mean	Standard Deviation	Rank
B7	**Behavioural Intention (BI)**			
BI1	I intend to increase my use of QR code	4.78	1.42	2
BI2	I intend to invest my time and effort to QR code	4.52	1.42	3
BI3	I intend to use QR codes in the future.	5.19	1.37	1

Source: Developed for the study

As shown in the Table 4.8, it has 3 questions for the dependent variable of the study, the highest score of mean is 5.19 by BI3 with a standard deviation of 1.37, and in contrast, the lowest score of mean is 4.52 by BI2 with a standard deviation of 1.42.

4.2 Scale Measurement

4.2.1. Measurement Model

4.2.1.1 Convergent Validity

Table 4.9: Convergent Validity Test

		SB	RA	C	WoM	PEj	TST	BI
SB: **Sense of** **Belonging**	SB1	0.73						
	SB2	0.817						
	SB3	0.777						
	SB4	0.773						
RA: **Relative** **Advantage**	RA1		0.843					
	RA2		0.863					
	RA3		0.94					
	RA4		0.933					
C: **Complexity**	C1			0.865				
	C2			0.922				
	C3			0.858				
	C4			0.912				
WoM: **Word of Mouth**	WoM1				0.827			
	WoM2				0.707			
	WoM3				0.783			
	WoM4				0.901			
PEj: **Perceived** **Enjoyment**	PEj1					0.868		
	PEj2					0.934		
	PEj3					0.863		
	PEj4					0.911		
TST: Technical **Support &** **Training**	TST1						0.871	
	TST2						0.922	
	TST3						0.871	
	TST4						0.798	
BI: **Behavioural** **Intention**	BI1							0.934
	BI2							0.903
	BI3							0.87
AVE		0.601	0.802	0.792	0.652	0.8	0.751	0.815
Composite **Reliability**		0.857	0.942	0.938	0.881	0.941	0.923	0.93

Source: Developed for the study

There are 3 conditions need to be fulfilled in order to assess the convergent validity. The first condition to be fulfilled is that the factor loadings values should be more than 0.70 as according to Fornell and Larcker (1981). Next, the second condition to be fulfilled is the AVE values must be greater than 0.50 as suggested by Kline (1998) whereas the last condition to be fulfilled is to have the values of composite reliability greater than 0.60 as what proposed by Bagozzi and Yi (1998). In the following table, the values of factor loadings for all the constructs were more than 0.70 fulfilling the first circumstance, the value of AVE of each constructs also fulfilled the minimum cut-off point of 0.50 which fulfilled the second condition, lastly, the values of composite reliability for all the seven constructs SB, RA, C, WoM, PEj, TST, and BI were all over the acceptable range of 0.60. This actually indicates that the convergent validity has been fulfilled.

4.2.1.2 Internal Reliability Test

Table 4.10: Cronbach's Alpha Reliability Test

Construct	Cronbach's Alpha	Number of Items
Sense of Belonging	0.781	4
Relative Advantage	0.917	4
Complexity	0.913	4
Word of Mouth	0.832	4
Perceived Enjoyment	0.916	4
Technical Support and Training	0.892	4
Intention to Use	0.886	3

Source: Developed for the study

As reported in Table 4.10, all constructs considered to have an acceptable level of reliability as well as internal consistency. It is due to all the constructs of the study have a Cronbach's Alpha value of greater than 0.7. (Santos, 1999)

4.2.1.3 Discriminant Validity

Table 4.11: Discriminate Validity Test

Discriminant validity							
	SB	RA	C	WoM	PEj	TST	BI
SB	**0.775**						
RA	0.518	**0.896**					
C	-0.463	-0.757	**0.89**				
WoM	0.408	0.316	-0.222	**0.807**			
PEj	0.584	0.768	-0.663	0.451	**0.894**		
TST	0.388	0.351	-0.381	0.273	0.446	**0.867**	
BI	0.59	0.728	-0.658	0.292	0.773	0.497	**0.903**

Source: Developed for the study

The table actually reporting on the square root of AVE (in Bold) and the correlation between any two constructs. In order to meet discriminant validity, the AVE square root value must be greater than all correlation between any two constructs. The AVE square root value in this study are greater than all correlation between any two constructs that shows discriminant validity has been met.

4.3 Partial Least Square – Structural Equation Modelling

Table 4.12: PLS-SEM Summary

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
RA	0.59	0.598	0.055	10.795	0
C	0.448	0.462	0.082	5.44	0
BI	0.696	0.715	0.052	13.387	0

Source: Developed for the study

The method being employed to investigate the proposed research hypothesis is PLS-SEM method. As Table 4.12 indicated, the R^2 value of the overall model is 0.696, whereas the R^2 for relative advantage and complexity is 0.59 and 0.448 respectively. Therefore, this structural model accounts for 0.696 variance in users' behavioural intention to use and accept QR code. In addition, 0.59 variance of relative advantage can be explained perceived enjoyment and technical support and training, while 0.696 variance of complexity can be explained by perceived enjoyment and technical support and training. Nevertheless, the model also proved to be significant for P-value ($P = 0 < 0.05$).

4.3.1 Hypothesis Testing

Next, each of the hypothesis was tested in the PLS-SEM method and reported in the table shown below.

Table 4.13: PLS-SEM Analysis

		Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)		P Values	Supported
H1	SB -> BI	0.165	0.168	0.063	2.639	**	0.008	Yes
H2	RA -> BI	0.23	0.217	0.095	2.426	*	0.015	Yes
H3	C -> BI	-0.097	-0.112	0.102	0.957		0.338	No
H4	WoM -> BI	-0.098	-0.08	0.062	1.573		0.116	No
H5	PEj -> BI	0.409	0.4	0.108	3.782	***	0	Yes
H6	TST -> BI	0.16	0.16	0.08	1.99	*	0.047	Yes
H7	PEj -> RA	0.763	0.765	0.044	17.417	***	0	Yes
H8	PEj -> C	-0.615	-0.619	0.08	7.716	***	0	Yes
H9	TST -> RA	0.011	0.014	0.063	0.17		0.865	No
H10	TST -> C	-0.107	-0.106	0.082	1.303		0.193	No

Source: Developed for the study

Notes: SB = Sense of Belonging; RA = Relative Advantage; C = Complexity; WoM = Word of Mouth; PEj = Perceived Enjoyment; TST = Technical Support and Training; BI = Behavioural Intention

* Significant at $p < 0.05$ level

** Significant at $p < 0.01$ level

*** Significant at $p < 0.001$ level

Figure 4.10: PLS-SEM test of research model
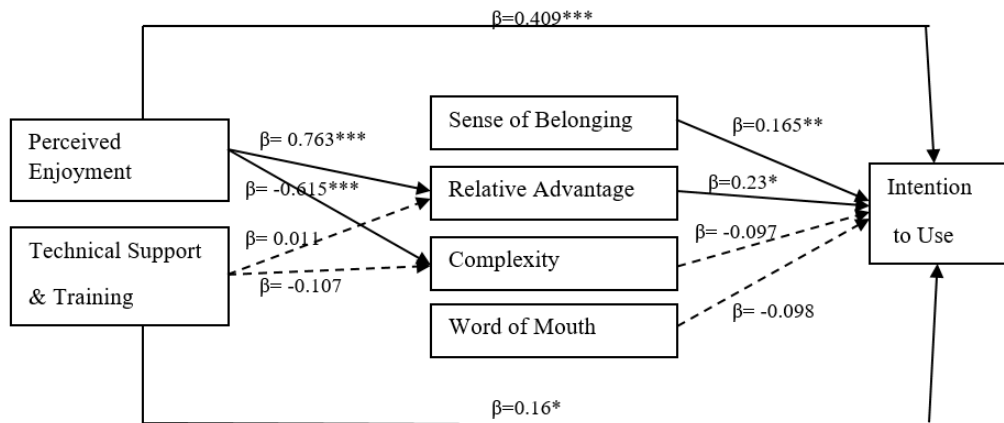
Notes: * p < 0.05, ** p < 0.01, *** p < 0.001
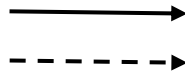
Source: Developed for the study

Hypothesis 1

The P value of SB (β = 0.165, p < 0.01) is 0.008** is less than 0.01. Hence, H1 will be supported and H0 will not be supported. There is significant relationship between sense of belonging and behavioural intention.

Hypothesis 2

The P value of RA (β = 0.23, p < 0.05) is 0.015* is less than 0.05. Hence, H2 will be supported and H0 will not be supported. There is significant relationship between relative advantage and behavioural intention.

Hypothesis 3

The P value of C (β = -0.097, p < 0.05) is 0.338 is greater than 0.05. Hence, H3 will not be supported and H0 will be supported. There is no significant relationship between complexity and behavioural intention.

Hypothesis 4

The P value of WoM (β = -0.098, p < 0.05) is 0.116 is greater than 0.05. Hence, H4 will not be supported and H0 will be supported. There is no significant relationship between word of mouth and behavioural intention.

Hypothesis 5

The P value of PEj (β = 0.409, p < 0.001) is 0.0*** is less than 0.001. Hence, H5 will be supported and H0 will not be supported. There is significant relationship between perceived enjoyment and behavioural intention.

Hypothesis 6

The P value of TST (β = 0.16, p < 0.05) is 0.047* is less than 0.05. Hence, H6 will be supported and H0 will not be supported. There is significant relationship between technical support and training and behavioural intention.

Hypothesis 7

The P value of PEj (β = 0.763, p < 0.001) is 0.0*** is less than 0.001. Hence, H7 will be supported and H0 will not be supported. There is significant relationship between perceived enjoyment and relative advantage.

Hypothesis 8

The P value of PEj (β = -0.615, p < 0.001) is 0.0*** is less than 0.001. Hence, H8 will be supported and H0 will not be supported. There is significant relationship between perceived enjoyment and complexity.

Hypothesis 9

The P value of TST (β = 0.011, p < 0.05) is 0.865 is greater than 0.05. Hence, H9 will not be supported and H0 will be supported. There is no significant relationship between technical support and training and relative advantage.

Hypothesis 10

The P value of TST (β = -0.107, p < 0.05) is 0.193* is greater than 0.05. Hence, H6 will not be supported and H0 will be supported. There is no significant relationship between technical support and training and complexity

4.4 Conclusion

In the end, illustration of the results and findings that showed the relationship between variables and customer behavioural intention to accept QR code. A deep discussion of the result will be carried out while highlighted the implications and limitations of the studies in the subsequent chapter.

CHAPTER 5: DISCUSSIONS, CONCLUSION AND IMPLICATIONS

5.0 Introduction

In Chapter 4, the paper illustrated the result and the findings of the analysis based on the data from the research study, therefore, conclusion will be drawn for the study in this last chapter. Never less, the implications for practical policy setting and practice as well as its contribution towards the theoretical background of the study will be included. The chapter will end following by the limitation of the study as well as the future recommendation for study.

5.1 Summary of Statistical Analyses

5.1.1 Descriptive Analysis

A summary of the demographic background of the research respondent as well as the central tendencies of the responses on each question will be included.

5.1.1.1 Respondent Demographic Information

In previous chapter, respondents' demographic data has been recorded and reported showing that there are a total of 134 respondents in which 73.1% are male respondents while 26.9% are female respondents. Majority of the respondents come from the age

group of 21 to 25 years old which is around 59 persons that sums up to 44%. For the marital status, large portion (76.1%) of the respondents are from single status. Meanwhile for the academic qualification, there are 74 respondents with a bachelor degree or any equivalent professional qualification that made up the largest pool of the sample. In addition, most of the respondents (47) selected 'other' in their working industry, this might due to the limited selection of working industry by the survey question. Lastly, the monthly income of most respondents is between RM2001-RM3000 around 22.4% equivalent to 30 respondents.

For the mobile Internet access, there are 99% respondents with an Internet connection in their mobile device where only a respondents without Internet connection in his mobile device. All the respondents have an experience with QR code before and majority of them use 1 to 10 times in the past 12-month period. For the ownership of mobile products, a total of 131 respondents is having a smartphone.

5.1.1.2 Summary of Central Tendencies

For the central tendencies of all SB1, RA2, C3, WoM1, PEj2, TST1, BI3 score the highest mean value, on the other hand SB3, RA1, C1, WoM3, PEj4, TST4, BI2 score the lowest mean value.

5.1.2 Inferential Analysis

In short, the researcher conducted the study using PLS-SEM and the model was found to be explaining in 0.696 variation in consumer behavioural intention towards the acceptance of QR code. The R^2 value is 0.696 whereas the P-value of the model is 0.00 indicating it is significant for the study.

5.2 Discussions of Major Findings

H1: **Sense of belonging has a significant relationship with consumer behavioural intention to accept QR codes as a new form of organization marketing tool.**

Sense of belonging was found to be affecting an individual to accept QR code as a new form of organization tool meaning that an individuals will most likely to get involved with QR code if they actually feel attached with the community or social circle that are involving with the QR code. It might be due to the social identity of the individual as they want to 'join the pack'. The result of the study is comply with the result from Zhao et al. (2012), Casaló et al. (2010), Thomas et al. (2014) in which sense of belonging will be contributing in an individuals' behavioural intention.

H2: **Relative advantage has a significant relationship with consumer behavioural intention to accept QR codes as a new form of organization marketing tool.**

Relative advantage representing the benefits consumer gained from using QR codes as a new form of organization tool, this also can be explained as consumer perceived relative advantage gained by a specific action will be able to strengthen their behavioural intention. Püschel et al. (2010); and Maduku et al. (2016) found out

that relative advantage do have a significant effect on adoption intention in a mobile background. It will be quite a clear cut explanation as relative advantage will be the overall gain over cost that an individual will enjoy over its action which explains its behavioural intention.

Ho: **Complexity has no significant relationship with consumer behavioural intention to accept QR codes as a new form of organization marketing tool.**

The difficulty of involving in QR code might not be a significant predictor of adoption intention, in other words, the customer intention to accept QR code will not be significantly affected by the difficulty of operations. The results of the study are similar with Maduku et al. (2016); Al-Jabri and Sohail (2012) in a mobile context. Complexity will not be a predictor of consumer behavioural intention to accept QR code, it might be due to QR code actually very simply to be use in which the complexity will not even be in the consideration of consumers' eyes, overall it is still a shocking result for the researcher as complexity are not having a significant relationship with customer behavioural intention.

Ho: **Word of mouth has no significant relationship with consumer behavioural intention to accept QR codes as a new form of organization marketing tool.**

Word of mouth can be regards as one of the best predictor with consumer behavioural intention in the studies by Yu (2012); and Reza Jalilvand, Mohammad, and Neda Samiei (2012), however, in this study word of mouth actually found out to have no significant relationship with consumer behavioural intention. In other words, the customer intention to perform a specific action will not be able to be predicted by the reviews and opinion the individual received on a QR code context. This result is similar to Afshan and Sharif (2016) in which these scholars found out the social impact by others will not be able to predict a person behavioural intention in a mobile banking.

***H₅*: Perceived enjoyment has a significant relationship with consumer behavioural intention to accept QR codes as a new form of organization marketing tool.**

Perceived enjoyment is an individual perception on the fun and pleasure of using a specific new technology, in this study, it is regarding the perceived fun and pleasure when interacting using QR code. It is found out that the perception will be able to contribute to the consumer behavioural intention, the result of the study is complying with the result from Wong et al. (2015) and Li et al. (2005). Li et al. (2005) also explain that perceived enjoyment is linking with the ease of use of the technology and intrinsic motivation of consumer. If consumer perceived that the technology is easy to use, they might have greater level of enjoyment and it will be able to gives them motivation to get involved with the technology. Plus, perceived enjoyment was also found to be having a significant relationship with intention to adopt in the study by Oh and Yoon (2014) on a Haptic Enabling Technology background.

***H₆*: Technical support and training has a significant relationship with consumer behavioural intention to accept QR codes as a new form of organization marketing tool.**

The relevant help or guidance available will be able to contribute to customers' behavioural intention to actually get involved in QR code usage. A sufficient amount of manuals, helpline and enquiry available will be able to motivate customer to actually accept a new technology better. The result found is similar to Wong et al. (2014) and Wong et al. (2016) in a mobile television context, nevertheless, Wu et al. (2007) mentioned that technical support and training will be able to may have effect of consumer self-efficacy that ultimately contributing to the behavioural intention of consumer. This means that individual will be perceiving greater ability on himself enhancing motivation to accept or adopt QR code.

***H7*: Perceived enjoyment has a significant relationship with relative advantage.**

In this research, it is found out that perceived enjoyment is having a significant relationship with relative advantage which is the perception of fun and pleasure will be directly affecting the benefits bring by an action. In the study by Li et al (2005), perceived enjoyment is linking with perceived usefulness which is relatively similar with relative advantage in concept. It was also supported by the study of Oh and Yoon (2014) in which they found a significant relationship between perceived enjoyment and relative advantage.

***H8*: Perceived enjoyment has a significant relationship with complexity.**

The research found out that perceived enjoyment actually having a certain level of association with complexity, it means the entertainment by individual behaviour actually link with the difficulty to perform. It is simple, individual could have abandon an action if they perceived it to be too hard to do, Chiyangwa, and Alexander (2016) stated that perceived enjoyment has been associated to reduce complexity which will be able to increase the behavioural intention. In addition, complexity is also very similar in concept with perceived ease of use, and Chong, Ooi, Lin and Bao (2012) found out that actually perceived enjoyment and perceived ease of use to be having a significant relationship as in the study of 3G mobile connection.

***H0*: Technical support and training has no significant relationship with relative advantage.**

As the result of the study indicates that actually technical support and training has not been a good predictor of relative advantage meaning that the result found out by Wong et al. (2016) in which they found out that technical support and training has no significant relationship with performance expectancy which is found to be very similar to relative advantage concerning on the actual outcomes an individual received from his or her action. Moreover, Wu et al. (2007) also findings also indicated that technical support and training do not have a significant relationship with relative advantage. It might be due to the reason technical support and training

will not be concern as one of the outcome of their action as they have not faced any issue dealing with the operations, or in a reverse situation, if the consumer faced difficulties in using QR code, thus technical support and training would potentially be significant in predicting relative advantage, on top of that, QR code also designed to be extremely user friendly which potentially reduce down the requirement on technical support and training.

Ho: **Technical support and training has no significant relationship with complexity.**

Technical support and training and complexity can be explain was found to have no significant relationship in the research study which in technical support and training will not be able effectively predicting the complexity. The result of the study is similar to Wu et al. (2007) that technical support and training has no significant relationship on perceived ease of use (inverse of complexity). This means that the infrastructure or technical help might not be an important factor determining the difficulty of usage as the process of using QR code is simple and do not actually require sophisticated gadget and process.

5.3 Implications of the Study

5.3.1 Implications for Academic

First and foremost, the study actually provided insights to scholars on the framework of QR code acceptance study in which the study actually integrated some popular models and constructs in order to explain better on the overall QR code model. Nevertheless, the study also evidenced the effect of perceived enjoyment on relative advantage and complexity. It was found out that the perceived entertainment factor actually contributing to the positive outcome as well as difficulty and effort required to perform a

specific action. This could be useful for the enhancement in any future research relating on marketing tools.

5.3.2 Implications for Practitioners

QR code is currently in an important stage in the market situation, even though there's much effort being carried out by marketers or business, the adoption rate are relatively low compare to other country. Therefore, this research wanted to deliver a scientific, empirical study to understand on the factors motivating the behavioural intention to accept QR code. The study could have provide some constructive information to the marketers and practitioners in promoting adoption of QR code in the public as a new way of communication. As found out in the study, perceived enjoyment as the largest contributor to the adoption of QR code, it could be an crucial aspect for decision maker to improve on in order to gain better acceptance, the level of entertainment, interactivity, pleasure when using QR code are some potential area that could have been the key to the acceptance.

5.4 Limitations of the Study

Despite that the study actually provides some useful insights on the factor motivating customers to accept QR code, there are some limitations. Firstly on the exposure of QR code in which it is still in an infancy stage in which the usage and application for QR code are not widely and clearly known by the customers, thus it will be affecting and resulting in low intention to use QR code.

Secondly, it is on the sample in which convenience sampling due to low response rate by the respondents, the questionnaire were distributed on an online forum (forum.lowyat.net), it will be hard to generalize the findings of the study to an overall Malaysia context in which it is only limited to members from lowyat.net. Nevertheless, the sample size is relatively small (n = 134) which has lesser strength to generalize to overall consumer context. In addition, it might also subjected to sample selection bias as the sample actually do not representing the whole population.

Lastly, the timeframe of the collection period of 18 days, therefore the timeline to collect data is relatively short as it would probably sort out any other potential respondents which are not available during the period.

5.5 Suggestions for Future Study

For generalize findings, the researcher suggested for general population using respondents from a diverse groups due to the reason of sample are from the online communities members that potentially ignore other consumer. In addition,

Nevertheless, future researcher could also considering other adoption model such as technology acceptance model, unified theory of acceptance and usage of technology, and other model. In addition, it could also add some moderating factor such as gender, age and even culture in order to understand better on the cause-and-effect as well as moderator relationship.

5.6 Conclusion

In this last chapter, it actually involves with the discussion of the findings of the study and past literature has been included in order to support the result of the study. Nevertheless, implications for both academician and practitioner has been highlighted and the whole chapter wrapped up with the limitations of the current study and suggestions for future study.

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Appendices

What Factors Motivate the Acceptance of Quick Response Codes as a form of Organization Marketing Tool?

Survey Questionnaire

The purpose of this survey is pertaining to factors that motivate the acceptance of Quick Response (QR) codes as a form of organization marketing tool. Please answer all questions to the best of your knowledge. There are no wrong responses to any of these statements. All responses are completely confidential.

Thank you for your participation.

Instructions:

1) There are **two** (2) sections in this questionnaire. Please answer **ALL** questions in ALL sections.
2) Completion of this form will take you approximately 10 to 20 minutes.
3) The contents of this questionnaire will be kept **strictly confidential**.

Section A: Demographic Profile

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

QA1: Gender: ❑ Female ❑ Male

QA2: Age: ❑ Below 20 years old ❑ 21 - 25 years old ❑ 26 - 30 years old
❑ 31 - 35 years old ❑ 36 - 40 years old ❑ Above 40 years old

QA3: Marital status: ❑ Single ❑ Married

QA4: Do you have Internet (3G, 4G and Wifi) access on your mobile device? (Mobile phone, PDA, smart phone or a combination device): ❑ Yes ❑ No

QA5: Your experience of QR code: ❑ Yes ❑ No

QA6: In the past one year, how many times you use QR code?
❑ 0 ❑ 1 - 10 ❑ 11 - 20
❑ 21 - 30 ❑ 31 - 40 ❑ Above 40

QA7: Do you own the following products: ❑ Mobile Phone
❑ Personal Digital Assistant (PDA)
❑ Smart Phone

Page - 1 -

QA8: Highest level of academic qualification: ❑ No College Degree

❑ Diploma/Advanced Diploma
❑ Bachelor Degree/Professional Qualification
❑ Master/PhD Degree
❑ Others: _____

QA9: Respondent industry

❑ Education
❑ Banking
❑ Audit/Accounting/Taxation/Management Consulting
❑ Information Technology
❑ Telecommunication
❑ Construction
❑ Manufacturing
❑ Trading
❑ Other

QA10: Monthly income:

❑ Less than RM1000
❑ RM1001 - RM2000
❑ RM2001 - RM3000
❑ RM3001 - RM4000
❑ RM4001 - RM5000
❑ RM5000 - RM10000
❑ Above RM10001

Section B: Factors that motivate you to accept QR code

This section is seeking your opinion regarding the factors that influence your intention to adopt QR code. Respondents are asked to indicate the extent to which they agreed or disagreed with each statement using 7 Likert scale [(1) = strongly disagree; (2) = disagree; (3) = slightly disagree; (4) = neutral; (5) = slightly agree; (6) = agree; (7) = strongly agree] response framework.
Please circle one number per line to indicate the extent to which you agree or disagree with the following statements

No	Questions	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
B1	**Sense of Belonging (SB)**							
SB1	QR code users and I share the same objectives.	1	2	3	4	5	6	7
SB2	I see myself as a part of QR code users.	1	2	3	4	5	6	7
SB3	I am attached to the community of QR code users	1	2	3	4	5	6	7
SB4	If other QR code users did something, I would think of as "we" did something rather than "they" did something.	1	2	3	4	5	6	7

No	Questions	Strongly Di...	Disagree	Slightly Di...	Neutral	Slightly Agree	Agree	Strongly Agree
B2	**Relative Advantage (RA)**							
RA1	Using the QR code allow me to access to more information.	1	2	3	4	5	6	7
RA2	Using the QR code helps me to save my time.	1	2	3	4	5	6	7
RA3	Using the QR code makes it easier find more information.	1	2	3	4	5	6	7
RA4	QR code is a convenient way to get more information.	1	2	3	4	5	6	7

No	Questions	Strongly Di...	Disagree	Slightly Di...	Neutral	Slightly Agree	Agree	Strongly Agree
B3	**Complexity (C)**							
C1	My usage with the QR Code is clear and understandable.	1	2	3	4	5	6	7
C2	I think that it is easy to scan a QR code and to information I want to get.	1	2	3	4	5	6	7
C3	Scanning a QR code doesn't require much mental effort.	1	2	3	4	5	6	7
C4	Overall, I believe that interact with QR code is easy.	1	2	3	4	5	6	7

No	Questions	Strongly Di...	Disagree	Slightly Di...	Neutral	Slightly Agree	Agree	Strongly Agree
B4	**Word of mouth (WoM)**							
WoM1	I frequently gather information from users' reviews before I use any communication tool.	1	2	3	4	5	6	7
WoM2	I often consult other users' reviews to help choose the right communication tool.							
WoM3	If I don't read other users reviews when I use QR code, I worry about my decision.	1	2	3	4	5	6	7
WoM4	When I use QR code, users' online reviews make me confident in using it.	1	2	3	4	5	6	7

No	Questions	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
B5 Perceived Enjoyment (PEj)								
PEj1	I find using the QR codes to be enjoyable.	1	2	3	4	5	6	7
PEj2	The actual process of using the QR codes is pleasant.	1	2	3	4	5	6	7
PEj3	I have fun using QR codes for getting more interaction.	1	2	3	4	5	6	7
PEj4	I like working with the QR codes.	1	2	3	4	5	6	7

No	Questions	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
B6	**Technical Support and Training (TST)**							
TST1	Online manuals on how to use QR code is available to me.	1	2	3	4	5	6	7
TST2	A technical support team is available when there is a technical problem.	1	2	3	4	5	6	7
TST3	Email enquiries can be made when there is any technical issue.	1	2	3	4	5	6	7
TST4	Training workshops on the operation on QR code is available to me.	1	2	3	4	5	6	7

No	Questions	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
B7	**Behavioral Intention**							
BI1	I intend to increase my use of QR code	1	2	3	4	5	6	7
BI2	I intend to invest my time and effort to QR code	1	2	3	4	5	6	7
BI3	I intend to use QR codes in the future.	1	2	3	4	5	6	7

Thank you for your time and cooperation.

~ The End ~

Appendix 3.2: QR code of the Questionnaire