FACTORS INFLUENCING CONSUMERS' INTENTION TO USE SELF-ORDERING KIOSK IN RESTAURANT

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BY

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A final year project submitted in partial fulfillment of the requirement for the degree of

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DECLARATION

We hereby declare that:

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

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

(3) Sole contribution has been made by me in completing the FYP.

(4) The word count of this research report is 13081.

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Date: 13 April 2022

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Lastly, I would like to express my special appreciation to Universiti Tunku Abdul Rahman (UTAR) for giving me this golden opportunity to complete this research and providing me the academic resources that allowed me to conduct this research successfully.

Thank you.

DEDICATION

The researcher would like to dedicate the dissertation work to Dr Yeong Wai Mun who is the supervisor of this research project. I would also like to express our gratitude to Dr Yeong Wai Mun who has guided me, teaching me and supports and valuable suggestions to improve my research.

Besides, I would also like to dedicate this research to my family, friends and those who had assisted us and also given support and encouragement which motivates me and while doing this research project. All of these contributed to the completion of this research.

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LIST OF ABBREVIATION

A	Agree
ANOVA	Analysis of Variance
DA	Disagree
F&B	Food and Beverage
H	Hypothesis
INT	Intention to Use
IR4.0	Industrial Revolution 4.0
N	Neutral
PE	Perceived Enjoyment
PEOU	Perceived Ease of Use
PU	Perceived Usefulness
SA	Strongly Agree
SD	Strongly Disagree
SPSS	Statistical Package for Social Sciences
TAM	Technology Acceptance Model
TR	Trust
USD	U.S. Dollar / United States Dollar
UTAR	Universiti Tunku Abdul Rahman

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PREFACE

The rapid change and development of technology nowadays have contributed every aspect of the world. The development of technology has benefited almost every sector, which included business sector. Also, many countries such as Canada, China, Germany, Japan, Malaysia, Singapore, and others are adopting the Fourth Industrial Revolution (IR4.0) and it has boosted their technology advancement successfully (Bhunia, 2018). In the adoption of IR4.0, these countries have used innovation technology such as artificial intelligent, autonomous robot, E-wallet, mobile application, internet of things, and self-service kiosks as they believe it can benefit the productivity of the business as well as human lifestyle (Tsai & Geetha, 2019).

Due to the outbreak of COVID-19 in 2019, it has changed the nature of consumers and their regular daily activity has been restricted as to avoid infection of this virus, which this pandemic has accelerated the innovation of technology. Bin, Andruetto, Susilo and Pernestål (2021) found that in order to address this issue for all businesses, innovation of technology has become vital. One of the industries that has significantly affected by this pandemic is food and beverage industry as consumers may afraid that they might get infected by this virus while they go out to restaurant to order their food. Due to this, restaurants have encouraged consumers to use self-ordering kiosks to make order as this is one of the best ways to protect consumers' safety because it can minimize the contact between people (Sharil, Zulkafly, Ismail, & Sharif, 2021). Hence, this has brought the idea to researcher wanting to know what are the factors that make consumers have the intention to use self-ordering kiosk to order food in restaurant.

ABSTRACT

The objective of this research project is to determine the factors that influence the consumers' intention to use the self-ordering kiosk in restaurant such as perceived usefulness, perceived ease of use, perceived enjoyment, and trust. Researcher has started off by identifying all the problem statements and research objectives, following by explaining and discussing each independent variables and dependent variable in literature review before proceeding with the research methodology.

A total of 320 of questionnaires had been distributed and answered by the respondents through online, and data from 314 qualified respondents had been collected and examined by using Statistical Package for Social Science (SPSS) 26.0 to conduct analyzation and construction of graphs and tables for analysis purposes. The outcomes that obtained from this study proved that all independent variables (perceived usefulness, perceived ease of use, perceived enjoyment, and trust) have the relationship towards intention to use self-ordering kiosk in restaurant.

Furthermore, theoretical implications and practical implications have been explained and suggested for the academicians who may wanted to refer this research to support their study, and for business owners or other related practitioners as a reference for them to improve based on the findings and results that obtained from this research project. Lastly, limitations of this research projects have listed out and recommendations have provided for the future researchers who interested in related field.

CHAPTER 1: RESEARCH OVERVIEW

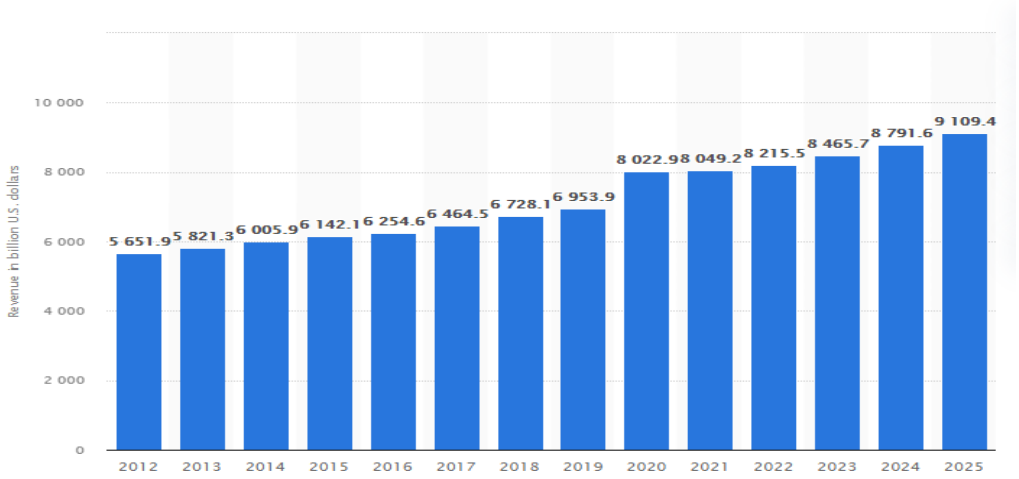
1.0 Introduction

For study, researcher's objective is to discover what factors influence consumers' intention to use self-ordering kiosk in restaurant. In this chapter, it included the research background of this study, coupled with problem statements, research questions, research objectives, hypotheses of this research, and significance of this research.

1.1 Research Background

Food and beverage (F&B) business is one of the world's largest industries, and it is continually expanding. Based on figure 1.1, there is an increasing trend for F&B industry. According to Statista (2021), starting from 2020, the F&B market has achieved over 8 trillion USD in revenue, and it expected to have continuance growth in coming years and achieve around 9.1 trillion USD revenue in 2025.

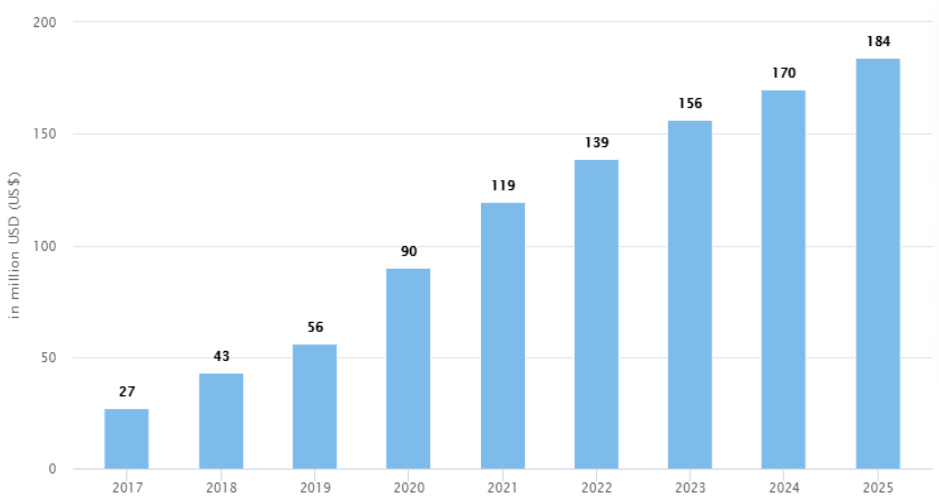
Figure 1.1: Revenue of F&B Industry in Worldwide from 2012 to 2025.



Source: Statista (2021).

In Malaysia, the F&B industry is expanding yearly as depicted in figure 1.2. According to Statista (2021), the revenue in F&B industry Malaysia is depicted to reach 119 million USD in 2021, and it expected to depict an annual growth rate of 11.44%, which it is leading in a projected market volume of 184 million USD by 2025. Besides, the number of users in F&B segment is expected to reach 5.6 million users by 2025. Also, Malaysia is adopting Fourth Industrial Revolution (IR4.0) by leading the businesses in Malaysia to facilitate the industry 4.0 technologies (TheStar, 2020). According to Ministry of International Trade in Industry (2018), Malaysia is enhancing the productivity by adopting IR4.0 through using technologies like artificial intelligence and autonomous robot. Artificial intelligent, E-wallet, mobile application, self-ordering kiosks, and others can change and benefit the human lifestyle (Tsai & Geetha, 2019). Hence, application of technology in F&B industry has been utilized widely in the world.

Figure 1.2: Revenue of F&B Industry in Malaysia from 2017 to 2025.



Source: Statista (2021).

In Malaysia, the technology advancement is emerging the F&B industry where many restaurants have installed self-ordering kiosk for consumers. There are few restaurants or companies in Malaysia have installed kiosk in the stores such as McDonald's and KFC. McDonald's has started to use self-ordering kiosks widely in Malaysia which since 2017 (Ying, 2018), and it is available in majority of

McDonald's in Malaysia (Sharil, Zulkafly, Ismail, & Sharif, 2021). Tariq (2019) also reported that KFC has introduce self-ordering kiosks in Klang Valley in 2019. According to Taufik and Hanafiah (2019), the use of self-ordering kiosks allows businesses to be competitive advantage towards other competitors; thus, restaurants such as McDonald's and KFC are standing strong in the F&B industry.

The use of self-ordering kiosks has significantly impacted the restaurant. There are variety of reasons of restaurant to use self-ordering kiosks but, the most common reason that restaurant owner use self-ordering kiosks is quick, effectiveness, and efficiency. Due to the competition in F&B industry is strong, the restaurant owners must apply outstanding marketing strategies to attract potential consumers and regular customers to stay competitive in this industry; thus, introducing of technology such as self-ordering kiosk is one of the strategies that applied by the F&B industry (Sharil et al., 2021). This is because self-ordering kiosk in the restaurant allows the consumers to skip the queue, letting you place orders conveniently, consumers can customize their order based on what they like (Bates, 2017); thus, it can increase the effectiveness and efficiency of the operation in restaurants.

In addition, one of the reasons that restaurants are using the self-ordering kiosks widely nowadays is because of the outbreak of COVID-19. This pandemic has changed the nature of consumers as the regular daily activity has been restricted as this virus can easily infect human. Therefore, to overcome this issue, adaptation of technology is important for all. Owing to the pandemic, restaurants have encouraged consumers to use self-ordering kiosks to place their order because self-ordering kiosks allow consumers to place order without or with minimal help from the staff (Shahril et al., 2021). The self-ordering kiosks able to keep customers and staff safe during outbreak of COVID-19 because self-ordering kiosks can minimize the interaction between consumers and staff (Fravel, 2020). Overall, the self-ordering kiosks in restaurants enable consumers to place order safely.

The installation of kiosk in restaurant may be able to improve the productivity, effectiveness, and sales, but it is important to know whether the consumers have the likelihood to use self-ordering kiosk to order their food.

Therefore, the restaurant consumers' intention to use self-ordering kiosk will be examined in this study. The factors which are the perceived usefulness, perceived ease of use, perceived enjoyment, and trust that might affect the consumer's intention to use self-ordering kiosk will be investigated in this study as well.

1.2 Problem Statements

The advancement of technology has delivered various advantages to a company, business, retailers, consumers, and others. From the perspective of business, technology advancement can enhance productivity, effectiveness, and efficiency of a business. Nevertheless, it able to aid companies, businesses, or service providers to gain more competitive advantages in this current competitive market (Berawi, 2018). Still, researcher wish to know what have contributed the intention to use the self-ordering kiosk in restaurant that leads the loyalty towards self-ordering kiosk usage. Thus, there are some questions that researcher as well as business owners would like to know. What are the factors influence consumers' intention to use self-ordering kiosk in restaurant? How can restaurant business owners can improve the sales performance and consumer's loyalty if they install a self-ordering kiosk? Therefore, researcher investigate few variables from journals which are perceived usefulness (PU), perceived ease of use (PEOU), perceived enjoyment (PE), and trust (TR) which these independent variables have effect on dependent variable which is the intention to use (INT) self-ordering kiosk at restaurant.

Generally, there are consumers still prefer not to order their food using self-ordering kiosk. According to Papandrea (2019), 78% of diners prefer not to eat at restaurant with self-ordering kiosk as they don't want to rely on technology to order their meal, and they want to enjoy human customer service touches. Another reason is self-ordering kiosk is difficult for people with disabilities to use especially for blind people (Shim, 2020). Hence, these are the problems that caused consumers dislike to use kiosk to order their food.

In this study, PU will be examined since the utility of a technology has an influence on an individual's intention to use it. Raza, Umer & Shah (2017) explained that PU is one of the important elements to determine people's viewpoint towards their intention to use and operate a technology. However, the study from Tsai and Geetha (2019) found that technology-based service sometime is not perceived useful in consumers' viewpoint due to the technical problems that have leave bad impression towards the consumers; thus, they will prefer face-to-face contact with service providers rather than using the self-ordering kiosk (Cho & Fiorito, 2010). Due to the inconclusive study conducted by the previous researchers, therefore, this study would investigate further the PU towards INT.

PEOU is explained by Davis (1989) which it is an opinion on how much they have put the effort on utilising a technology. Raza et al. (2017) stated that people wanted to use a technology without any mental stress. According to Na, Lee and Yang (2021), a survey was conducted to investigate consumer's perception towards self-ordering kiosk in restaurant, and 53.3% of respondents dislike the self-ordering kiosk in restaurant because they are not good at using the self-ordering kiosk. Byun (2018) also found that it will be difficult for consumers to operate a technology if they lack of relevant knowledge toward it. Thus, the relationship between PEOU and INT will be investigated further in current study to resolve this indeterminate result that concluded by the past researchers.

Besides, PE will be studied by researcher. Sarosa (2019) explained that PE is the degree of which activity of using a technology is enjoyment. Tsai and Geetha (2019) found that PE is not a good determinant towards intention to use a technology because technology like self-ordering kiosk doesn't have the abilities like smile, eye contact, and body language to serve the consumers. Also, research from Taufik and Hanafiah (2019), they found that consumers do not enjoy using self-ordering kiosk due to the poor communication with the machine. Chao (2019) found that consumer's PE towards technology will change over time due to the accumulation of new knowledge and experience. Hence, the research of relationship between PE and INT will be conducted due to the insufficient and debatable result from past studies.

Lastly, TR is important for a business as it can determine the reliability of business transaction between consumers and sellers (Uzir, Al Halbusi, Thurasamy, Hock, Aljaberi, Hasan, & Hamid, 2021) because consumers need to reveal their personal information or banking information during payment (Kaushik, Agrawal, & Rahman, 2015). In the research from Seo (2020), he found that consumers will have doubts and not sure whether they should trust a system like kiosk, as they need to provide their personal information or banking information while making payment. Due to the indecisive result from the previous study, this study will further examine the TR towards INT.

1.3 Research Objectives

In this study, it will examine whether the four independent variables which are perceived usefulness, perceived ease of use, perceived enjoyment, and trust will influence dependent variable which is consumers' intention to use to self-ordering kiosk in restaurant.

1.3.1 Specific Objectives

The research objectives are as following:

To examine the relationship between perceived usefulness and consumers' intention to use self-ordering kiosk in restaurant.
To examine the relationship between perceived ease of use and consumers' intention to use self-ordering kiosk in restaurant.
To examine the relationship between perceived enjoyment and consumers' intention to use self-ordering kiosk in restaurant.
To examine the relationship between trust and consumers' intention to use self-ordering kiosk in restaurant.

1.4 Research Questions

The objective of this study is to research about the effects of the several factors that may affect consumers' intention to use self-ordering kiosk in restaurant. The research questions are stated as follows:

1) How does the perceived usefulness influence consumers' intention to use self-ordering kiosk in restaurant?
2) How does the perceived ease of use influence consumers' intention to use self-ordering kiosk in restaurant?
3) How does the perceived enjoyment influence consumers' intention to use self-ordering kiosk in restaurant?
4) How does the trust influence consumers' intention to use self-ordering kiosk in restaurant?

1.5 Hypotheses of the Research

The hypotheses developed in this research as following:

H1: There is a relationship between perceived usefulness and intention to use self-ordering kiosk in restaurant.
H2: There is a relationship between perceived ease of use and intention to use self-ordering kiosk in restaurant.
H3: There is a relationship between perceived enjoyment and intention to use self-ordering kiosk in restaurant.
H4: There is a relationship between trust and intention to use self-ordering kiosk in restaurant.

1.6 Significance of Study

The outcomes for this research might aid business owner, marketers, academician, and other relevant parties to determine the importance of using self-ordering kiosks in restaurant and the ways to ensure sustainability of restaurants. Due to the outbreak of pandemic COVID-19 in Malaysia, F&B industry has affected significantly as many consumers' nature and behaviour has changed. Thus, this research may also be important information for the business owners and relevant parties to maintain or grow their business or to study further about this topic.

In this study, the business owners of restaurants who installed the self-ordering kiosks and marketers might be able to have clearer insights and better understanding of consumer's perception towards self-ordering kiosk. Thus, this can aid business owners of restaurants and marketers to have better decision-making to apply appropriate business strategy to maintain the loyalty of regular consumers so that it can ensure the long-term business growth.

Besides, the academicians might be able to discover the important information regards consumers' perception towards self-ordering kiosks, and based on this information, they can conduct further investigation and research to determine the factors that may let consumers to use self-ordering kiosks in restaurant continuously. Nevertheless, academician might be able to acknowledge the importance of applying self-ordering kiosks in businesses which they may refer this research to discover any potential businesses that may be able to apply self-ordering kiosks to gain competitive advantages.

The outcomes of this study also might be able to help Government in forming or implementing laws and regulations to protect the users of self-ordering kiosks. Owing to advancement of technology nowadays, the government would like to enhance the convenience, accessibility, and quality of interactions between government and public, business, and so on in this information age (Shafie, 2007); thus, government may refer the outcomes of this study and implement the technology-related laws or policies in online to ensure transparency, and to protect

and ensure the safeness of the users who use self-ordering kiosk in restaurant, which these laws or policies might be important for users of self-ordering kiosk, especially the business owner of the self-ordering kiosk.

1.7 Conclusion

Researcher has discussed and explained the research background which it is related to self-ordering kiosk in restaurants in chapter 1. Next, researcher has also determined and justified the problem statements based on the variables that will study in this study. Furthermore, research objectives, following by research questions, then hypotheses of this research have been listed out. Nevertheless, the significance of this study has provided and stated out which this study can benefit the business owners, marketers, academicians, and government.

In the coming chapter, researcher would like to discuss the literature reviews which it consists of the theory that researcher will apply for this study, the relevant variables, the conceptual framework that proposed by researcher, and hypotheses that will be developed.

CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

Literature review will be explained in Chapter 2, where researcher will provide insights of the underlying theory that will be applied in this study. Proper definitions and elaborations of dependent variable, independent variables are given and the explanation of the linkage between these variables with the researcher's aim of this study will be provided as well.

Besides, the conceptual framework that proposed by researcher will be depicted and justified in this chapter. In the latter half of this chapter, the hypothesis developments of this study were listed and described.

2.1 Underlying Theory

2.1.1 Technology Acceptance Model (TAM)

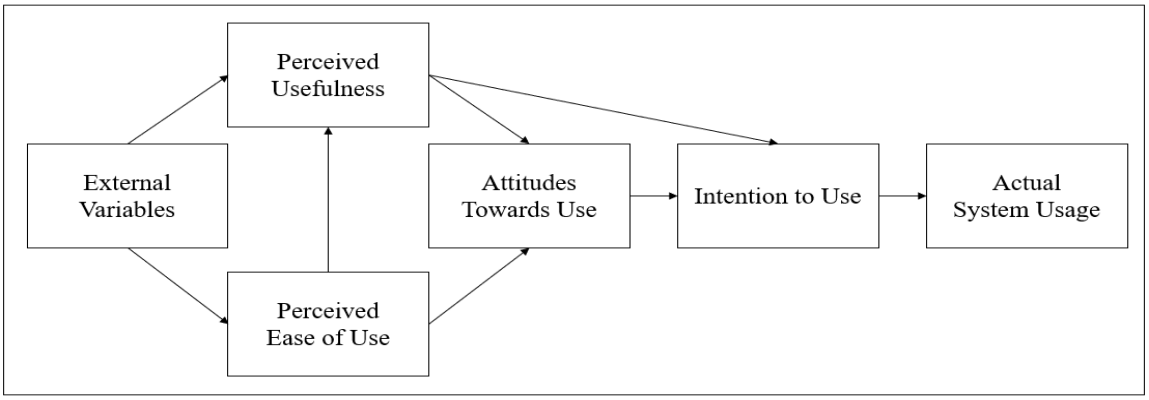
Technology acceptance model (TAM) is developed by Davis (1989) which it originated from the Theory of reasoned action (TRA) by Fishbein & Ajzen (1975) provides a theoretical foundation for the acceptance and usage behaviour of user toward information technology (Cakır & Solak, 2015). Due to the advancement and development of technologies nowadays, many researchers have studied the changes of attitudes and behaviour towards the innovation of technology. According to Cho & Sagynoy (2015), many previous studies that related to technology and system such as interactivity, recommender systems, e-payment and e-transfer system, e-commerce, and online agents have applied TAM. Besides, many past studies of social psychology have proven that intention is a good indicator to measure

individual behaviour as it has included all the relevant factors that can influence individual's actual behaviour (Sun & Morwitz, 2010).

TAM comprises core constructs that influence individual's intention to use new technology namely, perceived ease of use (PEOU), perceived usefulness (PEOU), attitude and behavioural intention (Marangunić & Granić, 2015). According to Davis (1989), PEOU refers to "the degree of an individual thinks that using technology would be free of effort", PU refers to "the degree of an individual thinks that using technology would boost his/her work performance", and according to Zhang, Aikman & Sun (2008), attitude refers to "an individual evaluation of technology or specific behaviour associated with the use of technology". PEOU and PU are the key constructs among all the constructs in TAM that used to justify directly or indirectly outcome (Scherer, Siddiq & Tondeur, 2019). They further explained that both constructs are often complemented by external variables with the purpose of justifying the variation in PEOU and PU. Attitude is also the key determinant to predict the intention of an individual to use an innovation technology with PEOU and PU as determinants of attitude in TAM (Song, Ruan & Jeon, 2021).

Theoretically, TAM is supported by unified theory of acceptance and use of technology (UTAUT), which it has served a foundation model (Cho & Sagynoy, 2015). They further explained that technology acceptance and attitude toward behaviour have been supported by theory of reasoned action (TRA) and its extension, theory of planned behaviour (TPB) that study the ability of an individual to do a certain behaviour is influenced by his/her intention to perform that behaviour, and these theories have successfully applied in many previous studies.

Figure 2.1: Technology of Acceptance Model.

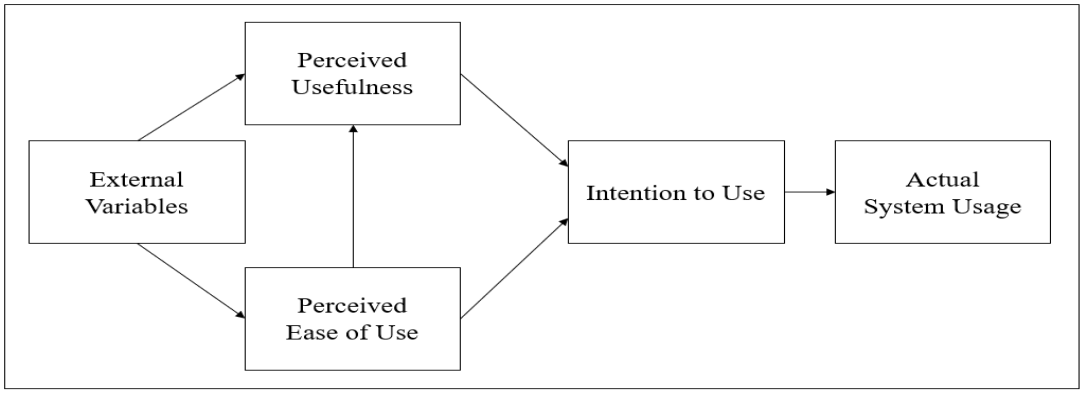


Source: Davis (1989).

2.1.2 Updated Technology Acceptance Model (TAM)

The updated TAM is developed by Venkatesh and Davis (1996), which attitude construct has removed in the model because attitude is not fully mediate the relationship with perception constructs such as perceived usefulness, ease of use, and behavioural intent, and the updated TAM has successfully applied in study from Ramayah and Ignatius (2005).

Figure 2.2: Updated Technology of Acceptance Model.



Source: Venkatesh and Davis (1996).

2.2 Reviews of Variables

2.2.1 Dependent Variables

2.2.1.1 Intention to Use (INT)

According to Nayak, Nath, and Singhal (2017), intention is referred an individual's effort that have spent to try or make something to occur; intention to use is referred to an individual's desire to choose whether to use or not to use any things. In terms of technology, INT means the intention of users to use an innovation technology from traditional method which it used to identify users' wish to accept an innovation technology (Samsudeen & Mohamed, 2019). According to Buabeng-Andoh (2018), INT was usually applied in study for TAM as it can used to explain technology usage behaviour so that it is appropriate to examine user's intention to use technology.

INT has widely studied by researchers in adoption of innovation technologies (Law, Chan, & Wang, 2018). For example, Sun & Gao (2020) has used INT as dependent variable to examine INT mobile devices to learn languages. INT also has been widely studied in F&B industry. For instance, study conducted from Prabowo and Nugroho (2019) has examined consumers' INT to use food delivery service, and Cha (2020) has conducted research on consumers' INT using robot-serviced restaurants, which all these studies have used INT as the dependent variable. Overall, INT has been successfully applied in various field of studies in adopting technology.

2.2.2 Independent Variables

2.2.2.1 Perceived Usefulness (PU)

Venkatesh (2000) has described perceived usefulness (PU) as “the degree to which a person perceives that adopting technology may help him/her be more productive”. PU has also defined by Davis (1989) which it is “the degree of an individual’s belief which using technology would boost his/her work performance”. PU has six dimensions namely, work more quickly, make job easier, useful, boost productivity, improve effectiveness, and enhance job performance (Indarsin & Ali, 2017).

Davis (1989) stated that PU is served as the central concept of TAM. According to Hong, Choi, Choi, and Joung (2021), PU is also considered as a significant predictors in studying behavioural intention. Specifically, in the comparison between PU and other technology-related constructs such as PEOU, PU has the stronger impact in influencing the adoption of innovative technology (Kim, Merrill, and Collins, 2021).

2.2.2.2 Perceived Ease of Use (PEOU)

Perceived ease of use (PEOU) is defined by Hong et al. (2021) as "the degree to which an individual expects mental or physical hurdles in utilising new technology." Davis (1989) stated that PEOU refers to “the degree to which an individual feels that utilising a technology would be effort-free”. He further suggested that PEOU also refers to an individual's evaluation of the effort required to use technology. If a technology is eased to use, individual will have the willingness to learn the ways to use and finally intend to use it continuously (Hamid, Razak, Bakar, & Abdullah, 2016).

Theoretically, PEOU and complexity are similar construct while applying in user acceptance research (Venkatesh, 2000). For instance,

Thompson (1991) used complexity as the construct which both constructs are similar and used to predict behaviour. According to Lau and Ng (2019), PEOU is the ability of an individual to test the technology and where they could assess its benefits easily; thus, it has been considered as a key factor that can affect the change of users' behavioural intention.

2.2.2.3 Perceived Enjoyment (PE)

Perceived enjoyment (PE) described as "the extent to which the act of utilising a certain system is considered pleasurable of itself, regardless of any performance repercussions that may result from system usage" (Venkatesh, 2000). Besides, PE is described by Sarosa (2019) as "the degree whereby the process of employing innovation technology is thought to be enjoyable". PE may also be described as the extent to which a user engages in the usage of information technology because of the "yields dun and enjoyment" process (Moghavvemi, Sharabati, Paramanathan, & Rahin, 2017).

A study of TAM metal-analysis by El Shamy and Hassanien (2017) found that PE is a key variable in behavioural intention of user to use innovative technology such as robots, VR devices, and wearable devices, that are growing rapidly in the development of technology. According to Alalwan, Baadullah, Rana, Tamilmani, and Dwivedi (2018), intrinsic motivation, such as enjoyment, playfulness, or fun, has big impact toward customer intention to use a system and application.

2.2.2.4 Trust (TR)

According to Alalwan et al. (2018), trust (TR) is referred to individual's belief that consists of three concepts namely, ability, integrity, and benevolence, which it makes user believes that the specific technology is reliable and trustworthy to use. Uzir et al (2021) suggested that TR is an

initial principle in all business relationship because it helps to determine the reliability of business transaction between two parties, and it can be formed by interaction with others in practical forms.

Susanto et al. (2016) acknowledged that the variable of trust is divided in to four elements, namely disposition to trust, institution-based trust, trusting beliefs, and trusting intentions which disposition to trust means "an individual's inclination to rely on others in general"; institution-based trust means "favourably regarded conditions in an life of an individual's contextual success"; trusting beliefs is defined as "an individual's beliefs that the other party's attributes are advantageous; trusting intention is defined as "an individual's willingness to rely on other party even though one relinquishes control".

2.3 Proposed Conceptual Framework

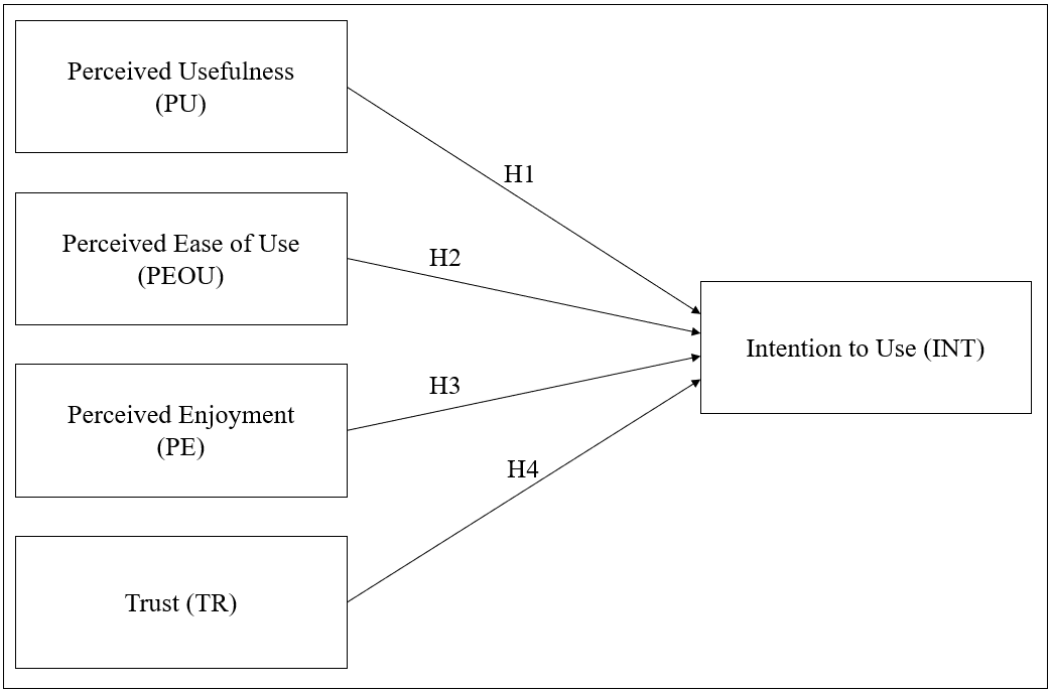
Figure 2.1 depicts the conceptual framework that proposed with existence of both variables in this study. In figure 2.1, it has shown that INT is the dependent variable, while the PU, PEOU, PE, and TR are the independent variables.

This framework was developed based on the updated TAM. Researcher has extended the model by including PE and TR in the framework. Lee, Kim, and Choi (2019) have stated based on the previous studies, PE has often been included as a basic variable in TAM because it has significant effect on INT. Jang and Park (2019) also found that PE is a crucial determinant in study behavioural intention to use an innovation technology. Besides, in the era of technology, trust vital in business and trading relationship (Uzir et al, 2021); hence, trust is significant towards INT when in studying business field.

However, actual usage was dropped out in this study. According to Ramayah and Ignatius (2005), actual usage was dropped in their study as many researchers only study the user's intent or "prediction" rather than the actual usage.

Besides, external variables were also dropped out in this study. Although external variables may have significant effect on TAM, however, there are no well-defined for external variables in TAM; thus, not all research models have included external variables in the study (Li, Qi, & Shu, 2008). Nevertheless, the relationship between PU and PEOU has omitted as there is no significant effect towards each other and they are believed to have direct relationship to behavioural intent (Suki & Suki, 2011), which this has supported by studies from Moslehpour, Pham, Wong and Bilgiçli (2018) and To and Trinh (2021).

Figure 2.3: Conceptual Framework.



Source: Developed for the Research.

2.4 Hypothesis Development

2.4.1 Relationship between perceived usefulness and intention to use self-ordering kiosk in restaurant

PU is the main construct in TAM, which it referred as how useful is the specific technology that can makes the user will be prepared to use it. PU has been used successfully by various of studies to predict behaviour to adopt a specific technology (Liu, Chen, Sun, Wible, & Kuo, 2010). In addition, PU is the fundamental variable for usage intention to a technology (Revels, 2010), which it has related to how useful of a self-ordering kiosk that can develop an intention to use it.

Sun and Gao (2019) also found that PU is a direct predictor of behavioural intention; hence, it can directly affect the intention to use. Singh and Sinha (2020) acknowledged that the greater the level of usefulness, the greater intention to use the technology by the users. Besides, Nicolaou and McKnight (2011) acknowledged that a good system design and information quality can result higher intention to use the technology; thus, there is a strong relationship among PU and INT. Therefore, this study posited that:

H1: There is a relationship between perceived usefulness and intention to use self-ordering kiosk in restaurant.

2.4.2 Relationship between perceived ease of use and intention to use self-ordering kiosk in restaurant

Mellarkod, Appan, Jones, and Sherif (2007) acknowledged that perceived ease of use (PEOU) can influence likelihood of usage towards technology. They also found that due to the challenges of understand, adapting, and integrating using technology. Thus, it has shown that PEOU can significantly impact intention to use of technology. Liu et al. (2010) stated

that PEOU means if users feel that the specific technology is easy to use, they will be prepared to use it; therefore, it has shown that ease of use of a technology has significant impact towards user to use a technology.

The user expects the specific technology are developed are to provide conveniences and to decrease the effort required to perform information searching (Holdack, Lurie-Stoyanov, & Fromme, 2020). Hong and Slevitch (2018) acknowledged that PEOU is significantly related to INT as they found that if the innovation technology have no difficulty and less effort to use it, users will have the INT. Hence, this study posited that:

H2: There is a relationship between perceived ease of use and intention to use self-ordering kiosk in restaurant.

2.4.3 Relationship between perceived enjoyment (PE) and intention to use self-ordering kiosk in restaurant

Theoretically, extrinsic motivations like enjoyment, fun, and pleasure, has similar concept with hedonic motivation, which these motivations can be obtained from using technology innovation, systems, and application; hence, feelings like enjoyment and pleasure are linked with consumer's intention to use a technology (Alalwan, 2020). Yeo, Goh, and Rezaei (2017), innovative technology tends to be creative, which it will lead to users' enjoyment and pleasure toward usage of technology. Thus, enjoyment affect the intention to use toward technology and system.

Shiau and Luo (2013) also found that playfulness and enjoyment will lead to high satisfaction from users toward a technology, but it will also directly impact the INT. It has shown that if the individual is enjoying while using the technology, it will not only lead to high satisfaction towards the technology, but it also can significantly affect the user to use the technology. Therefore, this study posited that:

H3: There is a relationship between perceived enjoyment and intention to use self-ordering kiosk in restaurant.

2.4.4 Relationship between trust and intention to use self-ordering kiosk in restaurant

Research from Alsajjan and Denis (2010) found that trust has impact on consumers' intention to perform in behaviour. There is a link between trust and behavioural intention as the user who are trust in technology service providers will have a positive attitude toward the technology service providers which the user will have the intention to use (Agag, & El-Masry, 2016).

Every transaction occurred between consumers and service providers required trust which this will influence the behavioural intention and performance of a technology is important to gain trust from the consumers (Jiang & Lau, 2021). Singh and Sinha (2020) acknowledged that trust is crucial in technology adoption because trust can boost an individual's satisfactory behaviour and it can improve consumer relationship, credibility, and perceived security system, which these will directly influence an individual's intention to use a technology. Thus, this study posited that:

H4: There is a relationship between trust and intention to use self-ordering kiosk in restaurant.

2.5 Conclusion

Researcher has discussed the underlying theory that used in this study which is technology acceptance (TAM) in chapter 2. After that, researcher have listed the variables that included for this research, which the dependent variable is intention to use (INT), coupled with the independent, which are perceived usefulness (PU), perceived ease of use (PEOU), perceived enjoyment (PE), and trust (TR). Besides, researcher has also proposed the conceptual framework which it has shown in figure 2.1. After that, researcher has given and justified with proper explanations for the hypotheses that developed and all the hypotheses that developed in this study have relationship.

For the next chapter, researcher intent to discuss the research methodology and the ways that researcher conducted to measure and study the data in this research.

CHAPTER 3: METHODOLOGY

3.0 Introduction

Research methodology being applied will be covered in this chapter of this study, which will include the research design, primary and secondary data, research collection methods. Subsequently, sampling design, research instruments, constructs measurement, data processing, and analysis on the data collection will be included.

3.1 Research Design

Research design acts as a "blueprint" for the research by posing four key questions to researcher which are what questions to investigate, what data is required, how data is acquired, and how the result are analysed (Durrheim, 2006). Also, the objective of research design is to guide the researchers in terms of collection, analysis, and interpretation of data.

3.1.1 Descriptive Study

Zikmund, Babin, Carr and Griffin (2012) described that descriptive research is the description of different aspects in terms of objects, groups, organisation, places, and people, which it made up of the four "W" (who, where, when, and what).

Descriptive study is applied for this study by defining and interpreting the background and characteristics of self-ordering kiosk in restaurant and intention to use. Furthermore, justification of independent variables which are the perceived usefulness, perceived ease of use, perceived enjoyment, and trust have been included. Descriptive study aids

in a better comprehension of the research, basic idea on the components underneath, and highlighting the objective of researcher.

3.1.2 Causal Research

Causal research is defined by Zikmund et al. (2012) as the discovery and explanation of cause-and-effect relationship. In this study, researcher want to learn how and why the dependent variable, intention to use self-ordering kiosk in restaurant, is influenced by several factors.

3.1.3 Quantitative Research

Quantitative research use data, numerical measurement, and analysis to get the outcomes that required to measure the concept and address the researcher's goal (Goertzen, 2017).

In this research, researcher distributed the questionnaires for respondents to measure on how intention to use is influenced by the independent variables which are the perceived usefulness, perceived ease of use, perceived enjoyment, and trust. Also, researcher can readily evaluate the degree of influence of each factors using Likert scale.

3.2 Data Collection Methods

Collection of data is necessary in the research's outcomes while performing analysis as the data that collected enable researcher to understand and find out the information more descriptively (Alam, 2020). It is important for researcher to acquire reliable information and data to ensure accurate outcomes and results.

In this study, there will be two types of data are collected, namely primary and secondary data which it has interpreted as below:

3.2.1 Primary Data

Primary data is described as original data that directly derived by researchers through surveys, interviews, questionnaire, experiments, and field observations depending on the nature of research to obtain the results that required and to perform analysation (Salkind, 2010).

Primary data is obtained through distribution of questionnaire in online by using Google Forms in social media for this research.

3.2.2 Secondary Data

Secondary data described as data that composed or published by researchers or scholars before which it can be accessed through several sources like government agencies, researcher-contributed databases, printed material, and online. Nevertheless, secondary data can be applied by researcher as supporting information or explanatory functions and it is time-saving and cost-effective.

Secondary data is applied throughout this research study as part of explanatory information because it can reinforce and support the findings in time and cost-effective way.

3.3 Sampling Design

Sample is described as a subset or portion of a larger population; therefore, when the term "sampling" is applied, it refers to a method of making conclusions based on the precise measures taken in a survey of a subset of the population (Zikmund et al., 2012). In this research, the samples are Malaysians who have knowledge on self-ordering kiosk in restaurant.

3.3.1 Target Population

Selecting the main features that define a population is one way for determining the target population; hence, the target population must be conscientiously determined to guarantee accurate and reliable data is gathered from the relevant sources (Zikmund et al., 2012).

In this research, male and females ranging from the age of 19 and below to 50 and above are selected as the target population. The age group of 20 to 29 will be element group in this research as according to Persada, Miraja, and Nadlifation (2019), people in this age group the best knowledge toward technology innovation because they are categorized as the digital native's generation, and they are capable enough to use it.

3.3.2 Sampling Frame and Sampling Location

To describe sampling frame, it is a set of elements from a specific sample that can be drawn (Taherdoost, 2016). These elements will be critical in supporting the numerous analyses that will be conducted in the research study's subsequent part; however, due to non-probability sampling method is chosen for this research study, there will be no sampling frame. Also, this research study focuses on individuals who are qualified in terms of knowledge and capability toward self-ordering kiosk in restaurant; therefore, two screening questions have set for respondents to answer before

they answer the later parts of the survey which the respondents required to stop if they fail to fulfil any of the screening questions' requirement.

Besides, no precise or planned sample location has been chosen for this survey for this research. Through application of convenience sampling method, the set of survey was distributed to 320 respondents. This method is chosen because it is convenient, and respondents can be obtained easily to response the survey. Of 320 sets of questionnaires allocated, 6 sets of questionnaires have been rejected because the respondents have failed to fulfil the screening questions' requirement; hence, only 314 sets of questionnaires were chosen to use in this research project.

3.3.3 Sampling Elements

The sampling element is a single unit that is nominated from a certain population and is chosen for analysis in research (Zikmund et al., 2012). The sampling elements of this study is the individual who have knowledge and capability toward self-ordering kiosk in restaurant.

3.3.4 Sampling Technique

Zikmund et al. (2012) explained that the sampling technique can be split into two primary techniques, namely probability techniques and non-probability techniques, which both techniques can further divide into various types that come within the two primary categories.

Thus, for this research study, researcher will use non-probability sampling technique as there are no utilisation of database or applicable statistical techniques. Also, the convenience sampling method, which it falls under non-probability sampling technique, is being applied in this study because it is easily accessible and allows for the collection of a large number of respondents with economical approach.

3.3.5 Sampling Size

In order to avoid concerns like sampling error or biases, sample size must be appropriate (Taherdoost, 2016). Additionally, most quantitative studies need a minimum of 30 respondents and a maximum of 500 respondents to be practical.

In this research study, the sample size is 320 respondents who have knowledge and capability toward self-ordering kiosk in restaurant.

3.4 Research Instrument

A self-administered survey is one in which the respondent reads the questions and fills out the survey questionnaires on their own, without the assistance of an interviewer (Lavrakas, 2008). A self-administered survey was used as the research instrument in this study.

Based on the literature reviewed, the questionnaire was designed, which it used to study the relationship between of the independent variables which are the PU, PEOU, PE, and TR, and intention of using self-ordering kiosk in restaurant.

3.4.1 Questionnaire Design

Generally, the questionnaires are used to aid researcher to perform analysis of the research. The questionnaire of this study is presented in English language, and it encompasses three primary sections, namely Section A, Section B, and Section C.

In Section A, two screening questions involved which it serves the purpose of defining whether the respondents are qualified to take part in this research so that researcher can ensure all the information retrieved are reliable and relevant toward the research objectives.

In Section B, it involved questions that related to respondent's background information like gender, age, education level, working experience, monthly income, and the frequency of respondents visit restaurant.

The last part of the questionnaire is Section C. It involved the independent variables, namely perceived usefulness, perceived ease of use, perceived enjoyment, and trust, which are the factors influencing of intention to use self-ordering kiosk in restaurant. Nevertheless, this section is designed in five-point Likert scale.

3.4.2 Pilot Testing

Zikmund et al. (2012) explained that the term "pilot test" is referred to the running of research with small-scale by compiling data from small number of respondents who have similar characteristics that can be utilised in the research. Pilot test allows researcher to discover the potential practical issues that arise while respondents answering the questionnaire so that rectification can be done to improve the quality and accuracy of the survey questionnaire (Van Teijlingen & Hundley, 2001). Furthermore, the data that obtained from pilot testing will be processed using Statistical Package for Social Science (SPSS) version 26.0 to test the reliability of all variables before performing the actual study.

In this research project, pilot test is conducted by distributing 30 copies of pilot test sample respondent. This was conducted to aid improve the quality of questions in terms of reliability and accuracy with individuals who have knowledge and capability toward self-ordering kiosk in restaurant. Also, the reliability of all variables for pilot testing in this study are reliable and consistent and the result is computed as in Table 3.1 below:

Table 3.1: Cronbach's Coefficient Alpha of Pilot Test.

Variable	Cronbach's Coefficient Alpha (α)	No. of Items
Perceived Usefulness (PU)	0.895	5
Perceived Ease of Use (PEOU)	0.938	6
Perceived Enjoyment (PE)	0.920	4
Trust (TR)	0.898	4
Intention to Use (INT)	0.910	4

Source: Developed for the Research.

3.5 Construct Measurement

3.5.1 Scale of Measurement

Generally, by making the data and information that collected in research easier to understand, quantitative variables are frequently measured using multiple type of scale measurements, namely nominal, ordinal, ratio, and interval.

Nominal scale, which is also known as categorical scale, can aids researcher to allocate the respondents to groups or categories (Brown, 2011). In this research, nominal scale will be utilised in questionnaire. For instance, the general questions in Section A, and questions like gender and frequency of visiting restaurant in Section B.

Ordinal scale serves the purpose of determining the degrees of agreement among ordinal-ranked groups during data collection and analysis, and it is typically administered using the Likert scale (Tastle & Wierman, 2006). Thus, ordinal scale is utilised in questionnaire for Section C by using Likert scale ranged from "(1) Strongly Disagree" to "(5) Strongly Agree" to measure respondent's perspective towards variables like PU, PEOU, PE, TR, and INT. The summary of Likert scale that was administered to examine variables in this study was depicted as Table 3.2 below. Nevertheless, ordinal scale also utilised in Section B like current age, education level, working experience, and individual monthly income in questionnaire.

Table 3.2: The Summarisation of Liked Scale Administered to Measure Variables.

Variables	**Likert scale**
Dependent variable: Intention to use	1 – Strongly disagree 2 – Disagree 3 – Neither Agree nor Disagree 4 – Agree 5 – Strongly Agree
Independent variables: Perceived usefulness (PU) Perceived ease of use (PEOU) Perceived enjoyment (PE) Trust (TR)	

Source: Developed for the Research.

3.5.2 Origin of Constructs

Researcher adopted the existing survey instruments from multiple published literatures in this study, and the origin of the constructs depicted as in Table 3.3 below:

Table 3.3: Origin of Constructs.

Constructs	**No. of Items**	**Items**	**Sources**
Perceived Usefulness	5	1. Using self-ordering kiosk in restaurants improves my performance in searching and purchasing food. 2. Self-ordering kiosk enables me to search and by food faster. 3. Self-ordering kiosk in restaurants enhance my effectiveness in searching and purchasing food. 4. Self-ordering kiosk in restaurants makes it easier to search and purchase food. 5. Self-ordering kiosk in restaurants increase my productivity in searching and purchasing food.	Gefen & Straub (2000)
Perceived Ease of Use	6	1. Self-ordering kiosk in restaurants is easy-to-use. 2. It is easy to become skillful in using self-ordering kiosk. 3. Learning to operate self-ordering kiosk is easy. 4. Self-ordering kiosk in restaurants is flexible to interact with. 5. My interaction with self-ordering kiosk is clear and understandable. 6. It is easy to interact with self-ordering kiosk.	Gefen & Straub (2000)

Perceived Enjoyment	4	1. Using self-ordering kiosk is enjoyable. 2. Using self-ordering kiosk is pleasant. 3. Using self-ordering kiosk is fun. 4. Using self-ordering kiosk is entertaining.	Revels, Tojib & Tsarenko (2010)
Trust	4	1. I trust self-ordering kiosk is safe and has reliable features. 2. I trust self-ordering kiosk and transaction done by self-ordering kiosk. 3. I trust self-ordering kiosk keeps me and my customer financial information secure. 4. I trust self-ordering kiosk keeps me and my customer personal information safe.	Singh & Sinha (2020)
Intention to Reuse	4	1. I intend to increase my use of self-order kiosk in restaurants in the future. 2. I intend to use the self-order kiosk in restaurants in the future. 3. I will always try to use self-order kiosk in restaurants. 4. I plan to use self-order kiosk in restaurants frequently.	Singh & Sinha (2020)

Source: Developed for the Research.

3.6 Data Processing

Following the collection of all questionnaires, the data preparation procedure is executed by organising and converting information into data. Process of questionnaire checking, data editing, data coding, data transcribing, and data cleaning is included as they serve the purpose of minimizing mistakes.

3.6.1 Questionnaire Checking

To do questionnaire verification, the first phase is questionnaire checking, and it entails a review of all questions in the questionnaire to ensure that the questionnaire quality and interviewing quality is satisfactory. Thus, a pilot test and questionnaires checking process were undertaken for this research to detect any early-stage error so that all the errors are remedied before the real survey is executed.

3.6.2 Data Editing

Hussain (2020) explained that data editing process enables researcher to discover errors and amendments will be done in this process to guarantee the accuracy and consistency of the data. In this research, data editing was conducted by checking and adjusting data, and any irrelevant or incomplete responses in the survey will be rejected to ensure the accuracy of the data.

3.6.3 Data Coding

Coding is the process of giving numerals or other symbol to the data so that it can be entered into a database (Hussain, 2020). In this study, each conceivable responses has been assigned code and all the data that

accurately coded has ease researcher to convert data from questionnaires to computer which it improve the accuracy of the answers.

3.6.4 Data Transcribing

Generally, during data transcribing, researcher converts data code from the questionnaire or coding sheets into computer. In this research, all the data obtained is transferred into research software called Statistical Package for Social Science (SPSS) version 26.0 to perform data analysis later.

3.6.5 Data Cleaning

According to Mountain and Macfarlan (2014), data cleaning involves procedure of detecting errors like inconsistent and illogical data, then, correct or eliminate it. In this study, the data that are out of range or inadmissible has been eliminated.

3.7 Data Analysis

3.7.1 Statistical Package for the Social Science (SPSS)

In this study, Statistical Package for Social Science (SPSS) version 26.0 is utilised to analyse the quantitative data that obtained from survey. SPSS performs the statistical test, data processing and other tasks to transform the raw data format into results that necessitated by researcher to perform analysis, further illustration, also to construct tables and graphs, as well as have full access to data.

3.7.2 Descriptive Analysis

Descriptive analysis is the type of analysis data summarise and describe the foundational characteristics of the data like central tendency, distribution, and variability (Zikmund et al., 2012). In general, it used to depict data in systematic and manageable form.

In this research, researcher investigated factors influencing intention to use self-ordering kiosk in restaurant, then, the data that obtained was described, summarised, and depicted by applying descriptive analysis presenting the values' distribution through central tendency measurement, dispersion measurement, and distribution's shapes. Nevertheless, performing descriptive analysis aid researcher in enhancing explanations and illustration on figure and data that obtained.

3.7.3 Reliability Test

Zikmund et al. (2013) explained that a good measurement is evaluated using three criteria, namely validity, sensitivity, and reliability, where validity refers to a measurement's ability to accurately reflect a concept by researchers, sensitivity refers to the ability of a measurement to respond in quick manner to any changes, and reliability measures the internal consistency on whether testing something several times yield to the same result.

In this research, variables like PU, PEOU, PE, and TR has been measured to identify which contribute to intention to use self-ordering kiosk in restaurant.

Cronbach's Coefficient Alpha was applied in this study which it serves as a tool to test the reliability and measure internal consistency as there is a sum of twenty-three questions regard the variables are being asked. Additionally, a minimum Cronbach's Coefficient Alpha value of 0.7 is

required to ensure the measurement is reliable. The range of the value for Cronbach's Coefficient Alpha is depicted as in Table 3.4 below:

Table 3.4: Range of Cronbach's Coefficient Alpha Value.

Cronbach Coefficient Alpha (α)	Indication
α value <0.60	Poor reliability
α value between 0.61 and 0.70	Fair reliability
α value between 0.71 and 0.80	Good reliability
α value between 0.81 and 0.95	Very good reliability

Source: Zikmund et al. (2010).

3.7.4 Inferential Analysis

The inferential statistic compares the treatment groups from the sample of subjects in the experiment and draw generalisation about the larger population of subjects (Kumar, 2010). In this research, researcher study the factors that influence intention to use self-ordering kiosk in restaurant on a sample of Malaysians and used the statistic obtained to represent the population.

3.7.5 Multiple Regression Analysis

Uyanık and Güler (2013) explained that multiple regression analysis is a technique that serves the purpose of determining the correlation between two or more variables that have cause-effect relationship and making

predictions based on the results that obtained after calculation. Additionally, in multiple regression coefficient, the numbers 0 and +1 depicts the strength of the link between the dependent variable and independent variables, with 0 indicating that the independent variable has no effect on the dependent variable's variation, and +1 indicating that the independent variable cam statistically explain all the variation of dependent variable (Saunders, Lewis & Thornhill, 2009).

Thus, multiple regression analysis technique was chosen because there are four independent variables, and one independent variable in this study. Also, according to Zikmund et al. (2013), in the general equation of multiple regression, **Y** indicates dependent variables, **β0** is the constant variable, **β1** to **βn** is the slope coefficient associated with each independent variables, coupled with **X1** to **Xn** as the independent variable are as depicted below:

Figure 3.1: Equation of Multiple Regression.

$$Y = \beta 0 + \beta 1X1 + \beta 2X2 + \beta 3X3 + \ldots\ldots + \beta nXn$$

Source: Zikmund et al. (2013).

R-squared value will be examined in multiple regression as well, which it is the proportion of variance in the dependent variable that can be explained by the independent variables (Moore, Notz, & Flinger, 2013). The range of R-squared value that used to determine strength of a relationship are depicted as in table 3.5 below:

Table 3.5: Range of R-squared Value.

R-squared Value (R^2)	**Indication**
R^2 value < 0.30	None or very weak effect size
R^2 value between 0.31 to 0.50	Weak effect size
R^2 value between 0.51 to 0.70	Moderate effect size
R^2 value > 0.70	Strong effect size

Source: Moore et al. (2013).

Nevertheless, multicollinearity analysis also will be computed under multiple regression analysis which it serves the purpose of determining how strongly these independent variables in a model is correlated by computing the variance inflation factors (VIF) and 5.0 will be the cut-off point; hence, if the VIF is greater than 5.0, it indicates that there is a problem with multicollinearity (Saunders, Lewis, & Thornhill, 2012). Also, it only applicable with the conditions of two or more independent variables are highly correlated with dependent variable in a regression model.

3.8 Conclusion

To sum up, Chapter 3 encompasses of methodology with explanations of this study. This chapter completed with explanations of research design and studies that has utilised for this research, methods of data collection, and sampling designs. Also, research instrument and construct measurement have explained as well. Besides, the procedure included during data processing have listed out with explanations. Lastly, the techniques or methods that utilised in this research for data analysis have elaborated thoroughly.

The next chapter is the data analysis, which it mainly discusses about the results that obtained after the completion of data analysis and calculation by using SPSS.

CHAPTER 4: DATA ANALYSIS

4.0 Introduction

The research project's outcomes will be discussed in Chapter 4, which it based on the data analysis that performed with utilisation of Statistical Package for Social Science (SPSS) version 26.0. Three parts of analysis will be covered in this chapter, which in the beginning, descriptive analysis will be discussed which it focused on the targeted respondents' demographic profile coupled with the central tendency, following by a scale measurement for the actual survey with the utilisation of Cronbach's Coefficient Alpha reliability test will be shown, and subsequently, inferential statistics test like multiple regression of the constructs will be explained.

4.1 Survey Distribution and Return Rate

With application of convenience sampling technique, the survey questionnaires are allocated randomly. The sum of 320 sets of questionnaires allocated to the respondents; however, there are 6 sets of questionnaires have been rejected as 6 of these respondents failed to fulfil the requirement in screening questions which they did not use a self-ordering kiosk before. Therefore, only the 314 sets of questionnaires are accepted and utilised for this study.

4.2 Descriptive Analysis

Descriptive analysis will used to summarise all raw data that obtained from 314 sets of questionnaires that allocated to respondents into graphs, charts, or table with the purpose of interpreting and presenting the result in understandable way. Nevertheless, the Section B of the questionnaire, which is demographic profile of respondents will be summarised.

4.2.1 Respondents' Demographic Profile

In the survey questionnaires, there are six questions that represent the respondents' background.

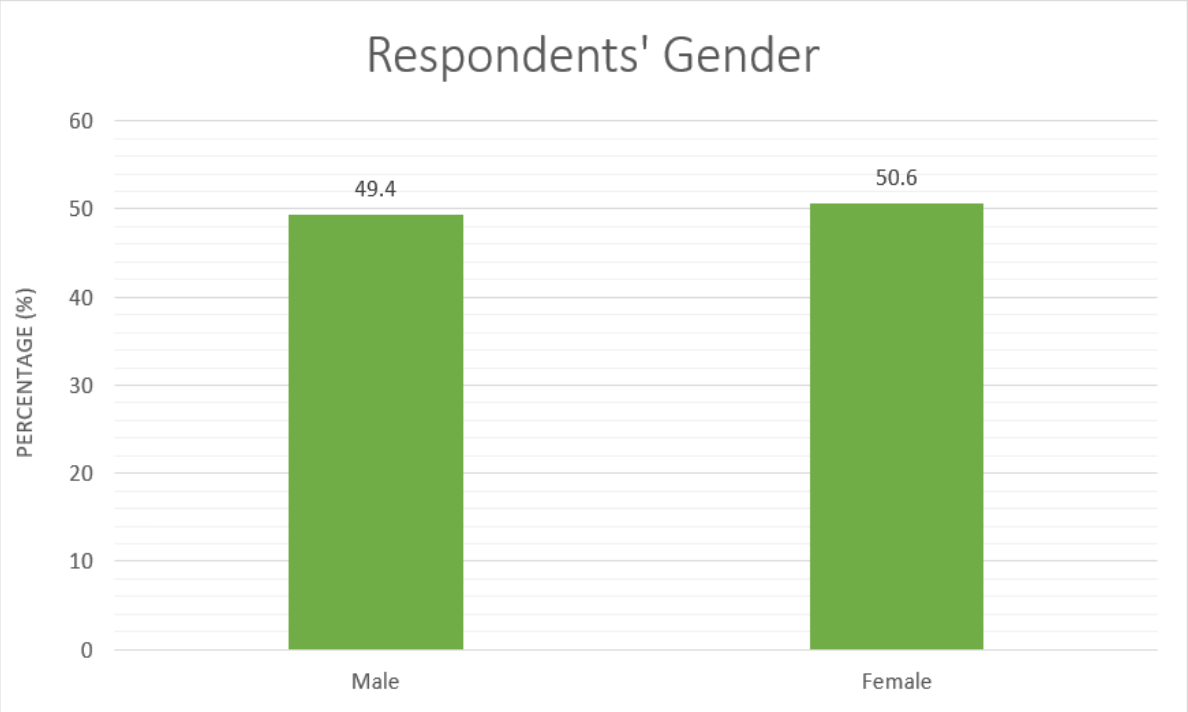
4.2.1.1 Gender

Table 4.1: Respondents' Gender.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	155	49.4	49.4	49.4
	Female	159	50.6	50.6	100.0
	Total	314	100.0	100.0	

Source: Developed for the Research.

Figure 4.1: Respondents' Gender.



Source: Developed for the Research.

Based on questionnaires that have collected, there are sum of 314 respondents, which male equivalent to 155 (49.4%) and female equivalent to 159 (50.6%) of the respondents as the bar chart that depicted in figure 4.1 above.

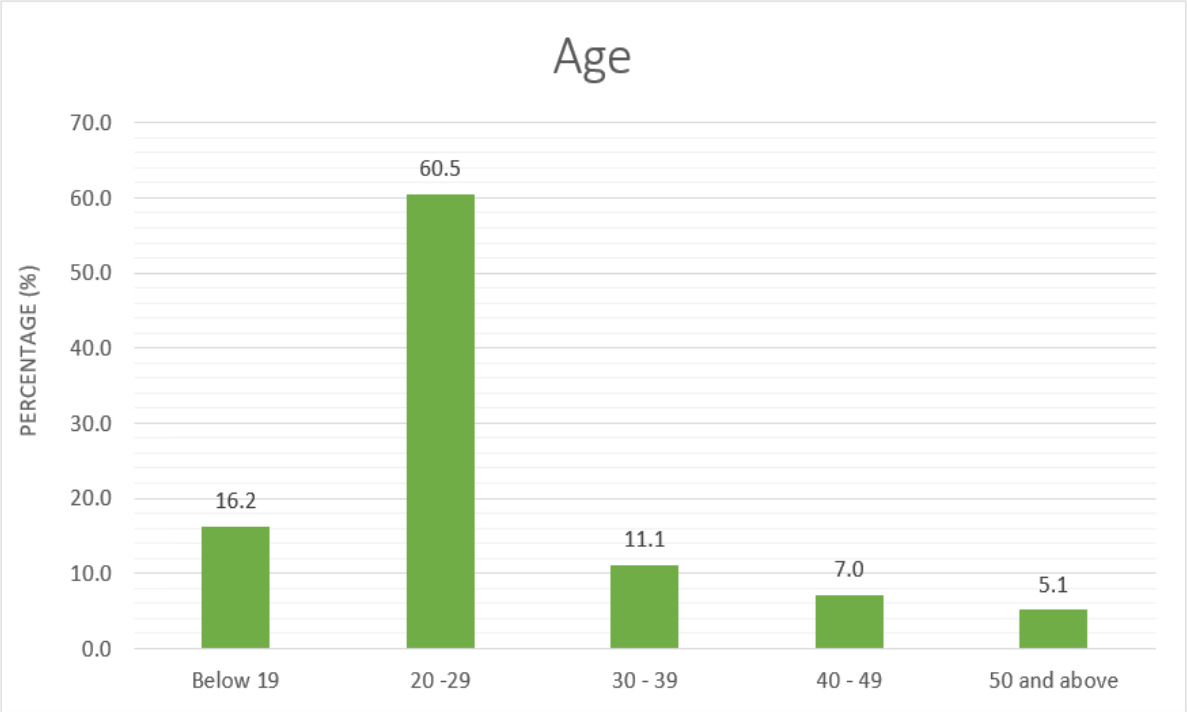
4.2.1.2 Age

Table 4.2: Respondents' Age.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below 19	51	16.2	16.2	16.2
	20 – 29	190	60.5	60.5	76.8
	30 – 39	35	11.1	11.1	87.9
	40 – 49	22	7.0	7.0	94.9
	50 and above	16	5.1	5.1	100.0
	Total	314	100.0	100.0	

Source: Developed for the Research.

Figure 4.2: Respondents' Age.



Source: Developed for the Research.

Table 4.2 and figure 4.2 above has shown that majority of respondents are from 20 to 29 years old which it constitutes of 190 (60.5%), following by respondents who are below 19 years old is 51 (16.2%) people, 30 to 39 years old is 35 (11.1%) people, 40 to 49 years old is 22 (7.0%) people, while the respondents who are 50 and above only constitute of 16 (5.1%).

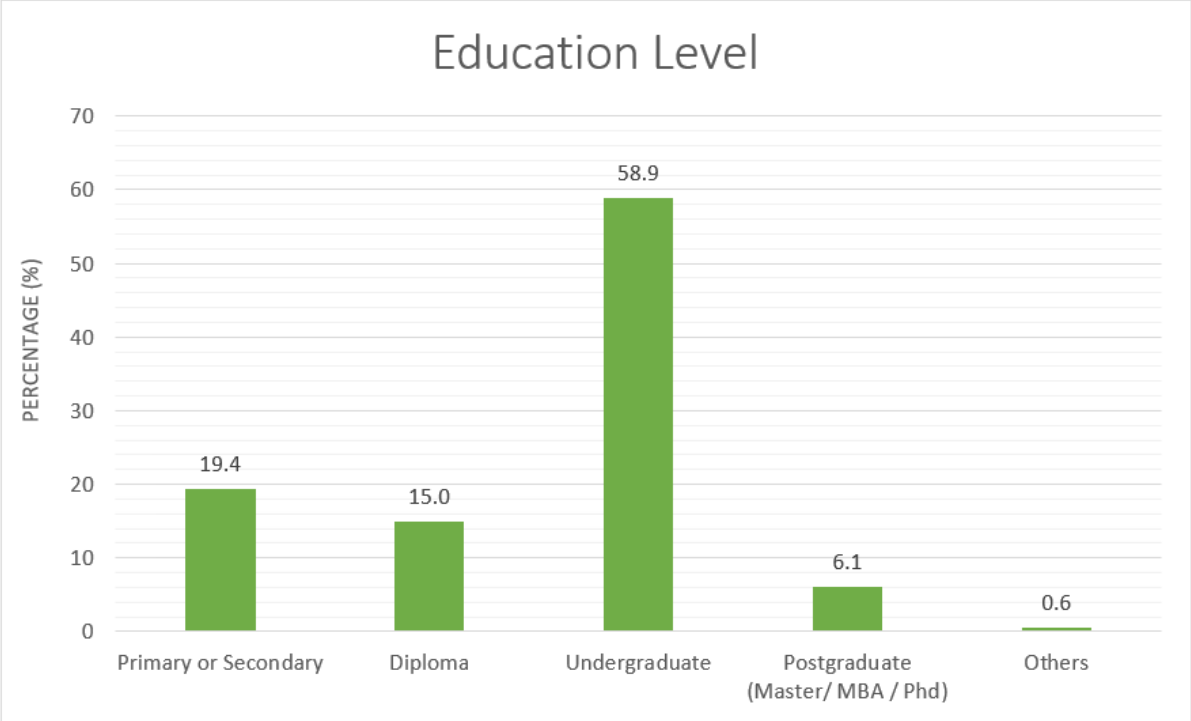
4.2.1.3 Education Level

Table 4.3: Respondents' Education Level.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Primary or Secondary	61	19.4	19.4	19.4
	Diploma	47	15.0	15.0	34.4
	Undergraduate	185	58.9	58.9	93.3
	Postgraduate (Master, MBA, Phd)	19	6.1	6.1	99.4
	Others	2	0.6	0.6	100.0
	Total	314	100.0	100.0	

Source: Developed for the Research.

Figure 4.3: Respondent's Education Level.



Source: Developed for the Research.

According to the table 4.3 and figure 4.3 above, it has shown that majority of the respondents are undergraduate which it equivalents to 185 (58.9%), following by the respondents who are primary or secondary is equivalent to 61 (19.4%), diploma is 47 (15.0%) people, postgraduate is 19 (6.1%) people, while others only constitute a negligible amount which is 2 (0.6%).

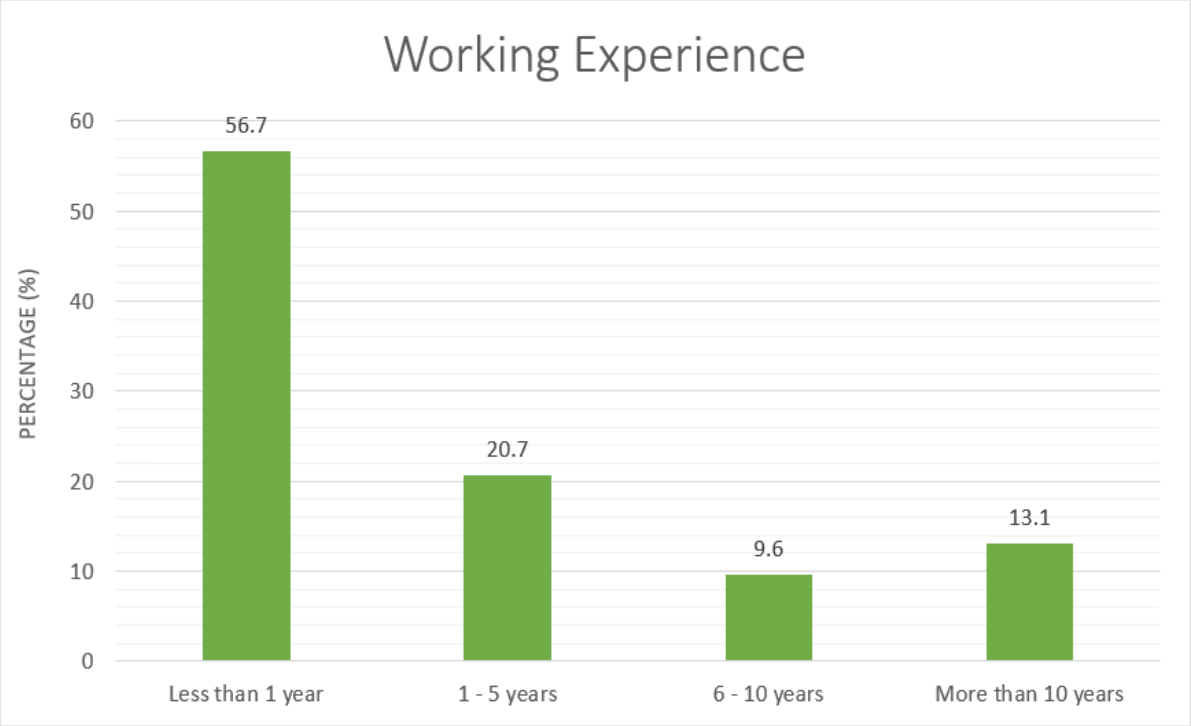
4.2.1.4 Working Experience

Table 4.4: Respondent's Working Experience.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 1 year	178	56.7	56.7	56.7
	1 – 5 years	65	20.7	20.7	77.4
	6 – 10 years	30	9.6	9.6	87
	More than 10 years	41	13.1	13.1	100.0
	Total	314	100.0	100.0	

Source: Developed for the Research.

Figure 4.4: Respondent's Working Experience.



Source: Developed for the Research.

Table 4.4 and figure 4.4 above has depicted that most of the respondents' working experience are less than 1 year which it constitutes 178 (56.7%). The respondents who have 1 to 5 years respondents equivalent to 65 (20.7%) people, 6 to 10 years is 30 (9.6%) people, and lastly, respondents who have more than 10 years working experience is equivalent to 41 (13.1%) people.

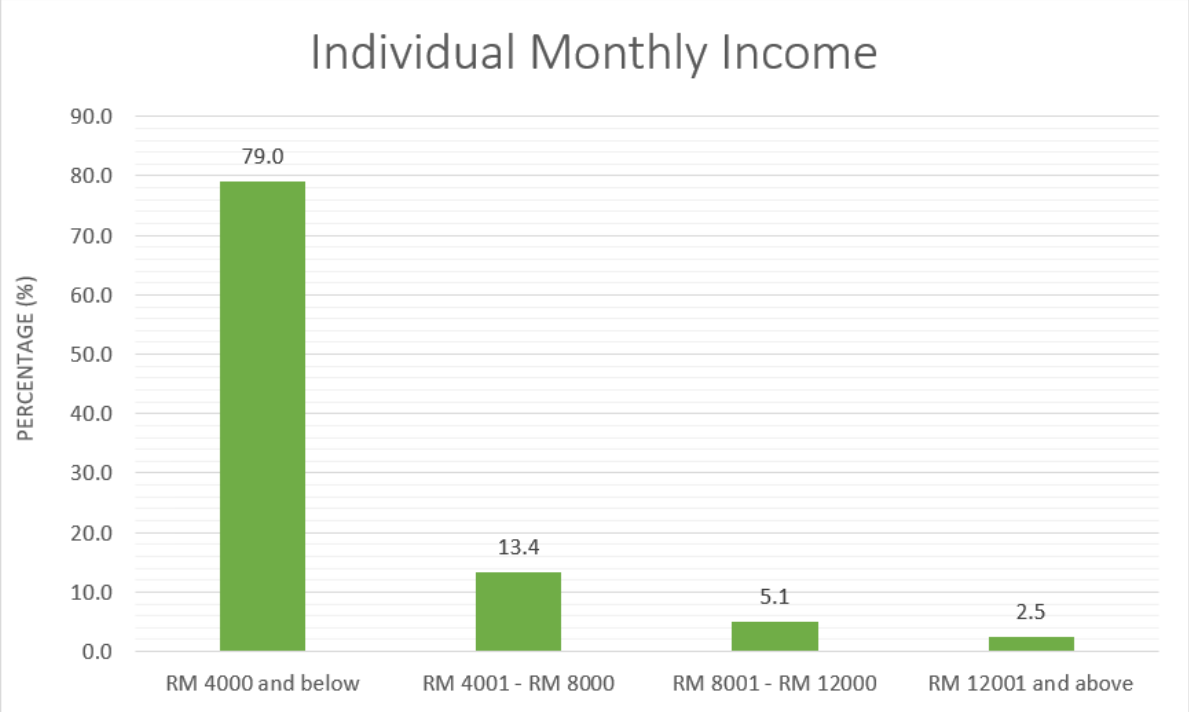
4.2.1.5 Individual Monthly Income

Table 4.5: Respondent's Individual Monthly Income.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	RM 4000 and below	248	79.0	79.0	79.0
	RM 4001 – RM 8000	42	13.4	13.4	92.4
	RM 8001 – RM 12000	16	5.1	5.1	97.5
	RM 12001 and above	8	2.5	2.5	100.0
	Total	314	100.0	100.0	

Source: Developed for the Research.

Figure 4.5: Respondent's Individual Monthly Income.



Source: Developed for the Research.

According to table 4.5 and figure 4.5 above, it has depicted that majority of the respondents' individual monthly income are RM 4000 and below which it equivalents to 248 (79.0%). Besides, the respondents' individual monthly income who are RM 4001 to RM 8000 is 42 (13.4%). RM 8000 to RM 12000 is 16 (5.1%) people, and lastly, respondents who have RM 12001 and above individual monthly are the lowest which it contributes 8 (2.5%).

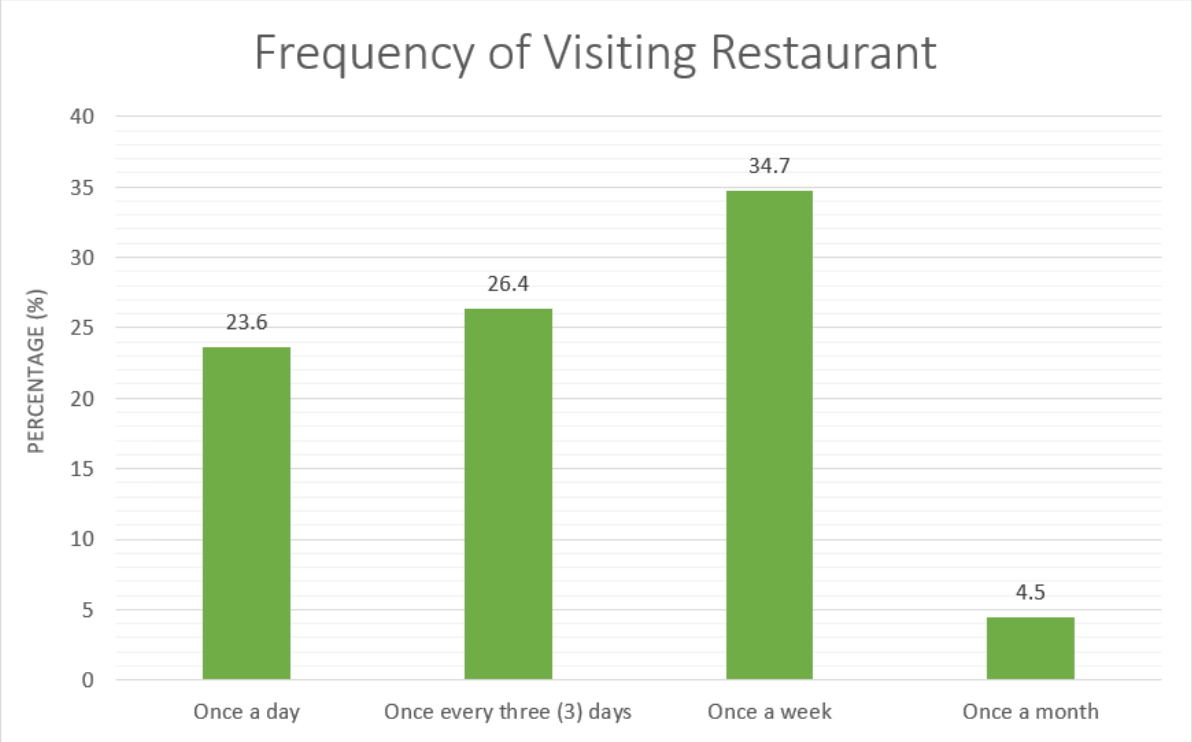
4.2.1.6 Frequency of Visiting Restaurant

Table 4.6: Respondent's Frequency of Visiting Restaurant.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Once a day	74	23.6	23.6	23.6
	Once every three (3) days	83	26.4	26.4	50.0
	Once a week	109	34.7	34.7	84.7
	Once a month	48	15.3	15.3	100.0
	Total	314	100.0	100.0	

Source: Developed for the Research.

Figure 4.6: Respondent's Frequency of Visiting Restaurant.



Source: Developed for the Research.

Based on the table 4.6 and figure 4.6 above, it has shown that the frequency that respondents contribute the most is once a week which it constitutes 109 (34.7%), following by once every three days which it equivalents to 83 (26.4%) people, once a day equivalents to 74 (23.6%), while the least is once a month which it only constitutes 48 (4.5%).

4.2.2 Central Tendencies of Constructs

4.2.2.1 Intention to Use (INT)

Table 4.7: Central Tendencies Measurement for INT.

Statement	SD	D	N	A	SA	Mean	Standard Deviation	Ranking
I intend to increase my use of self-ordering kiosk in restaurants in the future.	0.6	2.9	10.8	38.5	47.1	4.29	0.819	2
I intend to use the self-ordering kiosk in restaurants in the future.	1.0	1.0	10.2	39.2	48.7	4.34	0.775	1
I will always try to use self-ordering kiosk in restaurants.	0.6	1.9	12.1	38.5	46.8	4.29	0.801	2
I plan to use self-ordering kiosk in restaurants frequently.	0.0	2.5	15.3	36.0	46.2	4.26	0.808	4

Source: Developed for the Research.

SD = Strongly Disagree
D = Disagree
N = Neutral
A = Agree
SA = Strongly Agree

Based on table 4.7, 'I intend use the self-ordering kiosk in restaurants in the future' scored 4.34 for mean, which it is the highest mean. The statement 'I intend to increase my use of self-ordering kiosk in restaurants in the future' and 'I will always try to use self-ordering kiosk in restaurants' shared the same value of mean with 4.29. The statement 'I plan to use self-ordering kiosk in restaurants frequently' has scored the lowest mean which is 4.26. Overall, majority of respondents are strongly agreed for statements above.

4.2.2.2 Perceived Usefulness (PU)

Table 4.8: Central Tendencies Measurement for PU.

Statement	SD	D	N	A	SA	Mean	Standard Deviation	Ranking
Using self-ordering kiosk in restaurants improves my performance in searching and purchasing food.	0.0	1.0	11.5	46.8	40.8	4.27	0.698	2
Self-ordering kiosk enables me to search and buy food faster.	0.0	2.9	12.7	43.0	41.4	4.23	0.778	4
Self-ordering kiosk in restaurants enhance my effectiveness in searching and purchasing food.	0.0	1.9	13.4	41.1	43.6	4.26	0.761	3
Self-ordering kiosk in restaurants makes it easier to search and purchase food.	0.3	2.9	10.5	41.1	45.2	4.28	0.790	1
Self-ordering kiosk in restaurants increase my productivity in searching and purchasing food.	0.3	1.9	13.7	45.2	38.9	4.20	0.769	5

Source: Developed for the Research.

SD = Strongly Disagree
D = Disagree
N = Neutral
A = Agree
SA = Strongly Agree

Based on table 4.8 above, statement 'Self-ordering kiosk in restaurants makes it easier to search and purchase food' has ranked 1 with the mean of 4.28, and the statement 'Self-ordering kiosk in restaurants increase my productivity in searching and purchasing food' has ranked lowest with the

mean of 4.20. Based on analysis above, only minority of respondents strongly disagree and disagree the statements above.

4.2.2.3 Perceived Ease of Use (PEOU)

Table 4.9: Central Tendencies Measurement for PEOU.

Statement	SD	D	N	A	SA	Mean	Standard Deviation	Ranking
Self-ordering kiosk in restaurants is easy-to-use.	0.0	2.9	14.0	36.6	46.5	4.27	0.806	3
It is easy to become skillful in using self-ordering kiosk.	0.3	2.9	12.7	40.1	43.9	4.25	0.808	4
Learning to operate self-ordering kiosk is easy.	0.0	2.2	12.7	36.3	48.7	4.32	0.779	1
Self-ordering kiosk in restaurants is flexible to interact with.	1.0	2.5	15.3	41.4	39.8	4.17	0.845	6
My interaction with self-ordering kiosk is clear and understandable.	0.3	2.2	13.7	39.8	43.9	4.25	0.797	4
It is easy to interact with self-ordering kiosk.	0.0	3.2	11.8	38.5	46.5	4.28	0.795	2

Source: Developed for the Research.

SD = Strongly Disagree
D = Disagree
N = Neutral
A = Agree
SA = Strongly Agree

In table 4.9, 'Learning to operate self-ordering kiosk is easy' is the statement that scored 4.32 for the mean, which ranked first, with 48.7% of respondents selected strongly agree. Besides, the statement 'It is easy to become skillful

in using self-ordering kiosk' and 'My interaction with self-ordering kiosk is clear and understandable' are ranked 4, as they share the same score of mean which is 4.25. The statement 'Self-ordering kiosk in restaurants is flexible to interact with' ranked lowest with the lowest score of mean, 4.17.

4.2.2.4 Perceived Enjoyment (PE)

Table 4.10: Central Tendencies Measurement for PE.

Statement	SD	D	N	A	SA	Mean	Standard Deviation	Ranking
Using self-ordering kiosk is enjoyable.	0.3	3.5	14.0	38.9	43.3	4.21	0.836	1
Using self-ordering kiosk is pleasant.	0.3	2.9	14.6	43.0	39.2	4.18	0.807	2
Using self-ordering kiosk is fun.	0.6	4.5	19.1	35.4	40.4	4.11	0.907	3
Using self-ordering kiosk is entertaining.	1.0	4.1	24.5	32.2	38.2	4.03	0.939	4

Source: Developed for the Research.

SD = Strongly Disagree
D = Disagree
N = Neutral
A = Agree
SA = Strongly Agree

Based on table 4.10, 'Using self-ordering kiosk is enjoyable' scored the highest mean, which is 4.21, ranked 1, with 43.3% of respondents strongly agreed for this statement. However, 'Using self-ordering kiosk is entertaining' scored the lowest mean, which is 4.03. ranked 4.

4.2.2.5 Trust (TR)

Table 4.11: Central Tendencies Measurement for TR.

Statement	SD	D	N	A	SA	Mean	Standard Deviation	Ranking
I trust self-ordering kiosk is safe and has reliable features.	0.0	1.6	13.1	40.1	45.2	4.29	0.751	2
I trust self-ordering kiosk and transaction done by self-ordering kiosk.	0.3	1.3	11.5	40.8	46.2	4.31	0.749	1
I trust self-ordering kiosk keeps me and my customer financial information secure.	0.6	5.1	19.1	38.5	36.6	4.05	0.905	4
I trust self-ordering kiosk keeps me and my customer personal information safe.	1.0	3.5	18.2	40.1	37.3	4.09	0.880	3

Source: Developed for the Research.

SD = Strongly Disagree
D = Disagree
N = Neutral
A = Agree
SA = Strongly Agree

According to table 4.11, the statement 'I trust self-ordering kiosk and transaction done by self-ordering kiosk' ranked 1 with the highest score of mean which is 4.31, following by the statement 'I trust self-ordering kiosk is safe and has reliable features' ranked 2 with 4.29 of mean value. Based on the analysis, majority of respondents are strongly agreed with these two statements. The statement 'I trust self-ordering kiosk keeps me and my customer financial information secure' has the lowest mean with 4.05.

4.3 Scale Measurement

For scale measurement of this study, Cronbach's Coefficient Alpha reliability test is utilised to calculate reliability and how consistent is the data that obtained to measure this study.

4.3.1 Reliability Test

Table 4.12: Reliability Statistics.

No.	Variables	Cronbach's Coefficient Alpha Value	Total Number of Items
1.	Perceived Usefulness (PU)	0.891	5
2.	Perceived Ease of Use (PEOU)	0.930	6
3.	Perceived Enjoyment (PE)	0.904	4
4.	Trust (TR)	0.874	4
5.	Intention to Use (INT)	0.918	4

Source: Developed for the Research.

According to the range of Cronbach's Coefficient Alpha value that adopted from Zikmund et al. (2010) as in table 3.4, Cronbach's Alpha value that

categorized poor reliability is scored lower than 0.6. If the Cronbach Alpha value is between 0.61 and 0.70 can be described as fair reliability, and between 0.71 and 0.80 can be described as good reliability. Subsequently, Cronbach's Alpha with very good reliability required to scored in between 0.81 and 0.95.

Based on table 4.12 above, the reliability statistics has presented the reliability of all variables which the dependent variable, INT has scored 0.918, following by the four independent variables include PU, PEOU, PE, and TR have scored 0.891, 0.930, 0.904, and 0.874 respectively; therefore, all the variables have categorized as very good reliability. Nevertheless, no items have dropped for all these variables.

4.4 Inferential Analysis

4.4.1 Multiple Regression

Table 4.13: Model Summary.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.813[a]	.661	.657	.42007

a. Predictors: (Constant), TR, PU, PE, PEOU

Source: Developed for the Research.

Based on table 4.13 above, 0.661 is the value of R Square (R^2), which it indicates 66.1% of the intention to use self-ordering kiosk in restaurant can be explained by PU, PEOU, PE, and TR; therefore, it has proved that intention to use self-ordering kiosk in restaurant will be influenced by PU, PEOU, PE, and TR although there is a moderate effect based on table 3.5 as the R^2 value is between 0.51 and 0.70.

Table 4.14: ANOVA.

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	106.520	4	26.630	150.916	.000[b]
	Residual	54.525	309	.176		
	Total	161.045	313			

a. Dependent Variable: INT

b. Predictors: (Constant), TR, PU, PE, PEOU

Source: Developed for the Research.

According to the ANOVA test that depicted in table 4.14, it has shown that the significant value is 0.000 which it is lower than 0.05 ($P < 0.05$). It also indicates that the four independent variables have significant contribution towards intention to use self-ordering kiosk in restaurant.

Table 4.15: Coefficients.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	.010	.180		.055	.956		
	PU	.405	.051	.358	7.978	.000	.544	1.839
	PEOU	.133	.048	.128	2.775	.006	.515	1.943
	PE	.240	.043	.257	5.614	.000	.522	1.914
	TR	.240	.046	.235	5.234	.000	.545	1.833

a. Dependent Variable: INT

Source: Developed for the Research.

From table 4.15 above, the outcome shows that all independent variables are significant toward the dependent variables. According to Glen (2016), the greater absolute value of the standardized coefficients beta implies the stronger of the effect. Therefore, based the result in table 4.15, it has depicted that PU scored 0.358 and it has the strongest effect towards intention to use self-ordering kiosk in restaurant, the dependent variable of this research, following by PE, TR, and PEOU which it scored 0.257, 0.235, and 0.128 respectively. Also, based on table 4.15, the regression model equation is formed as below:

$$Intention\ to\ Use\ Self-Ordering\ Kiosk\ in\ Restaurant\ (INT)$$
$$= 0.010 + 0.405\ (PU) + 0.133\ (PEOU) + 0.240\ (PE) + 0.240\ (TR)$$

Also, according to table 4.15 above, the VIF values for PU, PEOU, PE, and TR are 1.839, 1.943, 1.914, and 1.833 respectively, which all the VIF values for every independent variable is lower than 5.0; therefore, it has indicated that all the four independent variables have no multicollinearity problems.

4.4.2 Test of Significant

Hypothesis 1:

H_1: There is a relationship between perceived usefulness and intention to use self-ordering kiosk in restaurant.

Reject H_0 if $P < 0.05$

According to table 4.15, H_0 is rejected as the PU's P-value scored 0.000 which it is lower than 0.05; hence, it has concluded that there is a relationship between PU and intention to use self-ordering kiosk in restaurant.

Hypothesis 2:

H_1: There is a relationship between perceived ease of use and intention to use self-ordering kiosk in restaurant.

Reject H_0 if $P < 0.05$

According to table 4.15, H_0 is rejected as the PEOU's P-value scored 0.006 which it is lower than 0.05; hence, it has concluded that there is a relationship between PEOU and intention to use self-ordering kiosk in restaurant.

Hypothesis 3:

H_1: There is a relationship between perceived enjoyment and intention to use self-ordering kiosk in restaurant.

Reject H_0 if $P < 0.05$

According to table 4.15, H_0 is rejected as the PE's P-value scored 0.000 which it is lower than 0.05; hence, it has concluded that there is a relationship between PE and intention to use self-ordering kiosk in restaurant.

Hypothesis 4:

H_1: There is a relationship between trust and intention to use self-ordering kiosk in restaurant.

Reject H_0 if $P < 0.05$

According to table 4.15, H_0 is rejected as the TR's P-value scored 0.000 which it is lower than 0.05; hence, it has concluded that there is a relationship between TR and intention to use self-ordering kiosk in restaurant.

4.5 Conclusion

In chapter 4, the results that depicted are computed by fully utilising SPSS 26.0, which all the result have been presented and interpreted with explanations. To summarize, respondents' demographic profile and central tendencies for all variables have analysed in descriptive analysis, following by the reliability statistics which depicted in scale measurement, and ultimately, the multiple regression part that consists of model summary, ANOVA, and coefficients value, coupled with the test of significant towards the independent variables and dependent variables have discussed in inferential analysis.

In the next chapter, which is the final chapter of this research, researcher will be further discussing on the findings that obtained from Chapter 4, conclusion, implications, and research limitations.

CHAPTER 5: DISCUSSION, CONCLUSION, AND IMPLICATION

5.0 Introduction

Summarisation of the statistical analyses and the major findings of this study that computed from previous chapter will be further discussed in Chapter 5. Also, researcher will interpret regards the theoretical and practical implications, limitations of this study, and lastly, will provide recommendations that may overcome them.

5.1 Discussion of Major Findings

The major purpose of this research is to focus the relationship between perceived usefulness, perceived ease of use, perceived enjoyment, trust, and intention to use self-ordering kiosk in restaurants. Table 5.1 below shown the hypotheses testing outcomes' summarisation.

Table 5.1: Summary of the Result of Hypotheses Testing.

Hypotheses	Beta Value (β)	Significant Value (P)	Conclusion
H_1: There is a relationship between perceived usefulness and intention to use self-ordering kiosk in restaurant.	0.358	0.000	Supported
H_2: There is a relationship between perceived ease of use and intention to use self-ordering kiosk in restaurant.	0.128	0.006	Supported
H_3: There is a relationship between perceived enjoyment and intention to use self-ordering kiosk in restaurant.	0.257	0.000	Supported
H_4: There is a relationship between trust and intention to use self-ordering kiosk in restaurant.	0.235	0.000	Supported

Source: Developed for the Research.

5.1.1 Perceived Usefulness (PU)

H_1: There is a relationship between perceived usefulness and intention to use self-ordering kiosk in restaurant.

Based on the research outcome, it has found that H_1 is being supported which PU is significant toward intention to use self-ordering kiosk in restaurants. The result obtained in this study is alike with the result from the study of Tsai and Geetha (2019) and Boon-itt (2019). Singh and Sinha (2020) acknowledged that technology innovation such as kiosk can deliver conveniences and usefulness to users, which it can achieve satisfactory outcomes like convenient or faster, of payments process; hence, it can achieve better productivity in long-term so that it will affect users' intention to use. Indarsin and Ali (2017) also found that innovation of technology like kiosk allow users to improve the performance and effectiveness, which users will find it useful; thus, it can trigger the users' behavioural intention towards it significantly.

The study of Davis and Venkatesh (2000) also learnt that when users discover a technology is useful and effective for them, they will feel satisfy which it can significantly impact the intention to use of innovation technology. Besides, this study also has consistent outcome with Moslehpour et al. (2018) which they found that PU plays significant drivers that influence intention to use as the users who perceive innovation technology is a useful tool for buying or shopping food or other things will tend to use it more for their purchase. Also, the result of this study is alike with Davis (1989), Davis and Venkatesh (2000) and Hong et al. (2021) which it has confirmed that PU can affect intention to use significantly in TAM. Hence, this hypothesis is accepted.

5.1.2 Perceived Ease of Use (PEOU)

H_2: There is a relationship between perceived ease of use and intention to use self-ordering kiosk in restaurant.

According to the result of this study, H_2 is being supported. The outcome from study is consistent with the outcomes analysed by several other researchers such as Abdullah, Ward, and Ahmed (2016), and Joo, Park, and Lim (2018) which PEOU is significant towards intention to use as when users find it an innovation technology is easy to be used, and easy to be learned, it will drive the users' intention to use. The study from Singh and Srivastava (2018) found that PEOU plays important role in influencing intention to use because when an innovation technology is simple to be used, it will increase the likelihood of the users to use it.

The study of Moslehpour et al. (2018) also discovered that the users who perceive innovation technology is eased to use, clear and understandable, or it take lesser efforts to make an order, will trigger the user's intention to use. Nevertheless, the result of this study is consistent with Davis (1989), Davis and Venkatesh (2000) and Singh and Srivastava (2018) which it has confirmed that PEOU can affect intention to use significantly in TAM. Therefore, this hypothesis is accepted.

5.1.3 Perceived Enjoyment (PE)

H_3: There is a relationship between perceived enjoyment and intention to use self-ordering kiosk in restaurant.

According to the outcomes that obtain after analysis, it is learnt that H_3 is being supported as it has shown that PE is significant towards intention to use self-ordering kiosk in restaurants. Tsai and Geetha (2019) discovered that intention to use can be triggered by PE as when the customers feel enjoyable because of the colourful image, interesting picture or function while using the technology to order the food, they will have the intention to use it. Furthermore, the research from Sarosa (2019) also successfully proved that PE can significantly impact intention to use, which their studies shown that users will have the likelihood to adopt and use a technology as they feel fun and enjoyable while they have discovered more interesting image or function when using it. Nevertheless, study from Alalwan et al. (2018) statistically proved that PE can significantly impact intention to use as if the innovation technology able to maximizes users' feeling of enjoyment, it will drive the intention to use of users.

The research from Cha (2020) acknowledged that users who feel the innovation technology is enjoyable, it will drive the users' intention to use significantly. Alalwan et al. (2018) and Cha (2020) explained that PE can be integrated in TAM if the innovation technology provides enjoyment to users as it will strongly influence intention to use. Subsequently, the result of this study is alike with the previous research from Yu, Ha, Chou and Rho (2005) which they have extended PE into TAM, and they learnt that PE play major role in influencing intention to use in TAM as users who experienced the interest, enjoyment, and pleasure toward a technology, they will have the likelihood to use it. Thus, this hypothesis is accepted.

5.1.4 Trust (TR)

H_4: There is a relationship between trust and intention to use self-ordering kiosk in restaurant.

This study has engendered H_4 is being supported because of the outcome has proved that trust is significantly impact intention to use self-ordering kiosk in restaurants. Singh and Sinha (2020) stated when customers certain that the payment or transaction that performed will not have any fraud or error, they will think that kiosk is trustworthy and useful; therefore, trust has significant influence towards intention to use. Outcome of study from Alalwan et al. (2018) proved that trust can significantly influence intention to use as users of innovation technology like self-ordering kiosk are required to provide their personal or financial information which it is sensitive to them; thus, if they feel that it is trustworthy to provide such information, they will have intention toward self-ordering kiosk.

Furthermore, Cha (2020) also confirmed that when users feel the innovation technology like self-ordering kiosk in restaurant is reliable and trustworthy, it will affect the intention to use of users in using it significantly. Furthermore, previous studies from Yu et al. (2005) and Alalwan et.al (2018) has extended trust into TAM and they found that trust can impact intention to use. Tung, Chang and Chou (2008) also have extended trust in TAM in their research, and they confirmed that trust has significant impact towards intention to use, and they have concluded that the higher the trust, it results higher of intention to use. Hence, this hypothesis is accepted.

5.2 Implications of Study

5.2.1 Theoretical Implications

In theoretical perspective, this study has provided further insights for academician regards the factor that influence the adoption of self-ordering kiosk in restaurants. This study also has contributed in supporting the existing research by verifying the relationship between the key factors that can impact the intention to use self-ordering kiosk in restaurant or food service industry. Besides, this study has explained and analysed the factors that influence intention to use self-ordering kiosk in restaurant based on user's perspective with application of TAM theory coupled with the extension of PE and trust in the theory.

Firstly, researcher has successfully proved the PEOU and PU are important factors in TAM for investigating the users' intention to use innovate technology. Also, researcher has proved that TAM that developed by Davis (1989) with PEOU and PU as the main variables, is significant and relevant theory that used to study the behavioural intention of the users towards innovation technology.

Research also successfully proved the new causal relationship, which is the PE and trust, are significant factors in TAM. This has expanded the theoretical horizon of TAM by examining the impact of PE and trust towards intention to use. Findings from this study are consistent with Tsai and Geetha (2019), which both studies statistically proved extension of PE in TAM has significant impact towards users' intention to use kiosk in restaurant; thus, PE can be applied in TAM to study user's perspective towards innovation technology as there is direct influence of PE towards intention to use. Nevertheless, this study also has found that trust is an important factor that used to study behavioural intention of consumers in TAM as the innovation technology required to assure that the information

and privacy that provided by the consumers are protected to enhance trust towards it so that it can drive their intention to use (Alalwan et al., 2018). This study obtained compatible result with Alalwan et al. (2018), which both studies found that trust should be included in TAM to study users' behavioural intention as trust play important role in affecting users' intention to use innovation technology.

5.2.2 Practical Implications

In practical perspective, the finding of this study provides advantages to F&B industry and other related industry such as kiosk companies, and restaurants owner who have the likelihood to install self-ordering kiosk in the restaurant. Based on the outcomes of this study, all the variables (PU, PEOU, PE, and trust) have effect towards users' intention to use. As this study is Malaysia-based, hence, the restaurant owner in Malaysia who interested to adopt self-ordering kiosk may consider the factors that can attract the customers to spend in their business.

Firstly, the outcomes of this study have shown PU has relationship towards intention to use. Based on this study, it statistically proved that PU has the strongest effect towards users' intention to use self-ordering kiosk. Users or consumers are more concern on the effectiveness of the self-ordering kiosk, and they expect faster ordering food processes, customize order, and save time while ordering their food. Hence, for ensuring the self-ordering kiosk is functioning properly to prevent system down, restaurant owner should always monitor the self-ordering kiosk daily as system down will slow the whole ordering process and it will cause negative consequences like customer's dissatisfaction or have no intention to use it. Also, the engineers from kiosk company should always focus in improving the usefulness of the self-ordering kiosk to further improve its performance.

Secondly, PEOU also has relationship towards intention to use self-ordering kiosk in restaurant in this research. PEOU considered as important

factors that affecting intention to use as customers prefer to use innovation technology that easy to be used, to learned, and required lesser efforts. Thus, restaurant owners and the engineers from kiosk company must ensure the kiosk that they designed are user friendly to attract people to use it for ordering food or performing transaction.

Thirdly, the statistical results of this study have proved that there is a relationship of PE and intention to use. Consumers prefer to see colourful image rather than menu that full of word description because the colourful image and interesting design in self-ordering kiosk can make the ordering process more enjoyable. Hence, restaurant owner and the design teams are suggested to keep updating the design of the menu in self-ordering kiosk constantly to ensure it can always make customers feel interesting and enjoy while ordering food. Besides, the engineers from kiosk company may also consider developing new feature to the kiosk. For example, adding audio system that allow music playing which can entertain and make customer feel happy while ordering food using it. Also, adding audio system into self-ordering kiosk can benefit people who doesn't have good eyesight or blind as it can aid them to ordering the food by using the sound so that it can increase their intention to use the self-ordering kiosk to make order.

Lastly, according to the outcomes of this study, it has shown that trust has relationship with intention to use. The trustworthiness and reliability of innovation technology play significant role in affecting the users' adoption of technology. Well-designed of innovation technology are required to protect users' privacy and information so that it can ensure the reliability and high-quality of it. Hence, restaurant owner and engineers from kiosk company must be careful in designing the self-ordering kiosk to ensure it always provide high-quality and trustworthy services to the customers and ensure the promises such as protecting their personal information or banking details will not be disclosed to any other parties so that the level of trust of customers towards the business are always maintained.

5.3 Limitations of the Study

In this study, few shortcomings that has been discovered, and one of the key shortcomings of is the targeted age group of respondents. Owing to the uneven distribution to the age group respondents, it unable to achieve the balance proportion as convenient sampling method is utilised to collect the respondents in this study, which same goes to the education level, and individual monthly income. In this study, mainly respondents are aged between 20 to 29 which equivalents to 60.5% amongst all the respondents; thus, this can explain the respondents who are 20 to 29 years old have lesser working experience and monthly income. Due to the bias of age group that unable to represent overall population, this study may be unable to show whether the age group or income level will have influences on the intention to use self-ordering kiosk in restaurant.

Furthermore, as the questionnaire of this study are distributed online to ensure this research is conducted safely as due to spiking of confirmed cases during pandemic, researcher is unable to provide guidance physically and researcher has minimal attention or control on whether respondents are answering the questionnaire with their best knowledge or accurately. Thus, this may affect the accuracy of the answers of the respondents.

Lastly, the survey of this study did not specify the types of the restaurant which there are various type of restaurant, namely fine dining, casual dining, fast food, or others; therefore, the respondents' answers may differ depending on which type of restaurant they are consuming.

5.4 Recommendations for Future Research

Firstly, to avoid bias issues in term of demographic, researchers are suggested to distribute the questionnaires evenly to different demographics like age group, education level, and income level as this enable researchers to obtain results that can represent the population with better accuracy.

Next, due to spiking of confirmed cases of Covid-19 in Malaysia, researcher may not distribute questionnaire in form of printed hard copy; however, in the future, if the confirmed cases are relieving, researchers are suggested to use multi format survey which is to distribute questionnaire in online also in printed hard copy form to ensure respondents answers the questionnaire with best knowledge and greater accuracy. According to DeFranzo (2012), multi format survey able to provide flexibility to respondents to choose their preferred way to answer the questionnaire which it can help in increasing the response rate, and paper-based surveys always have the value in survey research which it can have greater accuracy.

Lastly, in future research, researcher that interested to study related field may consider specifying the types of restaurants. Due to the advancement of technology nowadays, self-ordering kiosk may be slowly adopted by many restaurants or other related industries as it is quick, effective, and efficient, also due to the pandemic which consumers are suggested to use self-ordering kiosk to place order to minimize interaction between consumers and staff. There are vary type of restaurants like casual dining, fine dining, or fast food, without specifying the type, respondents may answer questionnaire depending on which type of restaurant they are assuming. Hence, it will be better for researcher to specify the type of restaurants to ensure greater accuracy as the respondents will be the experienced user.

5.5 Conclusion

To sum up, the objectives of this study has been fulfilled which is to study the factors influencing consumers' intention to use self-ordering kiosk in restaurant. Based on the outcomes that previously mentioned, all variables (PU, PEOU, PE, and trust) have relationship towards intention to use self-ordering kiosk in restaurant. Nevertheless, theoretical and practical implications of this study have stated and explained clearly. In the final part of this study, the limitations of this study are highlighted, and the recommendations of future research are suggested and discussed for future researchers who interested to conduct a similar study to this.

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APPENDICES

Appendix A: Survey Questionnaire

UNIVERSITI TUNKU ABDUL RAHMAN
FACULTY OF ACCOUNTANCY AND MANAGEMENT (FAM)
BACHELOR OF INTERNATIONAL BUSINESS (HONOURS)
UKMZ3016 RESEARCH PROJECT

A STUDY OF FACTORS INFLUENCING CONSUMERS' INTENTION TO USE SELF-ORDERING KIOSK IN RESTAURANT

SURVEY QUESTIONNAIRE

Dear respondents,

I am a final year undergraduate student who currently pursuing Bachelor of International Business (Honours), in Universiti Tunku Abdul Rahman (UTAR). I am conducting my final year project (FYP) on "Factor Influencing Consumers' Intention to Use to Self-Ordering Kiosk in Restaurant". As such, you are invited to take part in this survey.

There are three sections in this questionnaire. Kindly fill up the questionnaire with the best of your knowledge. This survey will take you less than 10 minutes to complete. All the responses will be kept strictly private and confidential.

Your participation is highly appreciated. Thank you.

Instructions:

1. Please answer **ALL** questions in this questionnaire.
2. Completion of this questionnaire will take you less than 10 minutes.

Section A: General Question

Please select (✓) the most appropriate response.

(1) Have you used a self-ordering kiosk before?

☐ Yes

☐ No (Thank you for your time. You may stop here.)

(2) Have you ever visited a restaurant before?

☐ Yes

☐ No (Thank you for your time. You may stop here.)

Section B: Background Information

Please select (✓) the most appropriate response.

(1) Gender:

☐ Male

☐ Female

(2) Your current age:

☐ Below 19

☐ 20-29

☐ 30-39

☐ 40-49

☐ 50 and above

(3) Your education level:

☐ Primary/Secondary

☐ Diploma

☐ Undergraduate

☐ Postgraduate (Master/MBA/ Phd)

☐ Others: _____ (Please Specify)

(4) Your working experience:

☐ Less than 1 year

☐ 1-5 years

☐ 6-10 years

☐ More than 10 years

(5) Individual monthly income:

- ☐ Below RM 4000
- ☐ RM 4001 - RM 8000
- ☐ RM 8001 – RM 12000
- ☐ RM 12001 and above

(6) How frequent do you visit restaurants?

- ☐ Once a day
- ☐ Once every three (3) days
- ☐ Once a week
- ☐ Once a month

Section C:

Kindly circle the most appropriate response.

Strongly Disagree (SD) = 1, Disagree (D) = 2, Neither Agree nor Disagree (N) = 3, Agree (A) = 4, Strongly Agree (SA) = 5

Dependent Variable:

	Statement	SD	D	N	A	SA
Intention to Use (INT)						
INT1	I intend to increase my use of self-ordering kiosk in restaurants in the future.	1	2	3	4	5
INT2	I intend to use the self-ordering kiosk in restaurants in the future.	1	2	3	4	5
INT3	I will always try to use self-ordering kiosk in restaurants.	1	2	3	4	5
INT4	I plan to use self-ordering kiosk in restaurants frequently.	1	2	3	4	5

Independent Variables:

	Statement	SD	D	N	A	SA
Perceived Usefulness (PU)						
PU1	Using self-ordering kiosk in restaurants improves my performance in searching and purchasing food.	1	2	3	4	5
PU2	Self-ordering kiosk enables me to search and buy food faster.	1	2	3	4	5
PU3	Self-ordering kiosk in restaurants enhance my effectiveness in searching and purchasing food.	1	2	3	4	5
PU4	Self-ordering kiosk in restaurants makes it easier to search and purchase food.	1	2	3	4	5
PU5	Self-ordering kiosk in restaurants increase my productivity in searching and purchasing food.	1	2	3	4	5

	Statement	SD	D	N	A	SA
Perceived Ease of Use (PEOU)						
PEOU1	Self-ordering kiosk in restaurants is easy-to-use.	1	2	3	4	5
PEOU2	It is easy to become skillful in using self-ordering kiosk.	1	2	3	4	5
PEOU3	Learning to operate self-ordering kiosk is easy.	1	2	3	4	5
PEOU4	Self-ordering kiosk in restaurants is flexible to interact with.	1	2	3	4	5
PEOU5	My interaction with self-ordering kiosk is clear and understandable.	1	2	3	4	5
PEOU6	It is easy to interact with self-ordering kiosk.	1	2	3	4	5

	Statement	SD	D	N	A	SA
Perceived Enjoyment (PE)						
PE1	Using self-ordering kiosk is enjoyable.	1	2	3	4	5
PE2	Using self-ordering kiosk is pleasant.	1	2	3	4	5
PE3	Using self-ordering kiosk is fun.	1	2	3	4	5
PE4	Using self-ordering kiosk is entertaining.	1	2	3	4	5

	Statement	SD	D	N	A	SA
Trust (TR)						
TR1	I trust self-ordering kiosk is safe and has reliable features.	1	2	3	4	5
TR2	I trust self-ordering kiosk and transaction done by self-ordering kiosk.	1	2	3	4	5
TR3	I trust self-ordering kiosk keeps me and my customer financial information secure.	1	2	3	4	5
TR4	I trust self-ordering kiosk keeps me and my customer personal information safe.	1	2	3	4	5

Thank you for you participation.

Appendix B: SPSS Outputs

1) Demographic Profile

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	155	49.4	49.4	49.4
	Female	159	50.6	50.6	100.0
	Total	314	100.0	100.0	

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below 19	51	16.2	16.2	16.2
	20 – 29	190	60.5	60.5	76.8
	30 – 39	35	11.1	11.1	87.9
	40 – 49	22	7.0	7.0	94.9
	50 and above	16	5.1	5.1	100.0
	Total	314	100.0	100.0	

Education Level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Primary or Secondary	61	19.4	19.4	19.4
	Diploma	47	15.0	15.0	34.4
	Undergraduate	185	58.9	58.9	93.3
	Postgraduate (Master, MBA, Phd)	19	6.1	6.1	99.4
	Others	2	0.6	0.6	100.0
	Total	314	100.0	100.0	

Working Experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 1 year	178	56.7	56.7	56.7
	1 – 5 years	65	20.7	20.7	77.4
	6 – 10 years	30	9.6	9.6	87
	More than 10 years	41	13.1	13.1	100.0
	Total	314	100.0	100.0	

Monthly Income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	RM 4000 and below	248	79.0	79.0	79.0
	RM 4001 – RM 8000	42	13.4	13.4	92.4
	RM 8001 – RM 12000	16	5.1	5.1	97.5
	RM 12001 and above	8	2.5	2.5	100.0
	Total	314	100.0	100.0	

Frequency of Visiting Restaurant

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Once a day	74	23.6	23.6	23.6
	Once every three (3) days	83	26.4	26.4	50.0
	Once a week	109	34.7	34.7	84.7
	Once a month	48	15.3	15.3	100.0
	Total	314	100.0	100.0	

2) Central Tendencies

Intention to Use (INT)

Statistics

		Iintendtoincreasemyuseofselforderingkioskinrestaurant	Iintendtousetheselforderingkioskinrestaurantsinthefu	Iwillalwaystrytouseselforderingkioskinrestaurants	Iplantouseselforderingkioskinrestaurantsfrequently
N	Valid	314	314	314	314
	Missing	0	0	0	0
Mean		4.29	4.34	4.29	4.26
Std. Deviation		.819	.775	.801	.808

Perceived Usefulness (PU)

Statistics

		Usingselforderingkioskinrestaurantsimprovesmyperformance	Selforderingkioskenablesmetosearchandbuyfoodfaster	Selforderingkioskinrestaurantsenhancemyeffectivenessins	Selforderingkioskinrestaurantsmakesiteasiertosearchand	Selforderingkioskinrestaurantsincreasemyproductivityins
N	Valid	314	314	314	314	314
	Missing	0	0	0	0	0
Mean		4.27	4.23	4.26	4.28	4.20
Std. Deviation		.698	.778	.761	.790	.769

Perceived Ease of Use (PEOU)

Statistics

		Selforderingkioskinrestaurantsiseasytouse	Itiseasytobecomeskillfullinusingselforderingkiosk	Learningtooperateselforderingkioskiseasy	Selforderingkioskinrestaurantsisflexibletointeractwith	Myinteractionwithselforderingkioskisclearandunderstanda	Itiseasytointeractwithselforderingkiosk
N	Valid	314	314	314	314	314	314
	Missing	0	0	0	0	0	0
Mean		4.27	4.25	4.32	4.17	4.25	4.28
Std. Deviation		.806	.808	.779	.845	.797	.795

Perceived Enjoyment (PE)

Statistics

		Usingselforderingkioskisenjoyable	Usingselforderingkioskispleasant	Usingselforderingkioskisfun	Usingselforderingkioskisentertaining
N	Valid	314	314	314	314
	Missing	0	0	0	0
Mean		4.21	4.18	4.11	4.03
Std. Deviation		.836	.807	.907	.939

Trust (TR)

Statistics

		Itrustselforderingkioskissafeandhasreliablefeatures	Itrustselforderingkioskandtransactiondonebyselforderin	Itrustselforderingkioskkeepsmeandmycustomerfinanciali	Itrustselforderingkioskkeepsmeandmycustomerpersonalin
N	Valid	314	314	314	314
	Missing	0	0	0	0
Mean		4.29	4.31	4.05	4.09
Std. Deviation		.751	.749	.905	.880

3) Reliability Tests

Intention to Use (INT)

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	314	100.0
	Excluded[a]	0	.0
	Total	314	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.918	.918	4

Perceived Usefulness (PU)

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	314	100.0
	Excluded[a]	0	.0
	Total	314	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.891	.891	5

Perceived Ease of Use (PEOU)

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	314	100.0
	Excluded[a]	0	.0
	Total	314	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.930	.930	6

Perceived Enjoyment (PE)

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	314	98.1
	Excluded[a]	6	1.9
	Total	320	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.902	.904	4

Trust (TR)

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	314	100.0
	Excluded[a]	0	.0
	Total	314	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.872	.874	4

4) Multiple Regression Analysis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.813[a]	.661	.657	.42007

a. Predictors: (Constant), TR, PU, PE, PEOU

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	106.520	4	26.630	150.916	.000[b]
	Residual	54.525	309	.176		
	Total	161.045	313			

a. Dependent Variable: INT

b. Predictors: (Constant), TR, PU, PE, PEOU

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	.010	.180		.055	.956		
	PU	.405	.051	.358	7.978	.000	.544	1.839
	PEOU	.133	.048	.128	2.775	.006	.515	1.943
	PE	.240	.043	.257	5.614	.000	.522	1.914
	TR	.240	.046	.235	5.234	.000	.545	1.833

a. Dependent Variable: INT