Consumer Acceptance and Adoption towards Payment-Type Fintech Services from Malaysian Perspective

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Abstract

Fintech is touted as a new paradigm in which information technology is driving the transformation and innovation in the financial services industry. Fintech is evolving at a rapid speed, driven by favorable regulation, information technology and led by the consumer’s acceptance and adoption whose keen for cost reduction and improved quality of financial services. This paper conducted a descriptive analysis on consumer acceptance towards payment-type Fintech service by applying variables associated with Technology Acceptance Model and Diffusion of Technology. In addition, it analyzed the determinants of payment-type Fintech service adoption among Malaysian’s mobile user and the causal relationship between variables towards consumer decision in adopting payment-type Fintech service. Quantitative research and descriptive research are utilized. The outcome indicates all variable are significant except perceived ease of use and social influence.

Keywords: Fintech, payment-type Fintech service, technology acceptance model, innovation diffusion theory, consumers’ acceptance, consumers’ adoption

1. Introduction

In this era of Industrial Revolution (IR 4.0), mobile technology has been burning issue for current conversation due to its phenomenon status. The proliferation of mobile payment market led by the easy payment services is the fastest growing among Fintech services. Mobile technology has developed in a glimpse of an eye and this pervasive technology has accessed individual domain and business landscape at the same time. Mobile technology has an important impact on consumer behavior due to its accessible to information and service as well as the potential for an exclusive and tailored exchange of information[1]. In a same line, mobile devices occupied most part of daily life. According to a statistic from Statista, approximately 62.9% of population worldwide owned a mobile phone and the number of mobile phones user is expected to reach 4.68 billion in 2019[2]. This phenomenon can be seen since 2012 on 66% of respondent has shown the willingness to use mobile phone as wallet[3]. A further report found that more than 2 billion mobile users will be utilizing their mobile services for mobile-based financial services by the end of 2021[4]. It is clear from evidence that mobile-based financial services are spreading at great speed as they allow users to bypass security concerns by simply inputting their password or without having to install Active-X. The growth of smartphone user and internet based technology in the mid-2000s facilitated the growth of mobile finance which include both mobile payment and payment-type Fintech services[5].

Financial system has been digitalized long time ago but due to regulations and marketability, mobile payment services is still used in limited areas. Nevertheless, the emergent of online shopping and mobile devices has created an enormous mobile payment market. However, there is a relative shortage of studies on what determinants induce the acceptance or denial of payment-type Fintech services especially in Malaysian
context. Mobile phone has always been part of human’s life ever since it was introduced. It shaped our lives by staying us connected with the world. Mobile technology has evolved over the centuries and payment-type Fintech services being one of the latest mobile technologies has actively gained concerns. The emergence of Fintech innovation after the worldwide financial crisis in 2008 can be seen through the advancement in e-finance and mobile technology for financial services. The combination of e-finance, internet technology, social networking services, social media, artificial intelligence, and big data analytics are the clear indication that Fintech is now beyond the stage of hype and has become major player in financial world.

The first objective of this research is to examine the determinants of payment-type Fintech service which has been defined by numerous scholars throughout the years but is generally understood as the using of mobile devices regardless anywhere or anytime to conduct transaction such as transfer of ownership on good and services, checking account status, transferring money, settling payment, and even selling stocks[6]-[7]. Secondly, the objective of this study is to analyze the causal relationship between variables towards the consumer decision in adopting the payment-type Fintech service. The payment-type Fintech service aids the traditional banks to improve service quality and decrease service charges[8]. According to the statistics distributed by Bank Negara Malaysia (BNM), 14.4 millions of users were recorded using payment-type Fintech services as at 2018. It is evidence that payment-type Fintech services users are increasing tremendously as compared to 127,600 of users in 2005[9]. This indicates payment-type Fintech service’ user in Malaysia has potential to further develop with the aid of technology innovation. The growing trend in number of payment-type Fintech service suggests a good sign as more Malaysian are getting in touch with the technology innovation or Fintech.

This study focuses on understanding consumers in the decision making process to utilize mobile financial services in their daily life. The findings from this study is able to benefit the banking industry and consumers at the same time. From banks’ perspective, the result is able to identify the main contributor that influence consumer acceptance and giving a direction to figure out the concerns of consumers and constantly improve in order to gain competitive advantages. The findings will also provide a better insight for industry players in making a better marketing strategy to raise the awareness of consumer in Malaysia to adopt payment-type Fintech services as [10] suggested that providing a professional and premium quality service is gradually recognized as an important factor that leads to a successful implementation of payment-type Fintech services. Some benefits of payment-type Fintech service are able to derived from this study and could potentially leads to a rise of adoption rate towards payment-type Fintech services as consumers will have a better knowledge and confidence when encounter with payment-type Fintech service. Nevertheless, this study is able to fill the gap which is the limited studies that were conducted on payment-type Fintech service in Malaysia as mentioned in problem statement. Apart from that, this study aims to eliminate some worries among potential users on the usage of payment-type Fintech service through research and survey results.

2. Literature Review

2.1. Consumer Acceptance and Adoption

Intention to adopt is referring to individuals’ acceptance of somethings based on his or her willingness on the particular object[11]. Besides, intention to adopt also indicates based on that consumers’ understanding and their behavior of use of new technologies. Meanwhile, consumer acceptance in this study refers to the willingness that demonstrate by user group to use the technology information that it is created to support. User acceptance is not proven if users only claim that they will employ without providing proof or using a technology in an unintended purpose by designers or customers[12]. In other words, a consumer should accept a technology by actually using it. Moreover, acceptance
is an essential field of research since mid-1900s. The research of acceptance has provided useful insights in demonstrating a success or failure of a new products or services. Individual’s acceptance towards technology revealed that individual perception and attitudes can affect consumer acceptance[13]. Thus, the key findings of this research is to identify consumer acceptance towards payment-type Fintech services by measuring consumers’ behavioral intention and the actual usage behavior. This study will focus on individual’s acceptance and adoption towards Payment-type Fintech service considering the significance of consumer behavior.

2.2. Theory of Technology Acceptance (TAM)

Technology Acceptance Model (TAM) has been widely adopted by scholars throughout the decades to explain and understand consumer acceptance towards information technology. The development of TAM was adapted from Theory of Reasoned Action (TRA) which studied the theory of human behavior. TAM is widely used to predict an individual’s use and acceptance towards information system and technology in various organisations[14]. TAM is defined as an information system (a system that contains the network of all communication channels use within an organization) theory that shows how users approach, accept and adapt to a technology[15]. TAM suggests when users are exposed to a new software, a number of determinants will influence their decision. Perceived usefulness and perceived ease of use are the fundamental factors that affect users’ behavior and acceptance towards information technology[16].

2.3. Innovation Diffusion Theory (IDT)

IDT is proposed by [17] as an earlier theory of technology acceptance. The theory signified that one of the methods that reduces conviction is through the adoption of an innovation. Four major components are identified under IDT which are innovation, social system, time and communication channel. A full utilize of an innovation as “the available actions” results in adoption while “not practicing innovation” is the consequence of a rejection. Moving on, five characteristics are further suggested effects the individual’s perception towards an innovation that will impact the adoption of the particular technology innovation namely: relevant advantage, compatibility, complexity, trialability, and observability.
Perceived usefulness in TAM refers to “the degree to which a person trusts that his or her job performance would enhance by utilizing a specific system”. A system that presents high level of perceived usefulness is likely to create a positive use-performance relationship [17]. Likewise, perceived usefulness is elaborated as the extent to which a person views a particular system able to boost his or her work performance[18]. People would adopt online banking service due to the effectiveness of website in enhancing banking activities and useful for financial transactions. In another word, perceived usefulness refers to work effectivity, time saving and the relevant significance of the system for the work of. Similarly, mobile services must presented certain level of usefulness to develop the positive attitudes of consumers to adopt the services[19]. A system that does not aid consumers in performing their tasks is likely to be unfavorable. Perceived usefulness has found to have significant impact on consumers’ attitudes and intention to adopt an innovation since a long time ago[16]. Initially related to job productivity, performance and effectivity, perceived usefulness is an important factor.

H1: Perceived usefulness has a significant impact towards consumers’ acceptance to adopt payment-type Fintech services.

Perceived ease of use is identified as “the degree to which a person believes that using a specific system would be effort free” [16]. Perceived ease of use has a positive impact on perceived usefulness and is an important motivation for consumers to adopt a technology innovation. It is suggested that consumers will tend to use an innovation if it appears to be easy to use. Complexity is touted as the extent of an innovation is perceived as hard to understand and use which can affect the adoption rate of individual towards an innovation[17]. Individual especially beginner will likely use a system if he/she perceives the system to be easy to use and develop the positive attitudes of consumers to adopt the services[20]. A system that does not aid consumers in performing their tasks is likely to be unfavorable. Perceived usefulness has found to have significant impact on consumers’ attitudes and intention to adopt an innovation since a long time ago[16]. Initially related to job
productivity, performance and effectiveness, perceived usefulness is an important factor. Research conducted on mobile context has recognized perceived ease of use as a significant factor influencing consumers’ attitude in using mobile internet in Korea[21].

H2: Perceived ease of use has a significant impact towards consumers’ acceptance to adopt payment-type Fintech services.

2.6. Trust

Trust is described as the willingness to be in danger to the actions of another party based on the expectation that the others will perform particular actions which are significant to the trustor regardless the ability to oversee or control the other party[22]. Trust appears in payment-type Fintech services when consumers adopt the mobile terminals to perform financial transaction and any other purposes at anywhere and anytime. In general, payment-type Fintech services is very convenient for user to carry out any transaction without limitation of space and time. However, the virtuality and lack of control has exposed payment-type Fintech services to uncertain risk. Hence, a strong trust is significant for users to use payment-type Fintech services. Previous studies had found trust as an important element in affecting decision of consumers and the initial trust is developed in consumers when they log into payment-type Fintech services system for the first time[23]. Hence, it is compulsory to build up initial trust in order to overcome consumers’ perceived risk towards payment-type Fintech services or alternatively consumer will switch back to online banking.

H3: Trust has a significant impact towards consumers’ acceptance to adopt payment-type Fintech services.

2.7. Compatibility with Lifestyle

Compatibility is described as the degree to which an innovation is perceived less uncertain expose to potential adopters, and fits more with an individual’s life situation [24]. In this study, compatibility is concerned with how payment-type Fintech services are in line with consumers’ lifestyle and needs. Compatibility is a critical attribute in the adoption of payment-type Fintech services and it was found that the more payment-type Fintech services conforms with consumers’ values, habits or needs, the more they see payment-type Fintech services as useful[25]. This statement is supported by the findings of positive relationship between compatibility and perceived usefulness and intention to continue adopt payment-type Fintech services[26]. More than two-thirds of financial transaction services fail to meet the needs of customers as traditional channel do not offer the ubiquity that exist in mobile channel[27]. It is evidenced that high compatibility with lifestyle leads to higher adoption to technology acceptance. The compatibility with lifestyle is significant as a communication channel that offers by firms and organizations will likely fail and avoid by customers if the channel does not compatible with the lifestyle and needs of customers [28]

H4: Compatibility with lifestyle has a significant impact towards consumers’ acceptance to adopt payment-type Fintech services.

2.8. Social Influence

Social influence is defined as the extent to which an individual perceives that significance others believe he/she should use the new system[29]. Social influence in payment-type Fintech services could be conceptualized as the influence of an individual’s surrounding social environment on his or her intention to adopt
The attitudes of an individual towards an innovation can be affected by friends, relatives and. In another word, a customer’s awareness and intention towards a technology could be significantly affected by the information and encouragement of people surrounding customers. Social influence is added as a construct in previous research to determine the role of social influence on customers’ tendency to adopt payment-type Fintech services and different results have shown that social influence likely affects the tendency of consumers’ intention to use payment-type Fintech services.

H5: Social influence has a significant impact towards consumers’ acceptance to adopt payment-type Fintech services.

2.9. Theoretical Framework

![Theoretical Framework Diagram]

3. Methodology

This study focuses on quantitative research and descriptive research as the objective of this study is to determine the factors that have a significant impact towards consumers’ acceptance to adopt payment-type Fintech services. Descriptive research which also known as observational designs is a type of conclusive research that the main objective is to determine the description and function of market characteristics. Descriptive research is applied in this study to figure out relationship among variables and what factors are actually affect the consumers’ acceptance to adopt payment-type Fintech services. Hence, this research includes a self-reported questionnaire to provide more specific description of the determinants.

In this study, primary data collected method is applied due to accuracy and reliability. Primary data is collected through survey method in which consumers from of Malaysia will be surveyed with respect of their attitude and opinions towards payment-type Fintech services. Survey method is adopted in this study due to low cost and more accessible. 300 sets of questionnaires will be distributed from 1/5/2019-10/6/2019. The questionnaires are distributed through online survey. All data are collected through snowball sampling and convenient sampling due to the time constraint and the difficulty to access every area in Malaysia. Researcher get assistance from friends and family.

Secondary data is the existing information that has been gathered and interpreted by past researches. By using the secondary data, the validity and reliability of information are ensured. The various sources of secondary data for research
purposes can be extracted from libraries, museums, databases, government agencies, or even newspaper and magazines. This study has extracted most of the secondary data from academic journals through online academy databases for instance Emerald, JSTOR, ScienceDirect. Research engine such as Google Scholar is also utilized in this study to collect the information. Members in re-distributing the online survey form to reduce the time and effort consumption in getting responses.

The sampling frame of this study involves all payment-type Fintech services users in Malaysia regardless of their locations. The questionnaires are distributed through ‘Google Survey’- an online spreadsheet program that consume less effort and time during data collection process. Apart from that, the online questionnaires overcome the problems of geographical barriers as compared to traditional survey method as the questionnaires can be answered. Closed-ended/structured questions were adopted in this study to standardized the responses in easing the process of interpreting data from large amount of responses to ensure the information accuracy and reliability. Besides that, closed-ended questionnaires limit the number the responses from respondents and reduce the time as respondents only need to choose the best alternatives from the given answers.

4. Results and Discussion

A total of 300 questionnaires were distributed and researcher received 271 responses. 21 of the responses were excluded from the study due to inaccurate data or incomplete response. The remaining 250 samples are analyzed through Statistical Package for the Social Sciences (SPSS) to determine the validity of the hypothesis. The result will be presented in tables and diagrams.
A total of 300 questionnaires were distributed and researcher received 271 responses. 21 of the responses were excluded from the study due to inaccurate data or incomplete response. The remaining 250 samples are analyzed through Statistical Package for the Social Sciences (SPSS) to determine the validity of the hypothesis. The result will be presented in tables and diagrams. Gender demographic has shown 94 (37.6%) out of 250 respondents are male while the remaining 156 (62.4%) of respondents are female. Whilst, the majority of respondents are made up from the age of 18-24 years old (143 or 57.2%). 54 (21.6%) respondents are between 25-34 years old while 41 (16.4%) are in the range of 35-44 years old. 11 (4.4%) respondents are in the age of 45-54 years old while only 1 (0.4%) respondent is 55 years old and above. The result on frequency of usage has shown 165 (66%) respondents recorded that they are always on Internet and 45 (18%) respondents are often online. While 30 (12%) respondents reveal that they are on the internet sometimes and only 10 (4%) respondents access to Internet occasionally. As this study emphasizes on payment-type Fintech services, hence respondents’ should be customers of any Fintech services in Malaysia.

4.1. Tendency of Measurement of Construct
Figure 11. Perceived Usefulness

Figure 11 shows the central tendencies measurement of perceived usefulness. The highest mean would be question 6 of perceived usefulness which would indicate that people adopt payment-type Fintech services due to the mobility of payment-type Fintech services that allows people to do banking transactions regardless the time and location hence it has the highest ranking. The lowest mean goes to question 3 where some respondents might have an easier option to conduct banking activities besides mobile.

Figure 12. Perceived Ease of Use

Figure 12 shows the central tendencies measurement of perceived ease of use. The lowest mean goes to difficulties in using payment-type Fintech services which indicate that most people do not have difficulties in using payment-type Fintech services.
Figure 13. Trust

Figure 13 shows likely suggest that most respondents think that payment-type Fintech services is trustworthy and the lowest mean goes to question 15 which people found that payment-type Fintech services is likely to be reliable.

Figure 14. Compatibility with Lifestyle

Figure 14 shows all variables have the similar means which suggest payment-type Fintech services is likely compatible with lifestyle but question 16 has the highest mean which indicates that payment-type Fintech services has the biggest effect on users’ lifestyles.
Figure 15. Social Influence

Figure 15 shows all variables have the similar means which suggest payment-type Fintech services is likely compatible with lifestyle but question 16 has the highest mean which indicates that payment-type Fintech services has the biggest effect on users’ lifestyles.

Figure 16. Behavioural Intention

Figure 16 shows the dependent variables record a higher mean as compared to other variables which indicates that payment-type Fintech services users will likely adopt payment-type Fintech services in the future.

4.2. Internal Reliability Test
159

Cronbach’s Coefficient Alpha is used in this section to determine the reliability of the data in this study which range from 0 to 1 whereby 0.7 alpha and above is deemed as acceptable range of reliability coefficient. The reliability coefficient is above 0.7 but trust below 0.7. Value that lower than 0.7 as acceptance value. The highest level is perceived usefulness with a value of 0.947 and the lowest level is trust with a value of 0.590.

4.3. Inferential Analyses

4.4. Hypotheses Testing

4.4.1. Relationship between Perceived Usefulness (PU) and Intention to Adopt Payment-Type Fintech Services (PTFS)

H1: Perceived usefulness (PU) has a significant impact towards users’ intention to adopt Payment-type Fintech services (PTFS).

The significant value of PU is 0.000 which is less than the proposed p-value, hence H1 is accepted indicates significant relationship between PU and PTFS.

4.4.2. Relationship between Perceived Ease of Use (PEOU) and Intention to Adopt Payment-Type Fintech Services (PTFS)

H2: Perceived Ease of Use (PEOU) does not have a significant impact towards users’ intention to adopt Payment-type Fintech services (PTFS).
The significant value of PEOU is 0.545 which exceeds the proposed p-value which suggests a nonsignificant relationship between PEOU and payment-type Fintech services adoption. Hence, H2 is accepted

4.4.3. Relationship between Trust (T) and Intention to Adopt Payment-type Fintech services (PTFS)

H3: Trust (T) has a significant impact towards users’ intention to adopt Payment-type Fintech services (PTFS).

The significant value of trust is 0.002 which is less than the p-value of 0.05 hence H3 is accepted which suggests a significant relationship between trust and Payment-type Fintech services (PTFS) adoption.

4.4.4. Relationship between Compatibility (C) and Intention to Adopt Payment-type Fintech services (PTFS)

H4: Compatibility with lifestyle (C) has a significant impact towards users’ intention to adopt Payment-type Fintech services (PTFS).

The significant value for C is 0.000 which is less than 0.05 therefore H4 is supported. There is a significant relationship between compatibility with lifestyle and Payment-type Fintech services (PTFS) adoption.

4.5. Discussion

From the result, 62.4% of the respondents are female and the remaining 37.6% of respondents are male. This is not in line with Statistic Department that reported that the ratio between male and female in May 2019 was 107:100. The imbalanced ratio between male and female might lead to the different payment-type Fintech services adoption rate due to gender difference. In terms of age, 57.2% of the respondents are aged between 18-24 years’ old hence age is considered not having significant impact on the level of usage as more than half of the respondents are from similar age group. In [17] further proven that young consumer has more intention to adopt the technology. In terms of ethnicity, 64.8% of respondents is from Chinese, 18.4% is from Malay, 16% is from Indian and 0.4% is from other ethnics. The highest ethic is from Chinese however all ethnics group contribute to the adoption of payment-type Fintech services. On the education level, most of the respondents enrolled in bachelor program (70.4%) which suggest that students from bachelor degree has higher payment-type Fintech services usage.

The result (β=0.483, p< 0.000) proves a significant positive relationship hence H1 is accepted. PU is the most significant factor that affect the decision of users in this study. This in line with the result from [8], [30] who found that PU strongly affect intention to use payment-type Fintech services. Previous literature also suggested that perceived usefulness has a greater effect on actual usage as compared to PEOU [20]. The result ((β=0.029, p> 0.0545) suggests that perceived ease of use does not have significant relationship with intention to use payment-type Fintech services which H2 is accepted. In [8] found a similar result which perceived ease of use does not have significant effect on payment-type Fintech services usage. TAM studies [16, 29] concluded that ease of use has less impact on technology acceptance as compared to usefulness. While from researcher perspective, as payment-type Fintech services is providing increase convenience, users are more likely to adopt and learn payment-type Fintech services voluntarily hence perceived ease of use does not play an essential role in deciding the intention of users to adopt payment-type Fintech services.

The result (β=0.209, p< 0.002) shows that trust has a significant positive relationship with intention to adopt payment-type Fintech services therefor H3 is accepted. Similarly, in [28] found that trust is second most influential factors in payment-type Fintech services
adoption. However, in [25] has concluded that trust does not affect payment-type Fintech services directly but has a direct effect on the credibility of payment-type Fintech services. As payment-type Fintech services is one of the latest technology, researcher believes that trust is an essential factor in determining the adoption of payment-type Fintech services as users are highly concerned with the safety and privacy of their financial account especially when conducting financial transactions through online account.

The result (β=0.235, p<0.000) suggests a second most significant positive relationship between compatibility with lifestyle and adoption of payment-type Fintech services hence H4 is accepted. This in line with [28] who found that compatibility with lifestyle is the most significant determinants to adopt payment-type Fintech services. Similar result is also found in [31] who identified compatibility has the most influence on intention to use. This indicates that users emphasize on the compatibility of payment-type Fintech services with their lifestyle.

In contrary of researcher’s expectation, the result (β=−0.04, p>0.12) indicates a negative relationship between social influence and payment-type Fintech services adoption therefore H5 is rejected. In [30] suggested that participants’ in the process of shaping intention to adopt payment-type Fintech services is less likely related with recommendations and attitudes of reference groups. The role of social influence in is controversial [29] as some studies that adopted UTAUT2 support while some studies reject social influence. In contrast of [8], in [32] does not found a significant relationship between social influence and intention to adopt payment-type Fintech services. In researcher’s opinion, social influence has a less effect on users’ intention to adopt payment-type Fintech services may partly due to the age of respondents.

5. Conclusion

In conclusion, the outcome indicates all variable are significant except perceived ease of use and social influence. With the supported result and past literature, researcher believes that this study can be a guideline to provide an insight for future study and business field to identify users’ intention to adopt or continue to adopt Payment-type Fintech services (PTFS). Understanding consumers’ needs and preference is vital in this dynamic competitive and collaborative economic environment. Consumer, rather than relying on single financial services are beginning to recognize the symbiotic financial services offered by Fintech. In regard to the recent development of Fintech, there is still a paucity of studies on the social, regulatory, technological, and managerial aspects of Fintech.

References


