

## AN ADOPTION OF FINTECH SERVICE IN MALAYSIA

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### ABSTRACT

*According to Philippon (2016), Financial Technology or better known as “FinTech” is “digital innovations and technology-enabled business model innovations in the financial sector”. In recent years, this term has gained increasing attention worldwide and become more prominent in establishing an incremental, radical or disruptive innovation development within the financial services industry. The 4th industrial revolution saw a financial institution implementing new business models that are challenging to channel the exponential growth of technologies that are congregating toward new financial institution industry. The objective of this research paper is to analyse the factors that contribute to new business models of financial institutions from the adoption of convergent technologies and the extent that different age groups affect this FinTech adoption in Malaysia. The Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT) is used to examine the extent that perceived ease of use, perceived usefulness, social influence, personal innovativeness, security concerns, perceived enjoyment and demographic profile affect the intention to adopt Fintech in Malaysia. A total of 300 questionnaires were collected in Malaysia. It was found that all the above constructs had a significant and positive relationship with the intention to adopt FinTech. Nevertheless, male respondents were reported to have higher intention as compared to female respondents in adoption of FinTech in Malaysia. An implication of this study for marketplace practices especially on the financial institution on banking process decision-making, the researchers further improved on the research framework and retailer managers identified the major factors in influencing the acceptable of financial technologies such as e-wallet.*

Keywords: FinTech, Technology Acceptance Model, Unified Theory of Acceptance and Use of Technology, Malaysia

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### INTRODUCTION

The era of innovation in information technology has emerged to ease daily commercial transactions. According to Salmony (2014), innovated financial technology helps in creating numerous business models and caters to the need of customers. In the aspect of economics, there are payment services, the banking industry and the financial regulations that are affected by the new information technology. The emergence of a new information technology in the financial service industry is known as “FinTech”. To simplify this term FinTech: it is a term that combines the term “finance” and “technology”. The National Digital Research Centre in Dublin, Ireland, defines it as “innovation in financial services”. Alt and Puschmann (2012) stated that FinTech launched an incremental innovation development for all applications, processes, products or business models within the financial service sector. Malaysia’s ex-centre bank Governor, Dato Muhammad Bin Ibrahim stated in his speech in the Global Islamic Finance Forum 5.0 (GIFF 5.0) that “the position of the financial sector is challenged by FinTech”. New business models will arise with current standards that will be challenged by delivery channels and the cost of transaction will be reduced. Rather than treating FinTech revolution as hostile, financial institutions should embrace this as an opportunity (Fong, 2016). This shows that companies that adopt FinTech would have an advantage in terms of consumer’s attraction and by the expansions of their business model.

Technology is the main channel in the financial sector and it would be an opportunity for them to explore the efficiency of providing better experience and convenience to consumers (Devadevan, 2013). However, to adopt FinTech services, the financial sector first needs to understand the consumer’s acceptance level towards the adoption of technology in financial services. For instance, mobile banking provides mobility for consumers to make financial transactions remotely by using mobile devices like a smartphone or tablet and it can be provided by financial services providers. Such services are not limited to just mobile payments but include the usage of debit or credit cards to affect an Electronic Funds Transfer at a Point of Sales (FTPOS) payment (Arputharaj, 2016). Nakaso (2016) stated that FinTech has the potential to unbundle and restructure the existing financial services with changes in information technology. In a fast changing information technology environment, FinTech adds value to the finance world by enabling users towards financial services through mobile, social media and internet, rather than the conventional type transactions such as over the counter transactions and teller machines (Kim, Choi, Park, & Yeon, 2016). FinTech has been progressing tremendously in the West, where financial institutions need to improve consumer’s experience by filling in the gaps between information technology and services offered (Truong, 2016).

The term “Fintech” is very wide with a stretched history which is related to the technologies on the daily transaction ranging from the purchase of household grocery to the banking transactions. The evolution of FinTech started as early as the 1950s, where it started with the credit cards to ease daily transactions and the ATMs to replace tellers. In the late 1970s, electronic stock

trading and the use of financial institution mainframe computers on record-keeping systems. In the 1990s, the internet and e-commerce business models flourished. In the era of the millennium, financial institutions began a course of transforming from traditional method of handling customer's base to modern-day technologies base (Gabor & Brooks, 2017). The financial institutions' new business models created technologically based customers that are challenging on the financial institutions of a long-established and traditional industry. The challenges have changed the exponential growth of Fintech as a set of technologies are congregating toward new financial institution industry models to the modern-day financial services industry. The objective of this research paper is to analyse the factors that contribute to new business models of financial institutions from the adoption of convergent technologies to facilitate the customer's base.

In Malaysia, Bank Islam Malaysia Berhad is the first bank that uses SMS banking, but now almost all the commercial banks have mobile banking available to their customers. Lately, Hong Leong Bank Bhd (Hong Leong Bank) offers a service called PEX (payment express) to their customers, an application that enables consumers to transfer money by simply entering their cell phone number rather than banking details. This makes fund transfers to other local banks within Malaysia easier for Hong Leong Bank consumers. However, Hong Leong Bank consumers can only transfer funds through the application that is offered by the bank. In addition, cashless payments are deemed to be increasingly popular in Malaysia when Alipay arrived in the Malaysian market on June 2017 with the famous retailer, '7-Eleven' becoming the first to recognize the payment channel ("CIMB bags 'Best Retail Bank in Malaysia' award", 2017). Furthermore CIMB Bank implemented Alipay mobile wallet alongside Genting Malaysia Berhad, Digi Telecommunications Sdn Bhd, YTL Corporation Berhad and FamilyMart (Hew, 2017).

The development of FinTech in Malaysia such as electronic payments and online banking has contributed to the increasing advancement in technology productivity in Malaysia. The services offered by the financial institutions continue to challenge and cater to the attitudes of consumers who are accepting of new technology products to gain market opportunities. In response to the new technology, contemporary changes and millennium generations involving new technology applications with great market potential for financial institution to maintained market share. Thus, according to Ryu (2018), FinTech has become an important and interesting topic given the rapid growth and changing in the information technology. Therefore, this paper aimed to close the research gap in Malaysian Fintech whereby financial institutions should comprehend their clients' acknowledgment of FinTech, which is the main force that influences a customer's aim to use FinTech in financial services. The research is needed to gather relevant data to help companies in working towards the development of FinTech that will satisfy consumers, and fulfill the need in accordance with the local culture to draw in more potential clients. The savage rivalry in the Malaysian business industry ought to be inventive and imaginative with a specific end goal to be sufficiently aggressive in order to remain in the market.

According to a study by Khraim, Shoubaki and Khraim (2011), there is rapid growth in the adoption of FinTech in financial services in the West; however, Cheah, Teo, Sim, Oon and Tan (2011) stated that FinTech adoption is still in its beginning stages and relatively foreign to Malaysians. PricewaterhouseCoopers (2016) reported that most Malaysians are open minded toward FinTech, however 74 percent of them still have doubts about conducting certain transaction activities via technological devices. Thus, the usage of FinTech became unfamiliar and not fully utilized by most consumers (Venkatesh & Bala, 2008). Therefore, this research aims to understand the intention of FinTech adoption through the Malaysian perspective and to discover the factors that influence the acceptance of FinTech in a consumer's daily activities.

## LITERATURE REVIEW

FinTech is derived from the convergence of "finance" and "technology" which means using innovative technology such as mobile, social media or IoT (Internet of Things) to enhance the productivity and efficiency of financial services without the help of a financial company (Chuang, Liu & Kao, 2016; Kim et al., 2016). Although FinTech has been widely used in countries such as China, Korea, India, Finland and the United Kingdom (Chua, Lim & Aye, 2019; Kim et al., 2016), adoption of FinTech in Malaysia still remains at the preliminary stage (Chua et al., 2019). Moreover, intention towards the adoptions of FinTech still remains unexplored in the Malaysian context (Chua et al., 2019; Ghazali & Yasuoka, 2018).

According to the theoretical model proposed by Wen (2016), factors like perceived usefulness, price value, personal innovativeness, security concern and perceived enjoyment influence the intention to adopt technology. Nevertheless some weaknesses are identified in the study by Wen (2016) as the study only focused on the adoption of plastic cards in Finland which is a different technology context that is not related to the Malaysian region, thus this research is to enhance Wen's model and use it to study the intention to adopt FinTech in Malaysia.

### Intention towards Adoption of FinTech

Intention towards adoption can be defined as an individual's willingness to do or use something based on his motivation behaviour ("What is adoption intention", 2017). The current study analysed the adoption rate of FinTech via six independent variables from Wen's (2016) model. Besides that, the intention towards adoption examines the behaviour of consumers in FinTech and predicts the willingness of consumers to adapt to the modern era of technology in daily transactions. There are many factors that might affect the intention toward adoption of FinTech, but this study focused on the perceived ease of use, perceived usefulness, personal innovativeness, perceived enjoyment, social influence, and security concern. According to Abrahão, Moriguchi, and Andrade (2016), behaviour intention is used to study the intention to adopt new technology. This study adopted the Technology Acceptance Model and Unified Theory of Acceptance and Use of Technology (UTAUT) to investigate the extent of Malaysians' acceptance of changes in the technology in daily transactions.

### **Perceived Ease of Use toward the Adoption of Fintech**

Davis (1989) defined a perceived ease of use as the level a person who believes that online transactions via mobile banking would be effortless. The perceived usefulness and perceived ease of use are important in explaining user intention and behaviour towards the use of new technology. According to Alsamydai, Yassen, Alanaimi, Dajani, and Al-Qirem (2014), perceived ease of use is defined as easy to learn and use in order to prevent the problem of using technology in financial transactions. Kim et al. (2016) has found out that among the factors that explain the acceptance of mobile banking, perceived ease of use is reported to have significantly influenced the consumer's acceptance of information technology. A case of access bank in Ghana, Nigeria examined the factors which influenced the behavioural intention to use FinTech and the result showed that perceived ease of use has positively affected the consumers' intention to adopt this technology in the access bank (Cudjoe, Anim, & Nyanyofio, 2015).

A study from Chansaenroj and Techakittiroj (2015) from Thailand highlighted the positive relationship between perceived ease of use and intention to use mobile banking. They concluded that, whenever the developed system is easy to use it increases the intention to use mobile banking. Besides that, perceived ease of use can be defined as customer not requiring an additional skill in using the new technology. It also defined that the platform has a user-friendly interface, clear instructions and helps in facilitating online transactions. Similarly, Chen (2016) examined a case of Fintech development in China and further justified that mobile technology has the most user-friendly interfaces. The expediency of access has increased the likelihood of Chinese consumers' intention to use this type of modern technology (Chen, 2016). Furthermore, Huei, Cheng, Seong, Khin and Bin (2018) have conducted a preliminary study regarding FinTech in Malaysia and found that the perceived ease of use will potentially affect the consumers' attitude towards the intention to adopt FinTech products and services. However, empirical studies are still needed to prove this (Huei et al., 2018). Thus, based on this point of view, this study proposed that:

H<sub>1</sub>: There is a positive relationship between perceived ease of use toward the adoption of FinTech.

### **Perceived Usefulness toward the Adoption of Fintech**

According to the Theory Acceptance Model, perceived usefulness is the level of confidence a person has in using a specific system to augment his or her performance in a job or task. In other words, it leads to the consumer's perspective of performance concerning the outcome of the experience (Chuang et al., 2016; Wonglimpiyarat, 2017). In the technological industry, perceived usefulness has been an important factor that drives consumers in adopting a new technology, provided that performance of the job is completed with more efficiency and is based on consumer standards (Chuang et al., 2016; Wonglimpiyarat, 2017). Moslehpour, Pham, Wong and Bilgili (2018) investigated the online purchase intention of Taiwanese consumers and found out that perceived usefulness could be the predictor for consumers' intention to adopt FinTech for their online purchases. Moreover, the research conducted by Kim et al. (2016) asserted that the perceived usefulness of FinTech is most applicable for a practical purpose such as checking one's account balance and fund transfers.

According to Wonglimpiyarat (2017), implementing FinTech in the banking sector in Thailand has fulfilled the job relevance of the technology. Consumers are able to obtain information needed easily rather than wasting time searching from multiple sources of information, and with this demonstrability of finance towards the market automatically it improves consumers' intention toward the adoption of FinTech (Lee, 2017; Wonglimpiyarat, 2017). Moreover, previous scholars realised that individuals frequently evaluate the consequences of their behaviour and make their choices based on the desirability of perceived usefulness (Chuang et al., 2016; Moslehpour et al., 2018). Based on the past analysis, perceived usefulness has influenced the consumers' intention towards the adoption of FinTech as individual consumers are able to avoid making unnecessary mistakes during the commencement of jobs with the help of FinTech. Furthermore, perceived usefulness has a constructive outcome in affecting the intention to use FinTech since customers will evaluate the satisfaction of conducting financial services through a technological platform (Chuang et al., 2016; Moslehpour et al., 2018; Wonglimpiyarat, 2017). Previous studies have examined this variable as the most effective predictor for customers' satisfaction because the consumers judge their value of satisfaction based on the usefulness and the strength points of the system or product in FinTech industry (Chen, Chen, Yeh & Tsaur, 2016; Lee, 2017). Thus, there appears to be a theoretical relationship between perceived usefulness and intention to adopt FinTech although this relationship has yet to be tested empirically. Therefore, the following hypothesis are posited:

H<sub>2</sub>: There is a positive relationship between perceived usefulness toward the adoption of FinTech.

### **Social Influence toward the Adoption of Fintech**

Social influence is defined as the influence of others in the matter of adopting a new system and individual's perception on the reference group's subjective culture (Chuang et al., 2016; Kim et al., 2016; Venkatesh, Morris, Davis, & Davis, 2003). As mentioned by Kim et al. (2016), social influence affects a person's behaviour through compliance, internalization, and identification that are categorized as a response to social pressure, the potential gains in social status, and changes in one's beliefs structure. Research by Wen (2016) on finance related products shows the uncertainty; users of a new system tend to be very alert in the decision-making process and conduct a lot of pre-checks. Furthermore, as argued by Wen (2016), social influence is one of the main factors that affects a person's opinion or experience towards the new and unfamiliar FinTech product. Oliveira, Thomas, Baptista and Campos (2016) carried out an empirical research based on the UTAUT model which showed that social influence has a significant influence on behavioural intentions to adopt mobile payment technology in Portugal. Their study affirmed that social influence will affect the behavioural intention of mobile payment because individuals are easily influenced by people around them (Oliveira et al., 2016). Since mobile payment and e-commerce play a vital role in FinTech, there will be a high rate of potential followers who are keen to know about these new and emerging technologies.

The impact of new technology adoption indicates that users are not only attracted by the benefits given by FinTech but they are also influenced by the users' social circle who use it as well (Chuang et al., 2016; Kim et al., 2016; Oliveira et al., 2016). Thus, this study investigated whether social influence would affect the individual's intention to adopt FinTech as consumers are surrounded by their social circle most of the time. Accordingly, the following hypothesis is asserted:

H<sub>3</sub>: There is a positive relationship between social influence toward the adoption of FinTech

#### **Personal Innovativeness toward the Adoption of Fintech**

Personal innovativeness is defined as an individual's willingness to accept new things and use the new information technology apart from using traditional methods (Agarwal & Prasad, 1998; Liébana-Cabanillas, Marinkovic, de Luna & Kalinic, 2018). It removes the resistance of an individual to use information technology product and reduce their doubts on new products. According to Liébana-Cabanillas et al. (2018), consumers who are highly innovative can act as a pioneer or change agent for the implementation of new information technology. Not only that, they can help to measure and predict the behaviour of the user and make a correction if any errors are found, and they are symbolized as risk takers upon the uncertainty of new technologies (Liébana-Cabanillas et al., 2018; Wen 2016).

According to Oliveira et al. (2016), and Liébana-Cabanillas et al. (2018), personal innovativeness is an important element in the implementation of information technology, as the characteristics of creativeness and uniqueness will affect the acceptance of individuals towards the new technology. However, most of the people tend to feel ambiguous on the adoption of new technology as they do not have much knowledge and experience to use it. For instance, Wen (2016), and Liébana-Cabanillas et al. (2018) found a significant and positive relationship between personal innovativeness and users' intention to adopt new technology. In relation to the intention to adopt FinTech, personal innovativeness seems to play an important role to influence a person's acceptance by removing their anxiety. Hence, this study proposed that:

H<sub>4</sub>: There is a positive relationship between personal innovativeness toward the adoption of FinTech.

#### **Security Concern toward the Adoption of Fintech**

Security concern is defined as the ability and willingness to keep monetary information confidential from security breaches during transmission and storage (Taherdoost, 2017). Security concerns refer to both private information and action issues that consumers will consider whether the technology providers are willing and able to protect the consumer's monetary information from hackers (Taherdoost, 2018). Security concerns have become a debatable issue and it creates an obstacle towards technology adoption (Ogbanufe & Kim, 2018), use of mobile payments (Tseng, Han, Su & Fan, 2017), and e-commerce adoption (Taherdoost, 2017).

Study from Tseng et al. (2017) reported that 56.2% of Taiwanese refuse to use mobile banking due to security issues. Similarly, Ogbanufe and Kim (2018) point out that increase in cybercrime has become one of the obstacles for the implementation of FinTech as most of the people feel unsecured of this security threat. Security concerns have always been recognized as an important determinant in the adoption of FinTech (Taherdoost, 2018; Tseng et al., 2017). According to Ogbanufe and Kim (2018), security and the confidentiality of personal data have been one of the fundamentals in settling and processing financial transactions. Their study found that the loss of individual information might create negative perceptions and hinder the adoption of technologies.

Previous studies show that security concerns have become the barrier towards the adoption of mobile payments as this type of transaction requires the revelation of financial information which is highly personal and sensitive (Dahlberg, Guo, & Ondrus, 2015; Tseng et al., 2017; Taherdoost, 2018). Consequently, this study posited that security concerns will also have a substantial impact towards the intention to adopt FinTech:

H<sub>5</sub>: There is a positive relationship between security concerns toward the adoption of FinTech.

#### **Perceived Enjoyment toward the Adoption of Fintech**

Perceived enjoyment can be defined as an intrinsic reward in the form of subjective psychological experience from the usage of new information technology (Chen et al., 2016; Chuang et al., 2016). Perceived enjoyment is a motivator that will influence an individual's information technology acceptance behaviour (Boonsiritomachai & Pitchayadejanant, 2017). A study by Boonsiritomachai and Pitchayadejanant (2017) regarding the adoption of mobile banking towards generation Y in Thailand found that when technology is fun and pleasant, users will be self-motivated to adopt it. Similarly, Pousttchi and Dehnert (2018) have gathered the online consumers' data from Germany, U.S. and U.K. to test on the significant impact on the consumers' decision making towards the use of digitalization in retail banking sector. Their study claimed that perceived enjoyment had made a significant impact as the digital functions have made the system more fun to be used and made the online transactions become easier.

Moreover, Chen et al. (2016) determined that one of the key factors which influences consumers in Taiwan to use online financial service is perceived enjoyment because consumers tend to feel happy and pleasant to try a new system when it is perceived to be useful and enjoyable. During the process of new technology adoption, perceived enjoyment will significantly affect the behavioural intention to adopt a new technology because when individuals regularly repeat the action and enjoy to do so, this action will certainly become their habit in future (Chen et al., 2016; Pousttchi & Dehnert, 2018). Based on the discussion and previous findings, there appears to be a theoretical relationship between perceived enjoyment and the intention to adopt FinTech. Thus, the following hypothesis is posited:

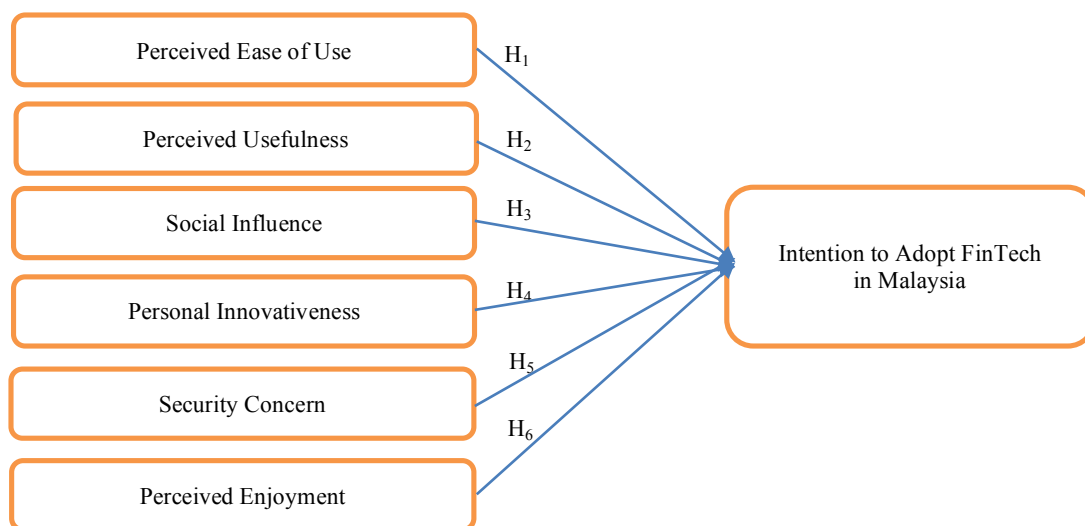
H<sub>6</sub>: There is a positive relationship between perceived enjoyment toward the adoption of FinTech.

**CONCEPTUAL FRAMEWORK**

Based on the preceding discussion, a conceptual framework is constructed and outlined in Figure 1. The anchor theories used to support this study are Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT) which it shelters on the study of perceived usefulness, perceived ease of use, perceived enjoyment and social influence towards technological acceptance (Venkatesh & Bala, 2008; Venkatesh et al., 2003). However, there are some limitations on the TAM and UTAUT, one of which is that they forgo the need for security (Shin, 2010) and innovativeness (Turan, Tunç, & Zehir, 2015) in explaining technology acceptance. Risky technology adoption models (RTA) explain the existence and impact of security concerns and risk occurrence while performing activities through the use of technology (Gupta & Xu, 2010). Meanwhile, the inclusion of personal innovativeness justifies the need in explaining technology adoption (Agarwal & Prasad, 1998).

The framework in this study adopts the Technology Acceptance Model with the inclusion of personal innovativeness to study the intention of adoption on the usage of information technology and how user willingness influences the use of new technology in performing financial services. Moreover, the framework in this study further added security concern as risky technology from risky technology adoption models. According to Gupta and Xu (2010), security concerns in the adoption intention can be divided into two independent variables which are technology risk and safety awareness, both of which are important to the adoption intention, but users will pay more concern on safety awareness than technology risk. On the other hand, motivation perspective affects the use of information technology (Yoo, Hang, & Huang, 2012) to the extent that perceived usefulness and perceived enjoyment can affect the intention to adopt.

**Figure 1: Conceptual Framework of the Study**



**METHODOLOGY**

**Research Design and Data Collection**

The study focuses on how Malaysian consumers adopt FinTech in a financial related transaction. In regard to this, primary data is ideal in collecting information pertaining to Malaysian consumers of their intention in adoption of FinTech. Consumers who own a smart phone/device and own an account in any financial institution were targeted for this study. Convenience sampling was used to conduct the survey due to the unavailability of lists of financial institutions’ consumers. This sampling approach is frequently utilized by social science studies due to its close proximity, accessibility, willingness and quick response (Jager, Putnick, & Bornstein, 2017).

Respondents across states in Malaysia were surveyed through distribution of hard copy survey questionnaire and online survey. Participants were unequivocally informed of the purpose of the study and voluntarily expressed their interest in this study. A total of 350 questionnaires were collected across states in Malaysia and 50 questionnaires were rejected due to missing data, incomplete questionnaires and outliers. The balance of 300, representing 85.7 percent of effective data response rate, was used to address the objective in this research.

**Survey Instrument**

A structured research questionnaire was used to examine the adoption of FinTech in Malaysia. The measurements and sources of the survey questionnaire are listed in Table 1. Nevertheless, a 7-point Likert scale is used in the questionnaire so that reliability in the study is optimized and reflects the true respondent judgement (Joshi, Kale, Chandel, & Pal, 2015).

To ensure the content validity and the adopted questions are relevant and suitable to the Malaysian context, a pilot test was carried out to a cluster of experts to examine the attributes of the intended measures. Consequently, several changes to the questionnaire were proposed and incorporated. Furthermore, internal consistency was checked on the pilot study. All the proposed constructs were reported to have a Cronbach’s Alpha above 0.7 (refer to Table 1) and the reliability of those questions are considered to be acceptable (Hair, Black, Babin & Anderson, 2010). Several data analysis tests, namely descriptive analysis, pearson correlation, multilinear regression, independent sample t-test and one-way ANOVA, were performed with SPSS 22.0 to answer the hypothesis testing of this study.

**Table 1: The Structure of Questionnaires, Cronbach’s Alpha and Sources**

Objects/ Variables	Questions	Cronbach’s Alpha	Adopted / Sources
Perceived Ease of Use	5	0.920	Davis (1989) Cowen (2009)
Perceived Usefulness	5	0.969	Davis (1989) Alsamydai et al. (2014)
Social Influence	6	0.956	Xu, Li, Peng, Hsia, Huang, & Wu (2017) Wen (2016)
Personal Innovativeness	5	0.835	Boyle & Ruppel (2006) Rosen (2005)
Security Concern	5	0.738	Gupta & Xu (2010) Mohamed (2013)
Perceived Enjoyment	5	0.876	Wang, Lin, Wang, Shih, & Wang (2018) Liao, Tsou, & Shu (2008)
Intention to Adoption	5	0.944	Venkatesh, Thong, & Xu (2012) Baraghani (2008)

**DATA ANALYSIS**

**Descriptive Analysis**

There was a total of 300 respondents in this study, of which 51.7% are males and 48.3% females. A majority of the respondents, that is, 52% are in the age range of 18-25, followed by 33% from age 26-35, 11% from age 36-45, 3.7% from age 46-55 and 0.3% from above 55. Most of the respondents’ income level ranges from less than RM1000 (31.3%), RM1000-2499.99 (25.7%), RM2500-3999.99 (25%) and above RM4000 (18%). In terms of race, 35% are Chinese, 34.3% are Indian, 37.7% are Malay and 3% others. Most of the participants are single (62.7%), while others are married (35%), widowed (1.7%) and divorced (0.7%). As for the education level of the 300 respondents, 50% hold a bachelor’s degree, 15.3% a master degree, 12.3% SPM/O-level, 9% STPM/A-level, 6.7% PhD, 6.3% diploma, and 0.3% professional certificate.

**Table 2: Demographic Profiles of the Respondents**

Demographic	Frequency	Percentage (%)
<u>Gender</u>		
Male	155	51.7
Female	145	48.3
<u>Age</u>		
18 - 25 years old	156	52
26 - 35 years old	99	33
36 - 45 years old	33	11
46 - 55 years old	11	3.7
Above 55 years old	1	0.3
<u>Income Level</u>		
Less than RM 1,000	94	31.3
RM 1,000 - RM 2,499.99	77	25.7
RM 2,500 - RM 3,999.99	75	25
RM 4,000 and above	54	18
<u>Race</u>		
Malay	83	27.7
Indian	103	34.3
Chinese	105	35
Others	9	3
<u>Marital Status</u>		
Single	188	62.7
Married	105	35
Widow	5	1.7
Divorced	2	0.7
<u>Education Level</u>		
SPM / O-level	37	12.3
STPM / A-level	27	9
Diploma	19	6.3
Bachelor's Degree	150	50
Master's Degree	46	15.3
PhD's Degree	20	6.7
Professional Certificate	1	0.3

### Reliability & Discriminant Analysis

Table 3 shows that the Cronbach's Alpha on all the constructs (perceived ease of use, perceived usefulness, social influence, personal innovativeness, security concern, perceived enjoyment, and intention to adopt FinTech) ranged from 0.789 to 0.948. Out of all the independent variables, perceived usefulness (mean: 5.397) was reported to be the greatest influencer on intention to adopt FinTech, followed by perceived ease of use (mean: 5.143), perceived enjoyment (mean: 4.744), security concern (mean: 4.701), social influence (mean: 4.608) and personal innovativeness (mean: 4.409).

**Table 3: Reliability, Mean and Standard Deviation**

Items	Cronbach's Alpha	Mean	Standard Deviation
<b>Perceived Ease of Use</b>	0.897	5.143	1.077
PEU1		5.400	1.262
PEU2		5.300	1.228
PEU3		5.270	1.206
PEU4		4.633	1.481
PEU5		5.110	1.196
<b>Perceived Usefulness</b>	0.948	5.397	1.180
PU1		5.267	1.347
PU2		5.457	1.262
PU3		5.520	1.302
PU4		5.460	1.291
PU5		5.283	1.281
<b>Social Influence</b>	0.927	4.608	1.120
SI1		4.597	1.280
SI2		4.533	1.260
SI3		4.530	1.299
SI4		4.647	1.299
SI5		4.610	1.315
SI6		4.733	1.394
<b>Personal Innovativeness</b>	0.816	4.409	1.062
PI1		4.593	1.440
PI2		4.110	1.346
PI3		4.067	1.452
PI4		4.500	1.430
PI5		4.773	1.322
<b>Security Concern</b>	0.789	4.701	0.951
SC1		4.163	1.473
SC2		4.703	1.350
SC3		4.547	1.244
SC4		5.043	1.189
SC5		5.050	1.180
<b>Perceived Enjoyment</b>	0.926	4.744	1.031
PE1		4.687	1.125
PE2		4.787	1.122
PE3		4.740	1.165
PE4		4.643	1.263
PE5		4.863	1.187
<b>Intention to adopt FinTech</b>	0.941	5.270	1.109
I1		5.377	1.200
I2		5.320	1.207
I3		5.267	1.255
I4		5.267	1.249
I5		5.120	1.256



Correlation analysis was performed to gauge discriminant validity among the reported constructs. Based on Table 4, the correlation coefficients for all of the constructs were reported to be significant and ranged from 0.491 to 0.686. Since the correlation coefficient was significant and fell within the range of 0.1 to 0.85 (Hair et al., 2010), discriminant validity was supported.

**Table 4: Correlation Coefficient of Independent Variables and Dependent Variable**

	PEU	PU	SI	PI	SC	PE	I
PEU	1						
PU	0.776**	1					
SI	0.494**	0.563**	1				
PI	0.439**	0.390**	0.315**	1			
SC	0.550**	0.529**	0.507**	0.425**	1		
PE	0.539**	0.570**	0.554**	0.507**	0.613**	1	
I	0.638**	0.668**	0.546**	0.491**	0.597**	0.686**	1

\*\* Correlation is significant at the 0.01 level (2-tailed).

PEU: Perceived Ease of Use, PU: Perceived Usefulness, SI: Social Influence, PI: Personal Innovativeness, SC: Security Concern, PE: Perceived Enjoyment, I: Intention to adopt FinTech

**Regression Analysis**

As documented in Table 5, R2 value was 0.624 (p = 0.000), which proposed that all the six constructs (perceived ease of use, perceived usefulness, social influence, personal innovativeness, security concern and perceived enjoyment) explained 62.4% of the variation of intention to adopt Fintech. The independent variables were sufficient to be classified as an explanatory variable given that the p-value was less than 0.1. The  $\beta$  value for independent variable postulate the impact of the variable toward the dependent variable. From the study, perceived ease of use ( $\beta = 0.139$ , p = 0.025), perceived usefulness ( $\beta = 0.223$ , p = 0.000), social influence ( $\beta = 0.08$ , p = 0.086), personal innovativeness ( $\beta = 0.112$ , p = 0.013), security concern ( $\beta = 0.147$ , p = 0.011), perceived enjoyment ( $\beta = 0.324$ , p = 0.000).

Out of the 6 independent variables, perceived enjoyment posited the strongest influence ( $\beta = 0.324$ ), followed by perceived usefulness ( $\beta = 0.223$ ), security concern ( $\beta = 0.147$ ), perceived ease of use ( $\beta = 0.139$ ), personal innovativeness ( $\beta = 0.112$ ), and social influence ( $\beta = 0.08$ ). Hence, it can be concluded that all the independent variables (perceived ease of use, perceived usefulness, social influence, personal innovativeness, security concern, perceived enjoyment) have a positive and significant relationship with intention to adopt FinTech.

**Table 5: Regression Results of Independent Variables on Intention to Adopt Fintech**

Intention to adopt FinTech	Beta	Sig.	Collinearity Statistics		Result
			Tolerance	VIF	
(Constant)	0.258	0.279			
Perceived Ease of Use	0.139	0.025	0.358	2.793	Accept H <sub>1</sub>
Perceived Usefulness	0.223	0.000	0.343	2.920	Accept H <sub>2</sub>
Social Influence	0.080	0.086	0.583	1.714	Accept H <sub>3</sub>
Personal Innovativeness	0.112	0.013	0.696	1.437	Accept H <sub>4</sub>
Security Concern	0.147	0.011	0.531	1.882	Accept H <sub>5</sub>
Perceived Enjoyment	0.324	0.000	0.464	2.155	Accept H <sub>6</sub>

R= 0.790; R<sup>2</sup>=0.624; Sig.= 0.000

**Intention to Adopt Fintech and Gender of Respondent**

Table 6, T-test for equality of means was reported to be significant (0.074 < 0.1) and it was concluded that there was a difference of intention to adopt FinTech in terms of gender of respondent. Based on the mean, males indicated a greater intention to adopt FinTech as compared to females (5.381 > 5.152). Thus, males were reported to have greater intention to adopt FinTech than females.

**Table 6: Group Statistics and Constructs Samples Test of Gender**

Constructs	Gender	N	Mean	Standard Deviation	T-test for Equality of Means (Sig.)
Intention to adopt FinTech	Male	155	5.381	1.125	0.074
	Female	145	5.152	1.083	

**Intention to Adopt Fintech and Age of Respondent**

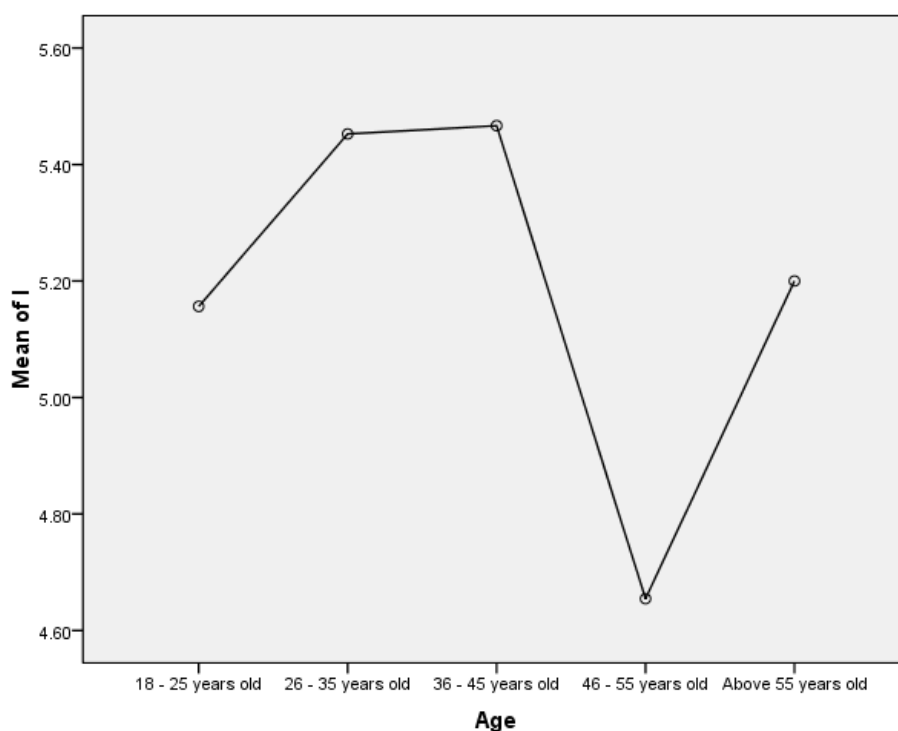
Derived from Table 7, one-way ANOVA test was conducted and there was a difference of intention to adopt FinTech in regard to age of the respondent (p: 0.067 < 0.1). However, post hoc test was not able to be performed as there was a single group of age group which is less than two cases. In order to gauge the difference, mean plot was presented to further examine the differences. It was further concluded that respondents in the age group that fell between 26 to 45 had the greatest intention to adopt FinTech,

followed by 18 to 25, and above 55 years old (refer to Figure 2). Lastly, those aged between 46 to 55 years old had the least intention to adopt FinTech.

**Table 7: Group Statistics and Constructs Samples Test of Age**

Constructs	Age	N	Mean	Standard Deviation	ANOVA (Sig.)
Intention to Adopt FinTech	18 - 25 years old	156	5.156	1.210	0.067
	26 - 35 years old	99	5.453	0.993	
	36 - 45 years old	33	5.467	0.699	
	46 - 55 years old	11	4.655	1.330	
	Above 55 years old	1	5.200	-	

**Figure 2: Mean Plot of Intention to Adopt Fintech and Age**



## CONCLUSION AND DISCUSSION

This study contributes to the research gap on understanding the adoption of Fintech in Malaysia. The evolution of the Fintech trend is greatly influenced by the perception of consumers but still equitably ambiguous in the areas of research that needed a solid academic ground finding to support mapping on literature. Thus, the main objective of this study is to observe factors and their significance in contributing to Malaysians adoption of FinTech. In regard to the main objective, the findings showed a positive and significant relationship between all chosen study variables, the perceived ease of use, perceived usefulness, social influence, personal innovativeness, security concern, perceived enjoyment, and intention towards the adoption of FinTech. The application in the financial technology lessens required knowledge to learn the process of new system and promotes the usage in banking transaction as cited by Alsamydai, Yassen, Alanaimi, Dajani, and Al-Qirem (2014). On top of that, the intention to use financial technology for banking transactions is greatly influenced by system user-interface, user-friendliness and clear instruction. According to Jeong and Yoon (2013), the technology adoption does provide greater effectiveness and efficiency to conduct financial services. Thus, the findings in this study support the idea that functions offered by technology is another pivotal attraction and shape consumer decisions to adopt technology in financial services. On the other hand, the findings designate a positive impact on consumers towards the innovativeness in technology adoption by performing financial services. In the study of Liébana-Cabanillas et al. (2018), the design and need of technology system are greatly influenced by the consumer innovativeness where they act as change agent for the improvement. Nonetheless, the findings of this paper show low coefficient of 0.080 on innovativeness toward the adoption given that Malaysians lean towards protectionism in particular sharing the ideas and need that impact on technology-intensive in adopting the Fintech. The security concern is significant and positively influences one's intention to adopt FinTech, as the trustworthiness of new technologies is important to ensure secured personal

data. This is consistent with the study by Ogbanufe and Kim (2018), which argued that personal data is the most important fundamental in designing the financial technology to create consumer assurance on personal data protection throughout the banking transactions. Nonetheless, it is crucial for technology adoption to be enjoyable as to consumer satisfaction and to lend affluence to their lifestyle, therefore the results of this study showed the highest coefficient level of 0.324 in the acceptance of financial technology as Malaysian internal motivations that express the usage of financial technology process.

The second objective of this study is to investigate the age group driving this research gap that contributes to the extent of FinTech adoption in Malaysia. The findings showed that, males had greater intention as opposed to females in adoption of FinTech, as it was reported that males have more know-how in technology, particularly in FinTech which requires enhanced technological skills as it involves monetary transactions. Nevertheless, males are more attracted to develop confidence with financial system as compared to females who develop anxiety, lowered interest and negative attitudes in regard to monetary issues (Liébana-Cabanillas, Sánchez-Fernández, & Muñoz-Leiva, 2014). On top of that, the findings also indicated that the younger generation aged 45 and below are more attracted to adopt FinTech, as opposed to the older generation. This finding is consistent with Alalwan, Rana, Dwivedi, Lal, and Williams (2015), which postulated that younger people are keener to accept new technology for the purpose of convenience in conducting transactions. Moreover, younger consumers have more interaction with technology which leads them to have sufficient level of ability and knowledge towards using it. On top of that, older users have a harder time in circumventing new technology, especially when conducting financial services through a technological platform.

As implications of this study for marketplace practices especially regarding financial institutions can help on banking process decision-making. On top of that, researchers can further improved on the research framework and retailer managers identified the major factors in influencing the acceptable of financial technologies such as e-wallet. Nevertheless, the findings do provide a generalizability of FinTech in Malaysia and TAM but not without some limitations. It is important for future research to examine moderating effects such as gender, age or education level and also mediating effects. This additional variance of behaviour will provide a valuable insight on a consumer's reaction toward FinTech adoption. Thus, it would provide a more concrete understanding on the interaction between these variables.

In a nutshell, the findings of this study suggest some points that might benefit different constituencies of stakeholders to enhance the consumer intention in adoption of FinTech. Corresponding to the findings, financial services providers or regulators can use these findings as a guide to encourage customers' participation in the use of FinTech in the application of financial services. As such, financial services providers should design and offer consumers a technological tool in which it should be user friendly, efficient, and effective in performing its tasks. Moreover, financial services providers should integrate their technology with greater interaction among peers in order to promote the participation in FinTech.

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