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## Unlocking the Key Drivers of FinTech Adoption: The Mediating Role of Trust Among Malaysians

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### **Abstract**

*The FinTech services acceptance rates in Malaysia is not growing in parallel with the FinTech growth rate due to a lack of trust in the availability of the FinTech services. Thus, this research intends to investigate the key determinants in the adoption of FinTech services among Malaysians and the mediating role of trust in the said adoption. This study used the quantitative method, whereby a total of 171 respondents took part in the online survey, via social media channels. Structural Equation Modelling (SEM) was used to analyse the collected data. The findings of the study conjecture that the adoption of FinTech services is influenced by perceived usefulness, ease of usage and user innovativeness. Furthermore, the findings noted that perceived risks do not influence FinTech adoption services. The main contribution of the study is the fact that trust fully mediates the impact of perceived risk towards FinTech adoption. The findings of this research can be used as a guideline by regulatory bodies and financial institutions to gradually transform, alleviate or completely migrate from conventional services into FinTech.*

**Keywords:** TAM, Fin Tech, Trust, Mediator, Adoption, Fintech Service in Malaysia.

### **Introduction**

"Fintech" can be defined as an emerging technological advancement in the financial industry, combined with creative business models to deliver efficient and effective financial services to the end-user (Hu et al., 2019). The financial services industry must focus more on innovations because consumers are in a transitional phase, moving towards FinTech services from conventional methods (Hu et al., 2019). While FinTech users are constantly growing, there is a paucity of research findings that determine the factors that affect the adoption of FinTech

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services in developing countries. In fact, IMF (2020) reported that Malaysian FinTech market is growing at a slower growth rate compared to other South-East Asian countries such as Singapore. Additionally, extant literature has traditionally used trust as an antecedent and proved the significant correlation between trust, perceived usefulness and ease of use, yet the mediating effect of trust on technology acceptance has not been examined thoroughly (Venkatesh et al., 2012, Susanto et al., 2015). Thus, the purpose of this research is to evaluate the factors influencing FinTech adoption services as well as to examine the mediating effects of trust on FinTech adoption by using the TAM model.

According to Jin et al. (2018), the Malaysian FinTech market is still in the blooming stage where the cost and benefits involved are not fully explored. Besides, studies have found that 82% of consumers who are aware of FinTech are worried about embracing it due to the potential high risks (Tang et al. 2020 & Padmanabhan et al. 2016). According to the existing research findings, lack of reliability, lack of confidentiality and lack of stability of the system cause consumer reluctance to adopt FinTech services (Singh et al., 2021, p. 255). With the current market conditions, the necessity of having technology embedded in banking services has stimulated consumer buying behaviour. Consumers demand FinTech services with a high level of repetitiveness, easy adaptability and trustworthy platforms to perform their daily monetary needs (Walden, 2020). Moreover, FinTech has reduced the transaction time and other related costs such as documentation, physical appearance in banks etc. Besides, it helps to perform a transaction without human involvement. However, trust decreases when performing a transaction without human involvement. On the other hand, the involvement of a third party increases the cost of the transaction. Hence without third-party participation, the consumer can reduce costs but if the Fintech service is not trustworthy, the consumer will resist adopting (Hu et al., 2019; Singh et al., 2021; Walden, 2020). Therefore, it is important that initiatives and strategies are in place, to build trust among consumers to succeed in FinTech.

In fact, the financial sector in Malaysia is facing two major dramatic changes due to emerging Fintech developments. Firstly, Financial Institutions (FIs) had to adopt new technologies to offer services to consumers. Secondly, the competition between tech companies entering into financial services (fintechnews.my, n.d.). Due to the massive competition among FI and tech companies, as of 2019, Malaysia recorded 200 FinTech start-ups providing FinTech services including payments, lending and blockchain (IMF, 2020). The payment, clearing and settlement sector is considered the active market for FinTech in Malaysia which represents 40% of the total Fintech market (Bank Negara Malaysia 2020; IMF, 2020). E-money is considered a growing segment where local FinTech players launched e-wallet platforms such as Boost, Mpay and Grabpay apart from international platforms such as Alibaba (Touch 'n Go eWallet) and Tencent (WeChat Pay MY). Even though there is significant existence of Fintech players in the market, it is considered inadequate due to a lack of awareness, trust and technophobia (fear to use technology) among Malaysians (IMF, 2020; Tang et al., 2020). Furthermore, financial institutions have launched

digital transformation plans to retain their customers while providing diversified convenient services to face the competition created by big tech firms. The major banks in Malaysia i.e. Maybank and CIMB Bank introduced digital initiatives in early 2017 and 2018 but the statistics of the usage of FinTech services demonstrated low adoption rates (Telecom Malaysia Survey, 2019). According to Jin et al., (2018), past studies have evaluated the factors that spark the intention to adopt FinTech, yet the importance of building trust to increase FinTech usage services is not sufficient to develop an electronic economy in Malaysia.

Statista Market Forecast estimated the number of FinTech start-ups as 166 in 2022 in Malaysia, yet there has not been conclusive research done to evaluate the main factors that boost FinTech adoption services and the impact of trust on adoption (Statista, 2018 and TM, 2019). Hence, it is important to identify these factors and evaluate the role of trust and its impact on them to increase the usage frequency of FinTech in day-to-day life among Malaysians (Tang et al., 2020). Based on the above discussion, the main objective of this study is to examine the factors that influences FinTech services adoption in the Malaysian FinTech market and the mediating role of trust in the relationship between the factors and the subsequent adoption of FinTech services.

The outcome of this study is expected to have several contributions to stakeholders. FinTech services not only streamlined the banking and e-commerce sector but the investment, insurance and investing in the share market have been accelerated. The involvement of robot advisors is gradually increasing in western countries where companies have created new job positions as 'the smart managers' to carry out the consultation via FinTech platforms (Walden, 2020). But often many consumers faced numerous issues due to a lack of trust and transparency in investment and transaction decisions. It remains to be found whether the risks involved in FinTech services exceed the benefits and the trust of the services well-identified (Walden, 2020).

Many FinTech services related to cryptocurrencies, blockchain and crowdfunding are identified as the unregulated and high risk involved areas where the service providers often experienced cyberattacks and threat exposures (Walden, 2020; E&Y, 2019). The possibility of information selling out is high even though companies must comply with the Privacy policy Act. Due to these unsolved issues, many FinTech start-ups in many countries including Malaysia face obstacles to continuing the business (Tan, 2021). Lack of trust became a major issue for Fintech start-ups in Malaysia. Besides, it is important to regulate the start-up procedures to ensure only the companies with reputable brand names will continue to implement new FinTech services in Malaysia.

Besides, this study highlights the mediating effect of trust on FinTech adoption which will divert basic expectations of FinTech service providers into new dimensions i.e., instead of spending on developing various platforms, they need to increase the trust level of the existing platforms (Singh et al., 2021). The findings obtained through this study will provide possible ways for Bank Negara Malaysia to regulate the FinTech start-ups and existing companies to ensure the trust of the FinTech services to increase the Fintech adoption. Further, FinTech service providers can

develop more sophisticated yet reliable and less risky FinTech products to mitigate consumer reluctance.

## **Literature Review & Hypotheses Development**

### ***Evolution of FinTech Services***

According to Arner et al. (2015), evolving FinTech was a result of The Global Financial Crisis (GFC) in 2008. The introduction of the Automatic Teller Machine (ATM) by Barclays Bank in 1967 has laid the foundation for modern FinTech evolution (Arner et al. 2015).

Before the GFC, the financial services demand technological innovations to collaborate with them to provide FinTech services as the primary dominant with the implementation of the Internet of Things (IoT) and internet (Arner et al., 2015; Leong & Sung, 2018). This business model has changed from 2008 onwards and organizations started new business ventures by providing technology-driven financial products and services directly without being an intermediary by using highly sophisticated technological advancements such as data technologies (Arner et al. 2015 Leong & Sung, 2018).

In line with Industry 4.0 revolution, banks, insurance, mortgage, forex, stocks etc. sectors start booming due to digital innovation and financial process automation (FinTech Weekly, 2021).

### ***FinTech Services in Malaysia***

Malaysia is ideally positioned to benefit from FinTech innovation, due to an expanding population of the working class, high mobile phone and broadband penetration rates, and the support given by the government to achieve the digital economy (Delina, L. L. (2023).

According to the statistics presented by Findex (2017), 85% of consumers have deposit accounts but only 25% utilize financing services. Besides, only 38% of consumers took the initiative to invest in financial institutions and only 34% of consumers used a debit card in banking transactions. According to Malaysia Digital Economy Corporation (MDEC), the usage of electronic money is still not at a considerable level. Thus, Malaysia is substantially a cash-based society and still has great potential for FinTech start-ups.

According to the IMF assessment, Malaysia represents a significant place in Islamic fintech as a leader in Islamic finance. In 2018, the country's Islamic bank loan growth reached 8.9%, compared to 2.5% for conventional banks. While Islamic finance is still in its infancy in Malaysia, the central bank encourages by providing legislative support to promote the sector. Fintech can assist Islamic financial institutions in many of the same ways that conventional finance does. Some fintech products may be especially effective in Islamic finance because they may promote transparency, which is a core principle of Islamic finance (IMF, 2020).

### ***Technology Acceptance Model (TAM)***

Technology Acceptance Model (TAM) is one that is highly recommended to be used in determining the user acceptance of technology adoption (Jin et al., 2019). The model was developed by Davis (1989) to demonstrate the factors that affect behavioural changes and consumer intention toward adopting new technology (Hu et al., 2019). The model has been adopted in various business and social fields which were transformed into technology-driven business processes (Jin et al., 2019). Hence, the TAM model can be applied to the FinTech field to evaluate the impact of particular characteristics of the users on technology acceptance.

The scholars (Jin et al., 2019 & Ajzen, 1991) claimed that the TAM model is simple to understand and easy to apply in any industry because the model has been theoretically and empirically supported by many studies. Apart from that, the TAM model is considered stronger than the Theory of Planned Behavior (TPB) (Jin et al., 2019 & Hu et al., 2019).

According to Davis et al. (1989), consumer intention is determined by perceived usefulness as well as ease of use of the suggested technology. Venkatesh and David (2000, p. 187) explained that perceived ease of use matters because when the system gets easier, its usefulness increases. Besides, Venkatesh and David have found that perceived usefulness has been a strong factor to determine user intention over the years with a constant coefficient of 0.6 (2000, p. 187). Moreover, some researchers proposed that trust and responsiveness are extremely important factors that will impact the perceived usefulness and perceived ease of use towards user intention (Singh et al., 2021, p. 256).

Many research findings proved that the above-mentioned variables have a big influence on FinTech services adoption (Hu et al. 2019). Subsequently, the mediating effect of trust on FinTech adoption has not been considered in previous research other than as an antecedent factor. Hence, this study will use perceived usefulness, perceived ease of use, perceived risk, and user innovativeness as the factors that influence the adoption of FinTech services with trust as a mediating factor.

### ***Factors Influencing FinTech Adoption Services***

- ***Perceived Usefulness (PU)***

Perceived usefulness has been used by many researchers constantly to determine user intention on technology adoption and studies have proved that perceived usefulness has a standardized coefficient of 0.6 (Venkatesh and Davis 2000, p. 187). Apart from that, many studies have proved that Perceived usefulness has proven to be an accurate indicator on the intention to pursue technological systems (Hu et al., 2019, Jin et al., 2019, Venkatesh et al., 2003).

Hence, it is important to identify the impact of perceived usefulness to determine the quality of the user experience (Venkatesh and Davis 2000, p. 187; Hu et al, 2019). As a result, the

widespread use of FinTech services and their embedded convenience increases perceived usefulness. Thus, it can be hypothesized as,

H1: PU *influences the adoption of FinTech services.*

- ***Perceived Ease of Use (PEU)***

This is the core benefit that can be gained by using a technology system. If the system is not complicated, users would not hesitate in accepting it (Davis, 1989).

Many studies mentioned that perceived ease of use positively impacts the willingness to use technological systems (Jin et al., 2019 & Meyliana et al., 2019). Besides, Songkram et al. (2023) found out that PEU has a direct impact on user intention. Thus, it can be concluded that the higher the ease of use, the higher the adoption of FinTech services. However, the impact of PEU still needs to be discovered due to the changes in consumer expectations, especially in a technology-driven economic era. Thus, it can be hypothesized as,

H2: PEU *influences the adoption of FinTech services.*

- ***Perceived Risk (PR)***

In technological prospects, risk generally affects user intention negatively. Many researchers have omitted the role played by perceived risk on technology adoption due to its complexity (Rong, 2016). Besides, consumers are still found to be anxious about using FinTech services even though there are numerous safety mechanisms, rules and regulations implemented by the government. Pavlou (2003) stated that consumers are still worried to complete the information required by e-commerce platforms due to the uncertainty associated (Blaise, 2016). Further, due to the sale of personal information, consumers lost trust in e-commerce platforms (Blaise, 2016). Many researchers have found that risk and trust have played a significant role in technology adoption (Lin et al., 2011; Blaise, 2016).

The overall risk factors are involved in determining the trustworthiness of FinTech services (Faradynawati 2018, p. 29). Ryu (2018) mentioned that overall higher perceived risk has a negative impact on the intention to use FinTech services. Thus, it can be hypothesized as,

H3: PR *influences the adoption of FinTech services.*

- ***User Innovativeness (UI)***

In general, if the individual is an early adopter, he or she is considered to have high innovativeness compared to others in the same social system. Their degree of uncertainty is bearable and has less perceived risk towards user intention (Zhang et al. 2018). Early adopters can identify errors in advance and they tend to solve the issues by taking initiatives hence, consumers with high innovativeness are considered risk-takers (Shaikh et al., 2023). Hu et al., (2019) further explained that extrovert consumers are willing to try new technologies and can be considered change agents.

These consumers become an idol to those who have less confidence in making transactions via technology-based systems hence perceived user innovativeness plays an important and significant role in determining user adoption (Hu et al., 2019; Chong et al., 2019).

Furthermore, it has been empirically proven that innovativeness describes behavioural user intention, which will definitely enhance the explanatory power of the study (Hu et al., 2019 & Zhang et al., 2018). Besides, innovative individuals are willing to try FinTech services due to high-risk tolerance hence, these consumers have a significant level of trust when adopting technology for the first time (Singh et al., 2021; Hu et al., 2019). Thus, it can be hypothesized as,

H4: UI *influences the adoption of FinTech services.*

- ***Trust in FinTech Services (TR)***

In technology acceptance, trust and brand image go hand in hand (Won et al., 2003 & Hu et al., 2019). Besides, consumers would realize the usefulness and ease of use of FinTech services the moment they develop trust in the technology (Meyliana et al., 2019). According to Blaise (2016, p. 32), the fundamental variables of TAM are influenced by trust as antecedent facto. Previous studies have suggested that trust has three-dimension which were disposition to trust, structural assurance and trust belief (Blaise, 2016; McKnight and Chervany, 2001). According to the research results, the disposition of trust is linked with personal preference where consumers withdraw interest in the technology system when he/she feels uncomfortable adopting it. Structural assurance plays a role with the environmental factors where consumers willingly adopt the technology if the majority of consumers recommend it. Trust belief comes with the integrity, competencies and trustworthiness of the vendors and the ability to provide the required information without hesitance (Blaise, 2016).

When trust is built, the perceived risk will decrease simultaneously and influence consumers to adopt technology as early as possible (Faradynawati 2018, p. 29; Meyliana et al., 2019). Thus, it can be hypothesized as,

H5: TR in *FinTech services influence the adoption of FinTech services.*

### ***Factors that Influence the TR in the Adoption of FinTech Services***

Across previous studies, many researchers included trust as an antecedent factor when proposing a research framework and were able to prove that trust influenced the increasing degree of usefulness and ease of use towards technology adoption (Singh et al., 2021; Pavlou, 2003).

Besides, risk has a direct relationship with trust due to uncertainty embedded with the technology. The risk of using FinTech services is high due to the absence of face-to-face transactions (Singh et al., 2021). When there is high-risk involvement, consumers have less trust in the services (Faradynawati, 2019). According to Hu et al. (2019), early adopters are willing to take initiatives

in adopting new technology since, they are risk-takers and their level of perceived risk is less while their level of trust is high (Hu et al., 2019). Hence the following hypotheses can be developed.

H6: PU influences TR in the adoption of FinTech services.

H7: PEU influences TR in the adoption of FinTech services.

H8: PR influences TR in the adoption of FinTech services.

H9: UI influences TR in the adoption of Fintech services.

### ***Mediating Effect of TR in the Adoption of FinTech Services***

Faradynawati (2018) stated that PU and PEU contribute to minimizing the effort put by consumers to control and monitor the entire process of transaction which increases trust levels in the FinTech services. Previous studies have found that PEU is one of the elements that is key to determine consumer TR level in technology acceptance (Hu et al., 2019).

According to a study conducted in Indonesia, Meyliana et al., (2019) found that trust mediated the impact of risk on user intention. When brand recognition is high, consumers build trust in the services and are willing to adopt them (Singh et al., 2021; Venkatesh and Davis 2000).

Turan et al. (2015), argued that the success of technology innovations depends on user innovativeness as much as other factors. Besides, consumers evaluate the available Fintech services and select the most convenient service to adopt after building trust (Turan et al., 2015; Hu et al., 2019).

Having considered the above literature, it can be concluded that TR has a mediating effect on factors towards the adoption of Fintech services. Hence the following hypotheses is developed.

H10: TR in FinTech services mediate the relationship between PU and adoption of FinTech services.

H11: TR in FinTech services mediate the relationship between PEU and adoption of FinTech services.

H12: TR in FinTech services mediate the relationship between PR and adoption of FinTech services.

H13: TR in FinTech services mediate the relationship between UI and adoption of FinTech services.

### ***FinTech Service Adoption***

FinTech services have become a significant alternative to the services provided by conventional banks and financial institutions (Faradynawati, 2018; Singh et al., 2021). Technology advancement has resulted in developing and offering more sophisticated, efficient, personalized FinTech



products and services in a user-friendly manner to increase the ease of use (Singh et al., 2021; Faradynawati, 2018). Further, the technology evolves faster than consumer awareness which has limited the availability of time for FinTech service providers to achieve the desired benefits from innovation (Singh et al., 2021). Hence, the dynamic nature of technology has diverted researchers' interest in proposing new theories and models (Hinton, 2022).

FinTech has decentralized decision making (Feyen et al., 2021). Besides, it allows decentralizing the risk between parties engaged in the transaction, as trust has a direct impact on the risk level where consumers are willing to adopt FinTech services provided by trustable companies (Ryu, 2018). Hence, the adoption of FinTech is influenced by PR and TR is mediating the impact of risk on FinTech adoption (Singh et al., 2021; Faradynawati, 2018).

An increase in innovations and constantly evolving technology influence consumers to try new products available in the market (Susanto et al., 2015). These new trends have influenced consumer buying behaviour and increased the adoption of technology-driven financial solutions to make things easy (Singh et al., 2021; Hu et al., 2019). Thus, this study considered all the financial services provided through digital platforms i.e. mobile and internet banking, e-wallet, Insur Tech, online stock investments, crowdfunding etc. to evaluate the factors influencing and mediating FinTech services adoption in Malaysia.

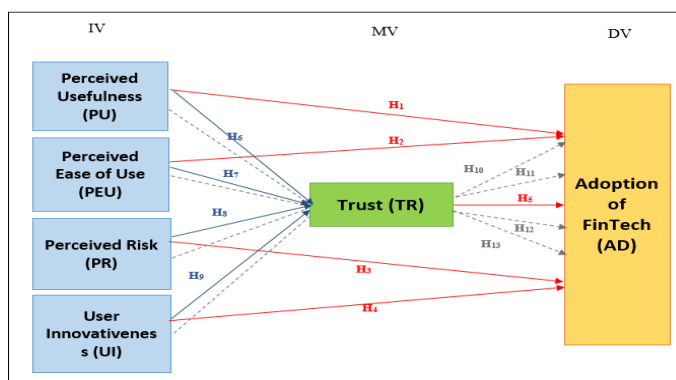


Figure 1. Conceptual Framework

## Research Methodology

A quantitative research approach was conducted as it is closely related to the positivism approach and data collection will be done by using the survey questionnaires (Collis & Hussey, 2009; Williams, 2007). Questionnaires were distributed to 200 Malaysian working adults (Hu et al., 2019; DOSM) online using social media platforms such as e-mails, LinkedIn, Instagram, Telegram and WhatsApp. Malaysian citizens were chosen as the unit of analysis because the influence of the adoption of Fintech services can be seen coming from consumers who have purchasing power (Hu et al., 2019).

## Data Analysis

### Demographic Analysis

The gender of the respondents, age level and monthly income should be analyzed because these demographic profiles have a significant impact on influencing the FinTech adoption. According to the data collected, 56.1% of respondents represent the female gender and 43.9% were the male respondents. Besides, the majority of participants were between the 18 – 25 years group (36.3%) followed by 26 – 30 years group (16.4%) and the lower participation was recorded from the age group 41 – 45 years group (11.1%) indicating that young adults were having significant influence in adopting FinTech. In terms of income level majority (27.5%) were from income levels above RM 4,000 which reasoned that the questionnaire distribution was effectively done and collected data will be reliable to test the hypothesis.

### Measurement Model

Measurement model analysis is performed to test the construct reliability and validity. If the composite reliability (CR) of each construct exceeds a threshold value of 0.708, it is said that the measurement model has achieved satisfactory internal consistency reliability (Hair et al., 2010). In this model, the CR value was greater than 0.708. Furthermore, the average variance extracted (AVE) values were calculated by investigating the convergent validity. The AVE values for all constructs in this model exceeded the 0.50 threshold, indicating satisfactory convergent validity.

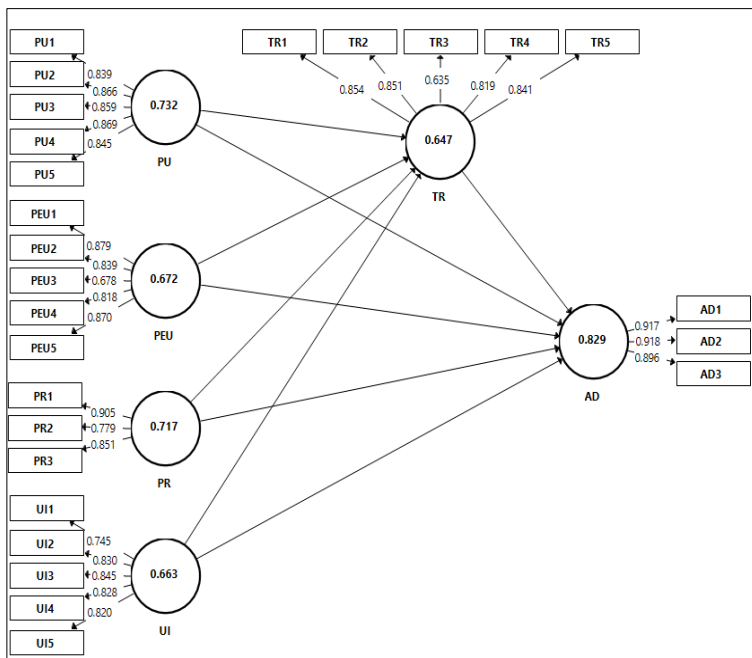


Figure 2. Measurement Model of the Study

The indicator's reliability could be determined by examining each item's factor loading. This value should be greater than 0.70 (Hair et al., 2011). All of the items measured in this study had loadings greater than 0.70. The loading values ranged between 0.883 and 0.936. (Refer to figure 2). In the measurement model, the constructs set and research item were found to have satisfactory validity and reliability levels.

Based on recent criticism of the limitations of the cross-loadings technique and the Fornell-Larcker criterion in assessing discriminant validity under various conditions, Henseler et al. (2015) presented the HTMT ratio as an alternative to test discriminant validity. Hence, this study also chose the HTMT ratio to assess discriminant validity (see Table 1).

Table 1. HTMT Ratio of the Study

	AD	PEU	PR	PU	TR	UI
AD						
PEU	0.796					
PR	0.261	0.146				
PU	0.671	0.795	0.131			
TR	0.902	0.785	0.352	0.643		
UI	0.726	0.649	0.187	0.45	0.77	

The rule of thumb is to have a HTMT ratio less than 0.85. HTMT above 0.85 shows a discriminant validity issue in the dataset (Kline, 2011). However, Gold, Arvind & Segars (2001) suggested that the discriminant validity issue arises with HTMT ratio above 0.90. Hence, this study has no discriminant validity issues found.

### ***Structural Model***

The latent variables and their causal relationships are included in the structural model (Hair et al., 2017).

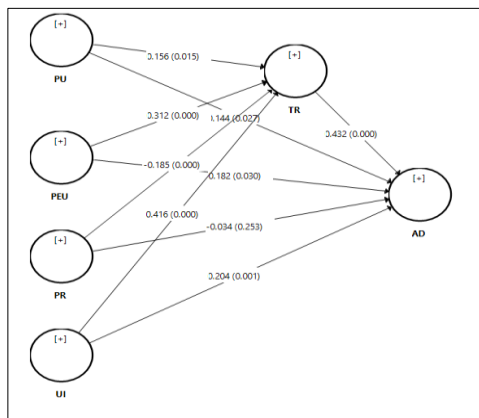


Figure 3. Structural Model of the Study

The effect size and the confidence intervals of the study is displayed in Table 1. The value recorded for direct relationship were: PU ( $\beta = 0.144$ ;  $t = 1.926$ ,  $p < 0.05$ ,  $f^2 = 0.034$ ), PEU ( $\beta = 0.182$ ;  $t = 1.874$ ,  $p < 0.05$ ,  $f^2 = 0.041$ ), UI ( $\beta = 0.204$ ;  $t = 3.220$ ,  $p < 0.05$ ,  $f^2 = 0.069$ ), TR ( $\beta = 0.432$ ;  $t = 5.494$ ,  $p < 0.05$ ,  $f^2 = 0.223$ ), PU and TR ( $\beta = 0.156$ ;  $t = 2.182$ ,  $p < 0.05$ ,  $f^2 = 0.035$ ), PEU and TR ( $\beta = 0.312$ ;  $t = 4.101$ ,  $p < 0.05$ ,  $f^2 = 0.111$ ), PR and TR ( $\beta = -0.185$ ;  $t = 3.845$ ,  $p < 0.05$ ,  $f^2 = 0.094$ ), UI and TR ( $\beta = 0.416$ ;  $t = 7.315$ ,  $p < 0.05$ ,  $f^2 = 0.319$ ), were significant, while PR ( $\beta = -0.034$ ;  $t = 0.665$ ,  $p < 0.05$ ,  $f^2 = 0.003$ ) was insignificant. The value recorded for direct relationship were; PU, TR and adoption ( $\beta = 0.067$ ;  $t = 2.064$ ,  $p < 0.05$ ), PEU, TR and adoption ( $\beta = 0.135$ ;  $t = 3.340$ ,  $p < 0.05$ ), PR, TR and adoption ( $\beta = 0.180$ ;  $t = 4.132$ ,  $p < 0.05$ ) and UI, TR and adoption ( $\beta = -0.080$ ;  $t = 3.066$ ,  $p < 0.05$ ) were significant. Based on recent findings, the  $R^2$  values of 0.25, 0.50 and 0.75 are regarded as weak, moderate and substantial respectively (Hair, Hult, et al., 2017). According to the findings (Figure 4.13), both trust ( $R^2 = 0.647$ ) and adoption of FinTech ( $R^2 = 0.704$ ) have a moderate level of explanatory power. Thus, a 64.7% variation in the mediating variable can be described by the independent variable and a 70.4% variation in the dependent variable can be described by the independent variable.

## Discussion

Adoption of FinTech services refers to the willingness and possibility to accept technology embedded financial services involuntarily among consumers (Singh et al., 2021; Hu et al., 2019). This study helps to determine the factors that affect the adoption decision, where the most and the least important factors were discussed and how the mediating factors can influence or divert the indirect relationship towards FinTech adoption. Adoption of these services can be influenced by many determinants because decision making involves numerous steps and factors to be analyzed (Saunders et al., 2019). Hence, this study focused on PU, PEU, PR, UI and TR as the key determinants that influence adoption of FinTech services (AD).

The findings of this study support existing literature on the adoption of FinTech services. Hu et al., (2019) claimed that PU has a significant positive relationship with the intention to use FinTech while Chong et al. (2019), Jin et al. (2019), Venkatesh & Davis (2015) & Susanto et al. (2016) also found a significant positive relationship in their studies. According to Chong et al. (2019), PU is an important factor that determines the consumer adoption of new technology. Further Hu et al. (2019) also claimed that TR has an indirect impact on PU through PEU. On the other hand, Singh et al. (2021) stated that a positive perception of trust influences the usefulness of the system because many studies have employed trust as an antecedent factor. Further, PU minimizes the effort put by users to monitor and control transaction processes thus users develop trust in Fintech services (Faradynawati, 2018). Previous studies also found when users identify the usefulness of Fintech services, they begin to trust them, which in turn has a positive influence on the service adoption (Sign et al., 2021; Hu et al., 2019). Thus, there is a complementary partial mediation effect in the  $PU \Rightarrow TR \Rightarrow AD$  relationship (Zhao et al., 2010).

PEU drastically influences user intention toward the technology (Singh et al., 2021; Phuc et al., 2019; Chong et al., 2019; Jin et al., 2019; Venkatesh & Davis, 2000). A user-friendly operating interface provides clearer guidelines for perfume transactions and fewer skills are required to use the system (Singh et al. (2021). stated that the increase in user-friendliness and fewer hardships in using technology systems with boundless access to information increases the competence of the users. However, these findings were refuted by Hu et al., (2019), who claimed that PEU does not significantly impact user adoption since users are unfamiliar with the system in the earlier stage thus, they have no opportunity to use it. On the contrary, Hu et al. (2019) found that trust can be influenced by ensuring user-friendliness, convenient design and providing guidelines to perform a transaction through the system. Providing training and sharing knowledge enhances the ease of use and users tend to trust such services because of the constant involvement of authorities which increases the trust in Fintech services (Susanto et al., 2016). Thus, there is a complementary partial mediation effect in the PEU=>TR=>AD relationship.

The result of this study revealed that FinTech services adoption is not influenced by the PR. In this regard, the existing studies were not in line with this result. For instance, Ryu (2018) claimed that PR contributed by financial, legal and operational risks which have an overall negative impact on PR, thus creating a barrier to Fintech users. Since the operational risk is aligned with internal issues (i.e. system failures, transaction errors, lack of immediate responses to system failures), it negatively impacts user intentions (Leong et al., 2020). Furthermore, Hu et al., (2019) claimed that users evaluate the benefits of potential risks in Fintech services before making their adoption decision, which indicates that PR does not influence the adoption of FinTech. Josef et al. (2016) found that risk-taking propensity changes with the ageing process when individuals' social network shrinks. Rolison et al. (2013) claimed that individuals often get influenced by their peers when making risky decisions. Based on the demographic information of this study, most respondents were from the age group 18-25 years which indicates that the majority of respondents were risk-takers. This supports the result of having an insignificant relationship between PR and AD because, the respondents were educated, experienced and young hence, their risk-taking ability is high.

With regards to the mediating effects of trust on PR, Faradynawati (2018) found a negative relationship. Singh et al. (2021) stated that performing transactions without face-to-face engagement increase the risk and uncertainty. Thus, users begin to feel uncomfortable and refuse to trust such technology platforms (Faradynawati, 2018). There is a lack of studies conducted to evaluate the mediating effect of TR on PR and AD. Hence, the results add novelty to the existing studies. However, previous studies employed trust as an antecedent factor and risk were used to determine the user attitudes (Singh et al., 2021; Hu et al., 2019). Besides, Hu et al. (2019) stated that risk can have both direct and indirect effects on trust while trust is having a positive influence on the acceptance of technology. Meyliana et al. (2019) stated that users build trust in services

with high brand values which minimize risk. Thus, it can be concluded that there is a full mediation effect in the PR=>TR=>AD relationship.

Tang et al. (2020) found that UI influenced identifying the real consumer needs to design appropriate technology systems to cater to consumer perceptions. Individuals with higher UI are called change agents because they are willing to try new technologies and provide feedback which is important for the improvement of the systems (Tang et al., 2020). UI increases the adoption of Fintech because users voluntarily help and share knowledge about new systems available in the market. Besides, word of mouth is a strong way to create awareness in the market and it interprets the behavioural intention of users (Zhang et al., 2018). Singh et al. (2021) found that highly responsive users are often willing to exchange their experience on Fintech services with late adopters. Hence, responsiveness contributes to UI and increases confidence to trust FinTech services. However, Susanto et al. (2022) argued that trust may not correlate positively with innovativeness in the short run because users will try new systems temporarily but to increase trust, it has to create awareness through branding and marketing strategies.

When the brand value is high, users tend to try new systems because of the trustworthiness of the brand. Hence, trust mediates the user innovativeness toward the adoption of Fintech services (Singh et al. 2021; Meyliana et al., 2019; Phuc et al., 2019). Furthermore, these results suggested that the existing direct relationship between UI and AD can be strengthened by enhancing trust in the Fintech services (Hu et al., 2019; Susanto et al., 2016). Thus, there is a complementary partial mediation effect in the UI=> TR=>AD relationship.

The acceptance of technology systems was influenced by trust (Singh et al., 2021; Hu et al., 2019; Faradynawati, 2018; Glennie, 2010). Faradynawati (2018) claimed that trust is a key performance indicator in evaluating FinTech payment options. Engagement in FinTech services can be increased by strengthening the trust in Fintech services in users' mindsets (Faradynawati, 2018). Besides, Singh et al., (2021) discovered that educating users by providing proper training on safe usage of FinTech services improved trust and enhance the user confidence to adopt FinTech services voluntarily. Thus, the relationship TR=>AD can be claimed as significant.

## **Conclusion, Implication and Future Research**

Given the findings, the adoption of Fintech services among Malaysians can be influenced by their trust in Fintech services, which may differ based on the PU, PEU, PR and UI of the service provided. As a result, the findings of this study can be employed as a guideline for conventional financial service users in Malaysia to understand and evaluate the benefit of adapting FinTech services to enhance the financing experience with less possible cost. Less paperwork, less time consuming, and practicing social distancing is an added advantage that users can get through the adoption of FinTech services.

The practitioners including business communities, market researchers, financial planners, financial advisors, investment and insurance agents, remises, IT developers, innovators and banks can use the results of the study to gather information about user perceptions, identify adoption trends and frequency of use of Fintech services to develop customized services to increase adoption rates. Because, Fintech services minimize operating costs such as documentation, travelling costs, salaries, and fixed costs (i.e. rental, lease holding assets, cost of fixed assets) where overall expenses can be cut down by moving from conventional service to Fintech. Even though the infrastructure facilities required substantial funds still they can be recovered by minimizing unnecessary expenses. Besides, these practitioners can expand their market share global since there are no boundaries for Fintech.

These results might be important for the Malaysian government as a reference to strategize the monetary policy. Also, these findings might provide insights for BNM to execute the digital transformation of the banking industry in Malaysia to enlighten conventional users and provide necessary training to incentivise the moving towards a cashless society. Collaboration with financial institutions, capital market organizations, and associated agencies such as Bursa Malaysian and the Securities Commission may be part of such an initiative that can be taken by BNM as the monetary controller of the country.

Apart from policymaking, the Malaysian government together with BNM may use the findings of this study to regulate and strengthen unauthorized data selling, money laundering and intellectual property policies to ensure personal data security in the nation. Likewise, these findings may use to legalise the FinTech services and develop a standardized procedure to strictly regulate Fintech start-ups that will influence the Fintech adoption rates in future. Besides, consumers starting to demand information relating to authorizations/certificates to ensure the trustworthiness of the system before making the adoption decision. Hence, strengthening the legal side of Fintech services will make a huge impact on user adoption.

To create awareness and produce qualified professionals in the Fintech industry, the ministry of education can collaborate with authorities to include academic courses in university modules. It may help to break the wall between early and late adopters. The demographical information collected in this study showed that the majority of respondents were degree holders that indicated even though a majority of Malaysians had received a university education still the awareness of FinTech insufficient to move toward a cashless society. Therefore, it is important to educate consumers, provide training and highlight the benefits of adopting Fintech services to change their perceptions and decrease change resistance. Besides, brand positioning can be done through social media platforms and promotional campaigns can be easily launched to educate and attract users to try FinTech services. Universities can launch 'create awareness projects' via social media platforms to enlighten society. Further, they can create trends on TikTok and Instagram to attract an audience regardless of age factor. The findings showed that 100% of respondents own

smartphones which indicates that there's a large audience waiting to embrace new trends. Thus, creating entertaining yet educational trending reels could stimulate the Fintech adoption.

Concerning theoretical application, these findings can be utilized to bridge a gap in the literature by better understanding the influence of PU, PEU, PR, UI and TR in FinTech adoption among Malaysian. According to the TAM theory, this study investigated the relationship between these elements and corroborated the current academic literature about the influence of these factors on individual Fintech adoption behaviour. Aside from that, this study validated previous research on the feasibility of applying the framework proposed by Davis et al. (1989) to evaluate key determinants of technology acceptance.

Future research should be conducted by employing more broader factors such as perceived costs, brand image, government support, purchasing behaviour, risk tolerance and demographics to further explain the findings of adoption rates of FinTech services. Besides, future studies should use theories such as the Theory of reasoned action (TRA), the Unified theory of acceptance and use of technology (UTAUT), and the Theory of planned behaviour (TPB) to choose determinants that explain the core objective of the study.

Future studies should consider improving survey items to accurately measure the respondents' decisions toward Fintech services adoption. Besides, items in each independent variable should be maximized at least to seven to get a clear understanding of the relationship. Aside from that, future research should use a larger sample size and both manual and online data collection methods. This could improve the accuracy of the study and reduce biased responses.

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