

# Exploring the Elements that Influence Bank Customers' Intention to Adopt Fintech

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## Abstract

Financial Technology (also known as Fintech) uses software and digital platforms such as artificial intelligent systems, blockchain technology, and mobile applications to further develop services in numerous industries, including payments, loans, asset management, and regulatory compliance. Despite the possible advantages, many people are still reluctant to embrace Fintech due to particular concerns. Hence, this study examines the factors that influence the intention to adopt fintech. This study will analyze the relationship between six independent variables and the intention to adopt fintech. Primary data will be used, and 200 data were collected from respondents using purposive sampling and then analyzed with JASP and Smart PLS 4.0. As a result, performance expectancy, perceived ease of use, and facilitating conditions show significant correlations with the intention to adopt fintech.

**Keywords:** Performance Expectancy, Fintech, Security Concern, Bank Customers

## Introduction

Fintech has significantly impacted global economic development, combining internet and mobile phone capabilities for wealth management and trading and making banking applications more accessible online (Wang, 2021). Businesses increasingly adopt Fintech technologies, including mobile applications and online transactions, as they evolve with information technology (Tun-Pin et al., 2019). It refers to any technology used to supplement, automate, digitize, or disrupt existing financial services. Fintech encompasses desktop and mobile-based use of software, algorithms, and applications (Kim et al., 2015). Moreover, fintech refers to using technology to specification and distribute financial products and services, impacting financial institutions, regulatory authorities, consumers, and trades (Tasnim & Salleh, 2022). Digital development is transforming global competition, market changes, and businesses, enhancing productivity and fulfilling customer expectations in the financial services industry (Naz et al., 2022). Fintech revolutionizes finance by leveraging technology to attract non-financial clients, enhancing a country's market return and economic progress (Beck, 2020). On the other hand, transcendent technology is transforming the financial industry, driving innovation, digitalization, and regulatory and cost pressure in the Fourth Industrial Revolution (IR 4.0)(Tasnim & Salleh, 2022). Among Southeast Asia's fastest-growing Fintech markets in Malaysia, the financial industry is transforming due to Fintech,

which concentrates on integrating new technologies. Fintech is a contemporary financial service that has been both emergent and established in Malaysia since the 1990s, with recognition attributed to GHL, MOL Pay, and iPay88. However, its significant growth occurred between 2016 and 2017 (Doraisamy et al., 2022). In Malaysia, Malayan Banking Berhad was the lead in providing banking services that can be accessed from mobile devices. The mobile application that was first introduced was the M2U application in 2009, as mentioned in the previous research studies (Rehman et al., 2019). Based on the Fintech Malaysia 2021 report, the total transaction value for 2020 is 1,042 billion, and the transaction volume is 3,391 million. In addition, the online banking transaction volume is 2.5 billion, the e-wallet transaction volume is 0.6 billion, and merchant registration for QR code acceptance is 773,000 in 2019, especially e-payments.

Although fintech benefits all users, some might opt out due to security concerns such as data leakage, the mobile application's compatibility and other concerns. Hence, this study investigates the relationship between multiple variables influencing bank customers' intentions to adopt fintech. It examines the effects of performance expectancy, social influence, facilitating conditions, security concerns, perceived ease of use, and trust on customer adoption behaviours.

## Literature Review

### *Intention to Adopt Fintech*

Aligned with the development of information technologies, financial technology also evolved globally. "FinTech" (occasionally expressed as Fintech, Fintech, or Fintech) is a neologism. It is the combination of the words which are "finance" and "technology" and generally interpreted as the integration of sophisticated but also internet-related technology such as cloud computing, mobile internet, and others with traditional business operations in the financial services sector such as money lending, banking transactions and others (Gomber et al., 2017). On the other hand, another research study defined fintech as a digital technology frequently applied in the finance sector and based on blockchain, big data, and intelligent wealth management (Hu et al., 2019). Fintech is an innovation that is utilized to enhance financial activity. One example of this technology is the usage of the cellular phone in banking products and services, also known as mobile banking, as well as investment services through mobile devices and cryptocurrencies that attempt to make financial services available to the broad population (Alsmadi et al., 2023).

### *Performance Expectancy*

Performance Expectancy (PE) can be defined as the degree to which an individual perceives those technological advancements will improve their work performance (Sair & Danish, 2018). Performance expectancy included in the UTAUT formulation presumed that performance expectancy is an infrastructure concept encountered while using the Internet of Things, such as Internet banking (Rahi et al., 2019). This research study defines performance expectancy as an individual, whether Generation X, Y, or Z, who intends to adopt fintech for their financial transaction. Previous research stated that performance expectancy positively affects the age of the person's intention to adopt fintech (Persada et al., 2019). In addition, the intention to adopt fintech depends on the individual's point of view on whether they can gain any advantages if they adopt the fintech, such as enhancing efficiency and conveniences while

performing the financial transaction (Khatun & Tamanna, 2021). Hence, the hypothesis for this study is derived as below:

**H1:** Performance expectancy has a positive and significant relationship with the intention to adopt fintech

#### *Social Influence*

Based on previous research, social influence (SI) is an individual view that most individuals who are significant to them believe they should not conduct the behaviour question (Peong et al., 2021). Social influence can come from an individual's family members, friends, social groups, and colleagues, who influence a user to adopt fintech (Kaur & Arora, 2020). According to Bhullar & Gill (2019), social influences are insignificant to the intention to adopt fintech because the individual is still new. Hence, the individual is not influenced by friends or social groups to embrace fintech. However, Resa Nurlaela & Alviayatun (2022) found that social influence has a significant relationship with fintech adoption. Therefore, this study proposes the hypothesis below:

**H2:** *Social influence has a positive and significant relationship towards the intention to adopt the fintech*

#### *Facilitating Conditions*

Facilitating conditions refer to the individual believing that the internet and fintech will increase the performance of banking services via laptops or smartphones to perform financial activities (Lim et al., 2020). According to past research studies, it is stated that the extent to which the individual assumes that the current organizational and technical facilities can benefit from the use of technology is referred to as facilitating conditions (Yoo et al., 2021). Facilitating conditions significantly affect the intention to adopt fintech after completing the primary data analysis (Resa et al., 2022; Khatun & Tamanna, 2021). Therefore, the proposed hypothesis is derived as follows:

**H3:** *Facilitating conditions have a significant relationship towards the intention to adopt fintech.*

#### *Perceived Ease of Use*

Perceived ease of use is defined as that while potential customers may think that a particular program is valuable, they may also conclude that the system is complicated to use and that the performance advantages of utilisation are overshadowed by the effort required to use the application known as perceived ease of use (Fred D. Davis, 1989). Moreover, based on the previous research, they further describe that perceived ease of use refers to an individual who can use the system free from complications and a friendly user (Daragmeh et al., 2021). On top of that, consumers are more likely to face problems when utilising fintech services if the process is complicated. As a result, the impact will be financial losses for customers (Lien et al., 2020). Previous research studies showed a significant relationship between perceived ease of use and intention to adopt fintech (Hu et al., 2019; Lien et al., 2020). Hence, the hypothesis proposed for this study is as follows:

**H4:** *Perceived Ease of Use has a significant relationship towards the intention to adopt fintech*

#### *Trust*

Trust is defined as confidence in another party's ability to act ethically and avoid attempting to take advantage of the user's vulnerabilities (Pavlou, 2003). In addition, trust is founded on

a cognitive process that distinguishes between people and institutions that are trustworthy, distrustful, and unknown (Lewis & Weigert, 1985). According to the research by Hu et al. (2019), they stated that due to the big and high-dimensional data used in the service in the fintech application scenario, the role of trust is more significant. Consequently, it is crucial to examine how trust influences the potential bank customers' view and readiness to adopt and which elements influence trust (Hu et al., 2019). According to past research studies, trust is significant towards the intention to adopt fintech (Hu et al., 2019; Stewart & Jürjens, 2018). Therefore, the authors propose the following research hypotheses:

*H5: Trust has a significant relationship towards the intention to adopt fintech*

#### *Security Concern*

When technology evolves from time to time, another issue that will appear is data security, also known as cybersecurity. In past research, cybersecurity has been described as information security and protecting electronic systems, networks, equipment, programmes, or data. Moreover, the ubiquitous integration of the internet, smart devices, and mobile devices has necessitated a heightened emphasis on cybersecurity and digital protection across various domains, including but not limited to home, work, and education. As such, cybersecurity has emerged as a crucial topic in contemporary times (Schatz et al., 2017). In addition, past researchers mention that with the evolution of the Internet of Things, security concern is one of the factors as security of the Internet of Things is safeguarding functions to the devices and the systems are susceptible to the attack of the security with a different reason like devices between the wireless communications (Pandow et al., 2020). However, a previous study determined that security concern significantly influences the adoption of fintech (Singh et al., 2020; Tun-Pin et al., 2019). On the other hand, the previous research study also shows the negative influence on the intention to adopt fintech (Hu et al., 2019). Hence, the hypothesis is derived for this study as follows:

*H6: Security concern has a significant relationship towards the intention to adopt fintech*

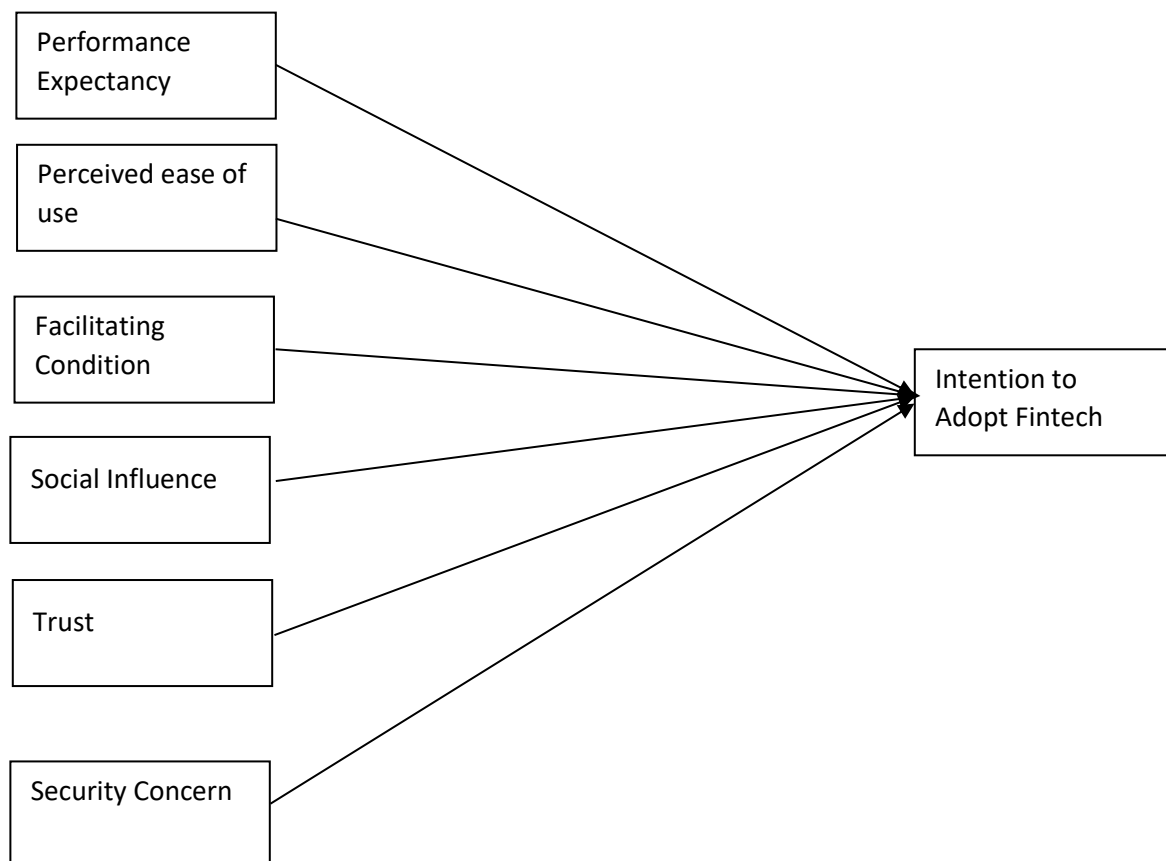


Figure 1: Research framework

## Methodology

### *Research Design and Data Collection*

Effective data collection is crucial to research accomplishments in every field of study. Gathering and analyzing information are used in research to answer questions, validate hypotheses, and achieve objectives (Karunarathna et al., 2024). Since this study used a quantitative approach to analyze the factors influencing the intention to adopt Fintech among bank customers in Klang Valley, primary data will be used. Primary data is the appropriate method for this study to analyze, as primary data collects the information of bank customers who intend to adopt Fintech. In this study, the target respondents are bank customers who are asked whether or not they have adopted Fintech. According to G\*Power software, the target respondents are 184. Moreover, purposive sampling is applied in this study to collect the data based on real-time and the first reaction for this study. Respondents from three states were distributed questionnaires online using Google Forms. A total of 200 questionnaires were collected across three states and were used to address the aim of this study.

### *Survey Instrument*

A structured study questionnaire was developed to investigate the adoption of FinTech in Klang Valley. The measurements and sources of the questionnaire are listed in Table 1. In addition, a 5-point Likert scale was used to measure data, whereby one = strongly disagree to 5 = strongly agree.

Table 1  
 Questionnaires, Cronbach's Alpha, and Sources

Variables	Questions	Sources/Adopted
Fintech Adoption (FA)	5	(Camilleri & Camilleri, 2022; Setiawan et al., 2021)
Performance Expectancy (PE)	5	(Ahmad et al., 2021; Shakir, 2022)
Perceived Ease of Use (PEOU)	4	(Hu et al., 2019)
Facilitating Condition (FC)	6	(Alkhwaldi et al., 2022; Shakir, 2022; Camilleri & Camilleri, 2022)
Social Influence (SI)	3	(Alkhwaldi et al., 2022)
Trust (T)	5	(Hu et al., 2019)
Security Concern (SC)	5	(Mohamed, 2013; Featherman & Pavlou, 2002; Hu et al., 2019)

*Data Analysis*

The data will use JASP and Smart-PLS 4.0 to analyze the collected data. First, the demographic data will be analyzed using JASP for the percentage. Second, the relationship between each variable will be measured using Smart-PLS 4.0.

**Results and Discussion**

*Demographic Statistic*

The total collected is 200 respondents; 55% are male, and 46% are female. Most respondents, 45%, are 41 – 50 years old, 37% are 31 – 40 years old, 9 % are 21 – 30 years old and above 50 years old, and 1 % are below 20 years old. The respondents' race majority is Chinese, 72%, 16% are Malays, 9.5% are Indian, and 2.5% are other races. For educational level, 39% of respondents are diploma level, followed by undergraduate degree, 26%, 17% of respondents are secondary school and master or graduate degree, and 1% are primary and PhD level. The monthly income of the respondents' majority is in the range of RM 6,001 to RM 8000(29%), RM 8,001 to RM 10,000(21%), RM 2,501 to RM 4,900(16%), RM 4,901 to RM 6,000 (15%) and below RM2,000(8%).

Table 2  
 Demographic Profiles of the Respondents

Demographic	Frequency	Percentage (%)
<u>Gender</u>		
Male	109	55
Female	91	46
<u>Age</u>		
20 years old and below	1	1
21 – 30 years old	18	9
31 – 40 years old	74	37
41 – 50 years old	89	45
51 years old and above	18	9
<u>Race</u>		

Chinese	144	72
Malay	32	16
Indian	19	9.5
Others	5	2.5
<b><u>Educational Background</u></b>		
Undergraduate Degree and below	165	82
Master/ Graduate Degree and above	35	18
<b><u>Monthly Income</u></b>		
RM 2,500 and below	15	8
RM 2,501 to RM 4,000	31	16
RM 4,001 to RM 6,000	30	15
RM 6,001 to RM 8,000	57	29
RM 8001 and above	42	21

### Reliability & Discriminant Analysis

Table 3 indicates the reliability of each variable. Cronbach's Alpha, Average Variance Extracted (AVE), and composite reliability are used to evaluate an instrument's reliability. If AVE is above 0.5, the variable is reliable, but if it is below 0.5, it is unreliable (Joseph F. Hair et al., 2022). The results show that all AVE for all variables is above 0.5; thus, it is reliable. On the other hand, Cronbach's alpha also measures the reliability, and the results for each variable ranged from 0.8531 to 0.9045.

Table 3

#### *Reliability, Convergent Validity, and Cronbach's Alpha Results*

Items	AVE	Composite Reliability	Cronbach's Alpha
FA	0.6505	0.9026	0.8652
FC	0.7246	0.9292	0.9045
PE	0.7167	0.9100	0.8684
PEOU	0.7411	0.9197	0.8836
SC	0.6882	0.8975	0.8531
SI	0.7952	0.9208	0.8744
T	0.6983	0.9202	0.8928

The Fornell-Larcker criterion was applied to test discriminant validity. Table 4 shows that FC, PE, PEOU, SC, SI, and T have values of 0.8513, 0.8466, 0.8609, 0.8296, 0.8917, and 0.8356, the highest values of other constructs. Hence, it represents the discriminant validity of all constructs that meet the requirement.

Table 4

*Fornell-Larcker Criterion Result*

	FA	FC	PE	PEOU	SC	SI	T
FA	<b>0.8065</b>						
FC	0.5731	<b>0.8513</b>					
PE	0.6494	0.5335	<b>0.8466</b>				
PEOU	0.5692	0.7066	0.5834	<b>0.8609</b>			
SC	0.3802	0.3414	0.2988	0.3291	<b>0.8296</b>		
SI	0.3250	0.2265	0.1812	0.1959	0.1945	<b>0.8917</b>	
T	0.4797	0.5208	0.4495	0.4976	0.8107	0.2754	<b>0.8356</b>

Source: Own developed for the research study

Table 5

*Structural Model Testing*

	Path	Path Coefficient	t-statistic	P-value	Findings
H1	PE → FA	0.4122	4.7844	0.0000	Supported
H2	SI → FA	0.1644	2.2416	0.0250	Not Supported
H3	FC → FA	0.1450	1.5573	0.0465	Supported
H4	PEOU → FA	0.1388	1.1793	0.0008	Supported
H5	SC → FA	0.1805	2.0535	0.2629	Not Supported
H6	T → FA	- 0.0536	0.4964	0.3518	Not Supported

\*Note: P-value < 0.05

**Discussion**

With the technology's growth, fintech become familiar to every user, especially bank customers. This study investigates the factors influencing the intention to adopt fintech among bank customers in Klang Valley. From the result, performance expectancy, perceived ease of use, and facilitating conditions are the factors that influence the adoption, which aligns with (Khatun & Tamanna, 2021), (Rahi, Mansour et al., 2019), and (Singh et al., 2020). This also shows that users will adopt fintech with the current technology to increase efficiency and convenience, which is an advantage. On the other hand, the finding for the social influence hypothesis did not support it, which is similar to the findings (Singh et al., 2020) and (Mohd Thas Thaker et al., 2022). This explains that the individual or cohort's opinion will not influence the adoption of fintech. In addition, some of the community will discourage the adoption of fintech. For the trust, the hypothesis is not supported and is a diverse finding (Alsmadi et al., 2022). This explains that customers trust FinTech, which helps them save money and time. However, banks and software developers should cooperate to improve the web and mobile applications to create a more user-friendly interface to increase fintech adoption and attract more bank customers.

*Research Implication*

According to this study's findings, the variables influencing bank customers' readiness to adopt fintech in Klang Valley are performance expectancy, security concerns, and perceived ease of use to the intention to adopt fintech. This study can contribute to the existing literature on the intention to adopt fintech among bank customers. This study investigates



the readiness of banking customers in Klang Valley to adopt fintech. Therefore, it furnishes valuable information on the factors that impact the adoption of a product or service and serves as a valuable guide for banks and software developers. The findings from this study suggest that factors like performance expectancy, facilitating conditions, and perceived ease of use impact the intention to adopt fintech among bank customers. Hence, bank and software developers should cooperate: 1) design or update the user interface to become a friendly user to attract more customers and 2) recruit more support employees to support customers or chatbot with more detail that can resolve customer's issues.

### **Limitations and Future Research**

The limitation of this study is the sampling size. The data collection currently is small, with 200 data collected. In future research, the researcher can expand the location to focus on a more extensive sampling size so the study can investigate more detail. Further, this study focuses on the individual's intention for adoption. So, future researchers can focus on the organization's intention for adoption in fintech. This study uses six variables to examine the factors influencing the intention to adopt fintech. Therefore, in future research, the researcher can add more relevant variables to examine the intention of adoption to have different outcomes. Moreover, future research can take a qualitative approach to gather more comprehensive information regarding fintech adoption readiness.

### **Significance of the study**

Nowadays, bank customers are increasingly using fintech to conduct financial transactions. As a result, this study offered information on the importance of practical context. According to the research, customers place a higher value on performance expectancy, which refers to fintech's ease of use. Hence, it is suggested that the banking industry should work with software developers to make fintech more user-friendly and enhance the adoption rates. On the other hand, this study helps the fintech industry by determining which aspects need improvement to raise the adoption rate, which directly impacts digital finance. Furthermore, the academician might use the data for future research by broadening the responses to a certain target.

### **Reference**

- Ahmad, S., Tajul Urus, S., & Nazri, S. N. (2021). Technology acceptance of financial technology (Fintech) for payment services among employed fresh graduates. *Asia-Pacific Management Accounting Journal*, 16(2), 27-58. <https://doi.org/10.24191/apmaj.v16i2-02>
- Alkhwaldi, A. F., Alharasis, E. E., Shehadeh, M., Abu-ALSondos, I. A., Oudat, M. S., & Bani Atta, A. A. (2022). Towards an Understanding of FinTech Users' Adoption: Intention and e-Loyalty Post-COVID-19 from a Developing Country Perspective. *Sustainability*, 14(19), 12616. <https://doi.org/10.3390/su141912616>
- Alsmadi, A. A., Alfityani, A., Alhwamdeh, L. N., Al\_hazimeh, A. M., & Al-Gasawneh, J. A. (2022). Intentions to use fintech in the Jordanian banking industry. *International Journal of Data and Network Science*, 6(4), 1351–1358. <https://doi.org/10.5267/j.ijdns.2022.5.016>
- Anwar, R. N., & Alviayatun, T. (2022). The effect of performance expectancy, effort expectancy, social influence, facilitating conditions on mobile wallet adoption. *Fair Value : Jurnal Ilmiah Akuntansi Dan Keuangan*, 4(Special Issue 5), 2211–2223.

- Ayman, A. A., Amer, M. A., Mohammad, A. A.-A., & Arkan, W. A.-S. (2023). Banking Services Transformation and Financial Technology Role. *Information Sciences Letters*, 12(1), 315–324. <https://doi.org/10.18576/isl/120126>
- Beck, T. (2020). Fintech and Financial Inclusion: Opportunities and Pitfalls. In [www.adb.org](http://www.adb.org). Asian Development Bank. <https://www.adb.org/publications/fintech-financial-inclusion-opportunities-pitfalls>
- Camilleri, M. A., & Camilleri, A. C. (2022). Remote learning via video conferencing technologies: Implications for research and practice. *Technology in Society*, 68, 101881. <https://doi.org/10.1016/j.techsoc.2022.101881>
- Daragmeh, A., Lentner, C., & Sági, J. (2021). FinTech payments in the era of COVID-19: Factors influencing behavioral intentions of “Generation X” in Hungary to use mobile payment. *Journal of Behavioral and Experimental Finance*, 32, 100574. <https://doi.org/10.1016/j.jbef.2021.100574>
- Doraisamy, B., Santhi, A., M Varatharajoo, P., Shanmugam, J. K., & Woo, H. K. (2022). An empirical research on factors affecting customer satisfaction towards fintech products and services in Sungai Petani, Kedah. *Journal of Academia*, 10. <https://ir.uitm.edu.my/id/eprint/70159>
- Featherman, M. S., & Pavlou, P. A. (2003). Predicting e-services adoption: a perceived risk facets perspective. *International Journal of Human-Computer Studies*, 59(4), 451–474. [https://doi.org/10.1016/s1071-5819\(03\)00111-3](https://doi.org/10.1016/s1071-5819(03)00111-3)
- Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13(3), 319. <https://doi.org/10.2307/249008>
- Gomber, P., Koch, J., & Siering, M. (2017). Digital Finance and FinTech: current research and future research directions. *Journal of Business Economics*, 87(5), 537–580. <https://doi.org/10.1007/s11573-017-0852-x>
- Hu, Z., Ding, S., Li, S., Chen, L., & Yang, S. (2019). Adoption Intention of Fintech Services for Bank Users: An Empirical Examination with an Extended Technology Acceptance Model. *Symmetry*, 11(3), 340. <https://doi.org/10.3390/sym11030340>
- Hair, Jr, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2021). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. SAGE Publications, Inc.
- Gunasena, P., Hapuarachchi, T., & Gunathilake, S. (2024). Comprehensive data collection: Methods, challenges, and the importance of accuracy.
- Kaur, S., & Arora, S. (2020). Role of perceived risk in online banking and its impact on behavioral intention: trust as a moderator. *Journal of Asia Business Studies*, ahead-of-print(ahead-of-print). <https://doi.org/10.1108/jabs-08-2019-0252>
- Khatun, N., & Tamanna, M. (2021). Factors affecting the adoption of fintech: A study based on the financial institutions in Bangladesh. *Copernican Journal of Finance & Accounting*, 9(4), 51. <https://doi.org/10.12775/cjfa.2020.021>
- Kim, Y., Park, Y., Choi, J., & Yeon, J. (2015). An Empirical Study on the Adoption of “Fintech” Service: Focused on Mobile Payment Services. *Advanced Science and Technology Letters*. <https://doi.org/10.14257/astl.2015.114.26>
- David, L. J., & Weigert, A. (1985). Trust as a Social Reality. *Social Forces*, 63(4), 967–985. <https://doi.org/10.2307/2578601>
- Lien, N. T. K., Doan, T.-T. T., & Bui, T. N. (2020). Fintech and Banking: Evidence from Vietnam. *The Journal of Asian Finance, Economics and Business*, 7(9), 419–426. <https://doi.org/10.13106/jafeb.2020.vol7.no9.419>

- Lim, F.-W., A. Fakhrorazi, Ridho Bramulya Ikhsan, Silitonga, K., Loke, W.-K., & Abdullah, N. L. (2020). The Role of Personal Innovativeness and Facilitating Conditions in Shaping the Attitudes of Mobile Internet Banking (MIB) Adoption among Generation Y in Malaysia. <https://doi.org/10.20944/preprints202003.0407.v1>
- Mohamed, A. E. A. (2013). Improving the Libyan customers' trust and acceptance for online banking technology. [https://usir.salford.ac.uk/29451/1/Submitted\\_and\\_ammended\\_version.pdf](https://usir.salford.ac.uk/29451/1/Submitted_and_ammended_version.pdf)
- Thaker, H., Thaker, M. A., Khaliq, A., Allah Pitchay, A., & Iqbal Hussain, H. (2021). Behavioural intention and adoption of internet banking among clients' of Islamic banks in Malaysia: an analysis using UTAUT2. *Journal of Islamic Marketing*, ahead-of-print(ahead-of-print). <https://doi.org/10.1108/jima-11-2019-0228>
- Naz, F., Karim, S., Houcine, A., & Naeem, M. A. (2022). Fintech Growth during COVID-19 in MENA Region: Current Challenges and Future prospects. *Electronic Commerce Research*. <https://doi.org/10.1007/s10660-022-09583-3>
- Pandow, B. A., Bamhdi, A. M., & Masoodi, F. (2020). Internet of Things: Financial Perspective and Associated Security Concerns. *International Journal of Computer Theory and Engineering*, 12(5), 123–127. <https://doi.org/10.7763/ijcte.2020.v12.1276>
- Pavlou, P. A. (2003). Consumer Acceptance of Electronic Commerce: Integrating Trust and Risk with the Technology Acceptance Model. *International Journal of Electronic Commerce*, 7(3), 101–134. <https://doi.org/10.1080/10864415.2003.11044275>
- Peong, K. K., Peong, K. P., & Tan, K. Y. (2021). Behavioural Intention of Commercial Banks' Customers towards Financial Technology Services. *GATR Journal of Finance and Banking Review* VOL. 5 (4) JAN-MAR. 2021, 5(4), 10–27. [https://doi.org/10.35609/jfbr.2021.5.4\(2\)](https://doi.org/10.35609/jfbr.2021.5.4(2))
- Persada, S. F., Miraja, B. A., & Nadlifatin, R. (2019). Understanding the Generation Z Behavior on D-Learning: A Unified Theory of Acceptance and Use of Technology (UTAUT) Approach. *International Journal of Emerging Technologies in Learning (IJET)*, 14(05), 20. <https://doi.org/10.3991/ijet.v14i05.9993>
- Rahi, S., Othman Mansour, M. M., Alghizzawi, M., & Alnaser, F. M. (2019). Integration of UTAUT model in internet banking adoption context. *Journal of Research in Interactive Marketing*, 13(3), 411–435. <https://doi.org/10.1108/jrim-02-2018-0032>
- Rehman, Z. U., Omar, S. S. B., Zabri, S. B. M., & Lohana, S. (2019). Mobile Banking Adoption and its Determinants in Malaysia. *International Journal of Innovative Technology and Exploring Engineering*, 9(1), 4231–4239. <https://doi.org/10.35940/ijtee.I3015.119119>
- Sair, S. A., & Danish, R. Q. (2018). Effect of performance expectancy and effort expectancy on the mobile commerce adoption intention through personal innovativeness among Pakistani consumers. *Pakistan Journal of Commerce and Social Sciences (PJCSS)*, 12(2), 501–520. <https://www.econstor.eu/bitstream/10419/188355/1/pjcss435.pdf>
- Schatz, D., Bashroush, R., & Wall, J. (2017). Towards a More Representative Definition of Cyber Security. *The Journal of Digital Forensics, Security and Law*, 12(2). <https://doi.org/10.15394/jdfsl.2017.1476>
- Setiawan, B., Nugraha, D. P., Irawan, A., Nathan, R. J., & Zoltan, Z. (2021). User Innovativeness and Fintech Adoption in Indonesia. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(3), 188. <https://doi.org/10.3390/joitmc7030188>
- Shakir, T. (2022). Discussion on Fintech Adoption Research. *Global Journal of Management and Business Research: A Administration and Management*, 22(1).

- Singh, S., Sahni, M. M., & Kovid, R. K. (2020). What drives FinTech adoption? A multi-method evaluation using an adapted technology acceptance model. *Management Decision*, 58(8), 1675–1697. <https://doi.org/10.1108/md-09-2019-1318>
- Stewart, H., & Jürjens, J. (2018). Data security and consumer trust in FinTech innovation in Germany. *Information and Computer Security*, 26(1), 109–128. <https://doi.org/10.1108/ics-06-2017-0039>
- Salleh, M. N. M., & Tasnim, R. (2022). Fintech in Malaysia: a systematic literature review on published literature. *International Journal of Business and Globalisation*, 30(3/4), 524. <https://doi.org/10.1504/ijbg.2022.123633>
- Tun-Pin, C., Keng-Soon, W. C., Yee-San, Y., Pui-Yee, C., Hong-Leong, J. T., & Shwu-Shing, N. (2019). AN ADOPTION OF FINTECH SERVICE IN MALAYSIA. *South East Asia Journal of Contemporary Business, Economics and Law*, 18(5), 134–147.
- Wang, S. (2021). Opportunities of Financial Technology Under the Impact of COVID-19. *Proceedings of the 6th International Conference on Financial Innovation and Economic Development (ICFIED 2021)*, 166, 529–532. <https://doi.org/10.2991/aebmr.k.210319.097>
- Yoo, J., Choi, S., Hwang, Y., & Yi, M. Y. (2021). The Role of User Resistance and Social Influences on the Adoption of Smartphone. *Journal of Organizational and End User Computing*, 33(2), 36–58. <https://doi.org/10.4018/joeuc.20210301.0a3>