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WHAT DRIVES INDIVIDUALS TO ADOPT FINTECH: EXTENDED-TAM MODEL WITH GENDER AS MODERATING VARIABLE

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ABSTRACT: Access to financial services is pivotal in improving welfare, reducing poverty, and accelerating financial inclusion in the emerging nation. This study analyzes the factors that drive consumer adoption of fintech by extending the TAM model with financial literacy and government support, as well as gender as moderating variable. Data was collected from 397 respondents in Indonesia and analyzed using SmartPLS 3.0. The result shows that perceived usefulness, ease of use, financial literacy, and government support significantly affect the adoption of fintech. The moderation analysis reveals that men perceive usefulness as more important for fintech adoption and ease of use for women.

Keywords: Fintech, Gender; Financial Literacy; Government Support; Technology Acceptance Model

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INTRODUCTION

The development of information technology, facilitated by artificial intelligence (AI), plays a vital role in reshaping the financial industry landscape (OECD, 2020). Fintech or financial technology applies technology to modernize and democratize financial services. Fintech companies offer a range of services on a single platform, including insurance, wealth management, and money transfers, providing users with easy access and inexpensive financial products and services from anywhere.

Currently, financial companies are competing to offer a solution to change from traditional economic systems, which are known to be complicated, take a long time, and have relatively high costs, to digital financial platforms. Government intervention in creating regulations and establishing infrastructure, broadening the internet network and accelerating internet access introduces the convenience of using Fintech services (Chinnasamy et al., 2021). During the Covid-19 pandemic, for example, the Indonesian government involved Fintech companies in distributing money via digital payment as part of a national economic recovery program (Sugandi, 2021).

Although the significant contribution of fintech to expanding financial access, the adoption of digital-based financial services still varies in several countries due to soft and hard infrastructure challenges (Abbasi et al., 2021). In addition, some countries face barriers in adopting fintech and potentially prevent government goals for financial inclusion acceleration. Therefore, an analysis of the driver factor of Fintech adoption motivated this study. Referring to the Theoretical Acceptance Model (TAM) developed by (Davis et al., 1989), this study extends by incorporating new dimensions such as financial literacy and government support. Further, this paper also takes into account gender as moderating variable since the adoption of financial-based technology services may vary between men and women.

Previous works of literature have emerged to evaluate the determinants of Fintech adoption drivers derived from the TAM model with mixed results (Hasan et al., 2021; Mufarih et al., 2020; Setiawan et al., 2021). However, very few studies explore gender as moderating variable in adopting Fintech services, even though women and men have relatively different tendencies in technology adoption (Nathan et al., 2022; Savitha & Hawaldar, 2022). With minimal studies, this paper contributes to the existing literature. First, this study extends the TAM model by considering financial literacy and government support. Second, this paper attempts to analyze gender as moderating variable toward perceived usefulness and perceived ease of use on Fintech adoption. To the best authors' knowledge, this study is among the first to tap Fintech adoption drivers with gender as moderating variable in Indonesian users. The following section focuses on reviewing several related studies. Methodology and data collection techniques are described in the third section, followed by statistical results and discussion in the fourth section. Finally, the fifth section also presents conclusions and recommendations.

THEORETICAL REVIEW

Theory Acceptance Model

This study explores Fintech adoption by extending the TAM model (perceived usefulness and ease of use) to examine Fintech adoption by incorporating variables such as financial literacy and government support. TAM is the primary method most often used to adopt new technologies because of its benefits and convenience (Alnemer, 2022; Davis et al., 1989; S. Wang et al., 2021). In addition, this paper also uses gender as moderating variables for perceived usefulness and perceived ease of use which are essential elements of behavioural intention in adopting Fintech (Nathan et al., 2022; Savitha & Hawaldar, 2022).

Perceived Usefulness (PU)

Since Davis et al. (1989) developed the TAM theory, numerous studies have examined the linkage between (PU) and technology adoption in various sectors, such as health management tools (Liu et al., 2022), E-learning (Liao et al., 2022), online game (Linares et al., 2021), and financial technology or mobile payment (Ahmad et al., 2021; Nathan et al., 2022; Setiawan et al., 2021). PU is defined in this paper as the significance of new technology in improving user performance. The higher the contribution of new technology, the greater the adoption level. A recent study by (Alshari & Lokhande, 2022) and (Thathsarani & Jianguo, 2022) have found a positive and significant correlation between PU and intention to adopt fintech. Even Al-Nawayseh (2020) explained PU as the most influential factor in technology adoption. A hypothesis is constructed as the PU empirically benefits Fintech users.
H1. Perceived usefulness (PU) positively impacts the intention to use fintech services.

Perceived Ease of Use (PEU)

Davis et al. (1989) describe PEU as the level of convenience resulting from implementing new technology. The higher level of easiness provided by technology is correlated with the enormity of technology adoption. In the context of Fintech services, the convenience received by users refers to the perception of the Fintech application interface to the ease of accessing applications from multiple devices. Previous studies reveal a positive correlation between PEU and Fintech adoption, for example (Agyei et al., 2020; Tao et al., 2022; J. S. Wang, 2021), to name a few. Furthermore, Ji et al. (2019) documented that PEU is more effective than PU in influencing individuals to adopt Fintech service, as in the hypothesis proposal.
H2. Perceived ease of use (PEU) positively impacts Fintech adoption.

Financial Literacy (FL)

Financial literacy refers to an individual's understanding of basic economic concepts to make sound financial decisions. Lusardi (2019) applies questions

about inflation, risk diversification and compound interest to measure the level of individual financial literacy, which is the primary reference in this study. Several previous studies show that financial literacy positively affects the adoption of Fintech services, indicating that people with higher levels of financial literacy find it easier to adapt to new digital-based products and services (Jünger & Mietzner, 2020; Yoshino et al., 2020). In contrast, Nathan et al. (2022) documented that FL has no significant effect on Fintech adoption, revealing that individuals with low levels of financial literacy do not prevent them from adopting Fintech services for hypothesis formulation.

H3. Financial Literacy (FL) has a positive impact on FinTech adoption.

Government Support (GS)

Government support is critical for developing the Fintech industry by providing soft and hard infrastructure. The educational gap and the disparity in internet access between urban and rural residents are essential elements that must be improved with a sustainable approach. Additionally, government support for Fintech ecosystem growth through regulatory sandbox optimization could stimulate new players previously untapped by existing fintech companies. This study integrates government support for the Fintech ecosystem through infrastructure development, policy, and regulation. Previous studies, such as Hu et al. (2019); Hua and Huang (2021); Nathan et al. (2022), find that government support has a positive impact on Fintech adoption for the hypothesis formulation.

H4. There is a positive relationship between government support (GS) and intention to use fintech services

The Moderating Effect of Gender on Fintech Adoption

Multiple benefits offered by digital-based financial services encourage shifts in user behaviour from conventional to digital financial services. However, a variety of factors, including gender, often have an impact on the adoption and access to financial services. For example, Demirgüç-Kunt et al. (2021) find that women have 8% less access to financial products than men in developing countries. The disparity level of financial access is caused by several factors ranging from culture (Khera et al., 2022) to regulations that discriminate against women (Fuentes & Price, 2020). A recent study from Nathan et al. (2022) depicts the exciting finding that women adopt fintech more than men through perceived ease of use and usefulness. However, another study has found no gender difference as a moderating variable in adopting fintech Singh et al. (2021), thus creating the potential hypothesis.

H5. Gender moderating perceived ease of use and perceived usefulness to Fintech adoption

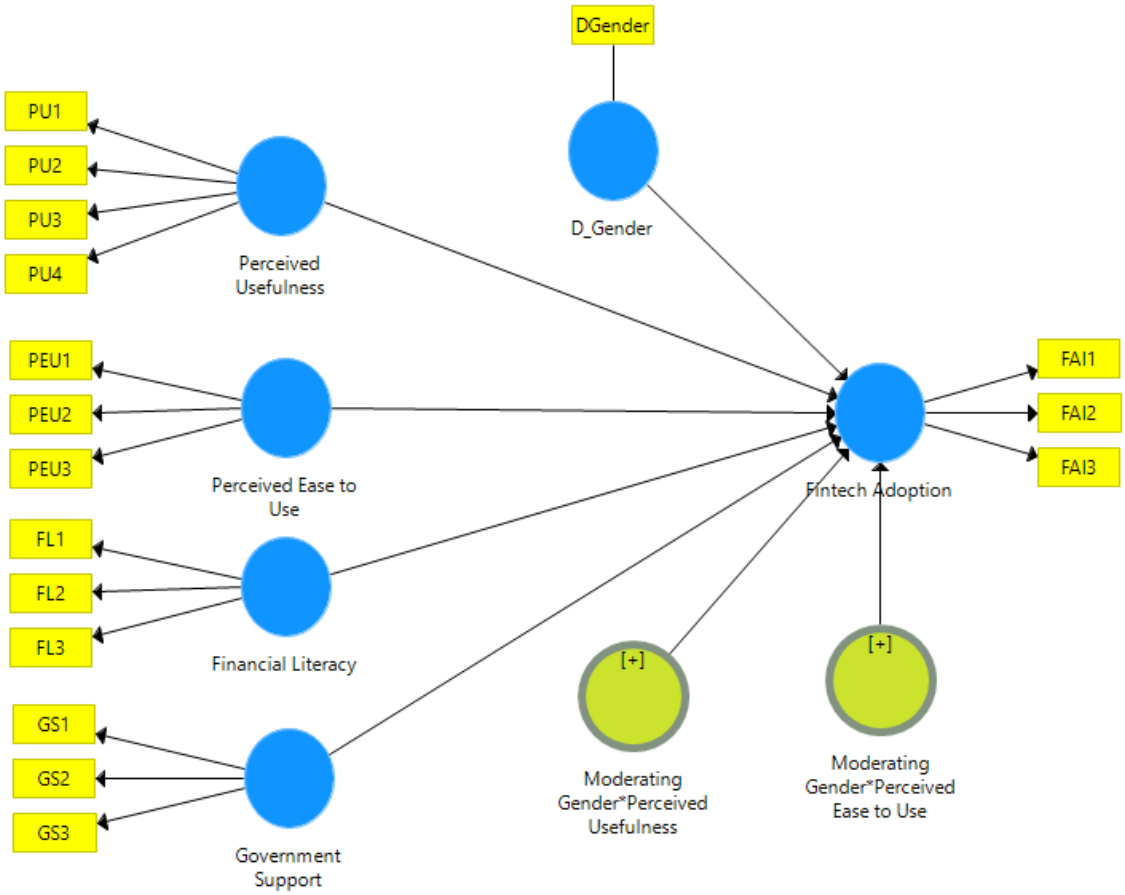

Figure 1. Conceptual Framework

METHODOLOGY

This study uses the Structural Equation Modelling (SEM) technique to explore quantitative research. The data was obtained using a purposive sampling approach, with respondents being Fintech users in Indonesia and familiar with Fintech services. Data collection was conducted online between October 2021 and May 2022; 400 participants answered questionnaires. After smoothing data, 397 final samples select for data analysis.

The construct variables are structured on a 5-point Likert scale, from 1 to 5, from 1 (strongly disagree) to 5 (strongly agree). The total number of respondents is determined by following some rules (Hair et al., 2010). The rule functions to avoid bias in SEM estimates suggests that a minimum sample size should be used. For example, Henseler et al. (2015) argue that the minimum sample can be calculated if the population is unknown by adding indicators and latent variables and multiplying by 5. With 17 indicators plus six latent variables, the minimum sample size is 115 respondents. In addition, based on the G*Power software approach with a 95% confidence level of 0.80, power estimates need 160 respondents. A total of 397 respondents exceeded the required minimum sample size. The information in Appendix 1 presents the constructed variable question items and indicator items.

Using the PLS-SEM approach, we explore the drivers of Fintech adoption by extending the TAM model (perceived ease of use and usefulness) to include variables such as financial literacy, government support, and gender as moderating variables. The analysis covers two-stage assessments; First, testing the measurement model by constructing the validity and reliability of each indicator; second, model fit is used to test the causal correlation between latent variables.

RESULTS

Respondent Characteristics

Table 1 indicates that the overall respondents in this study are male, 56.93%, while females are 43.07%. Dominant age respondents ranged from 36 to 45 years old (41.07%) and completed a bachelor's degree 68.01%. Almost 80% of respondents have used fintech more than once and earned a monthly income of more than IDR 5 million to IDR 10 million (39.04%). More than 90% of respondents have experience with fintech, and only 7.3% never used Fintech services in a month. The gender difference was utilized in this study to become the moderator for the perceived usefulness and perceived ease of use.

Table 1. Respondent Characteristics

Characteristics	Criteria	Frequency	Percentage
Gender	Male	226	56.93%
	Female	173	43.07%
Age	18 – 25	51	12.84%
	26 – 35	138	34.76%
	36 – 45	163	41.07%
	> 45	45	11.33%
Education	High School	101	25.44%
	Diploma or bachelor's degree	270	68.01%
	Master or doctorate	26	6.55%
Monthly Income	Less than IDR 3.000.000	55	13.86%
	IDR 3.000.000 – IDR 5.000.000	122	30.73%
	More than IDR 5.000.000 – IDR 10.000.000	155	39.04%
	More than IDR 10.000.000	39	9.82%
Fintech usage frequency (weekly)	1 time	77	19.41%
	2-3 times	164	41.30%
	More than 3 times	156	39.29%

Results of the SEM Analysis

The analyses follow several steps. First, the external loading factor indicates convergent validity with the criteria that the value should be higher than 0.7. Almost all the construct variables show a value exceeding 0.7, except FA2 & GS3. Second, assessing internal consistency reliability, a composite reliability metric with a 0.7 threshold value was applied. The third step was assessing convergent validity. Finally, the multicollinearity statistics are presented in the variance inflation factor. Table 2 will summarise the findings.

Table 2. Results of the Measurement Model Analysis

Construct	Loadings	Alpha	CR	AVE	VIF
Fintech Adoption (Intention)		0.649	0.850	0.739	
FA1	0.888				1.301
FA3	0.830				1.301
Gender		1.000	1.000	1.000	
D_G	1.000				1.000
Fintech Perceived Ease to Use		0.722	0.843	0.643	
PEU1	0.828				1.450
PEU2	0.831				1.517
PEU3	0.743				1.338
Fintech Perceived Usefulness		0.791	0.865	0.615	
PU1	0.774				1.526
PU2	0.791				1.591
PU3	0.760				1.582
PU4	0.811				1.742
Financial Literacy		0.773	0.869	0.689	
FL1	0.793				1.471
FL2	0.824				1.620
FL3	0.871				1.864
Government Support		0.608	0.835	0.717	
GS1	0.819				1.236
GS2	0.874				1.236
Moderating Gender*Perceived Ease to Use		1.000	1.000	1.000	
MG1	0.968				1.000
Moderating Gender*Perceived Usefulness		1.000	1.000	1.000	
MG2	0.958				1.000

Note: because the loadings < 0,7 "FA2 &GS3" exclude form indicator

Table 2 shows that all constructs' composite reliability values were more significant than 0.7, indicating strong internal consistency. Average Variance Extracted (AVE) value of all the interpreted constructs above 0.5 means that the variables pass the validity test. In addition, the Average Variance Extracted (AVE) was used with a value for each construct variable exceeding 0.5. As shown in Table 2, the AVE values for all construct variables exceed 0.5, indicating the convergent validity of the model. Finally, this study meets the multicollinearity test, following the variance inflation factor (VIF) to be lower than 5 (Hair et al., 2010). This study also assesses the discriminatory validity of the model. The heterotrait-monotrait ratio (HTMT) in Table 3 presents the discriminant validity of the study, with the study's finding lower than 0.9 (Henseler et al., 2015). Since all outer model measures meet the standardized threshold, the path analysis can be constructed as in Figure 2.

Table 3. Discriminant Validity of Heterotrait-Monotrait (HTMT) Test

	D_G	FL	FA	GS	MG1	MG2	PEU
D_G							
FL	0.109						
FA	0.160	0.355					
GS	0.143	0.415	0.639				
MG1	0.073	0.124	0.051	0.151			
MG2	0.084	0.181	0.115	0.098	0.695		
PEU	0.313	0.255	0.760	0.719	0.023	0.150	
PU	0.336	0.239	0.763	0.658	0.145	0.036	0.811

Note: The meaning of "FA = Fintech Adoption; FL= Financial Literacy; PEU= Perceived Ease to Use; PU = Perceived Usefulness; GS = Government Support; MG1= Moderating Gender with Perceived Ease to Use; and MG2= Moderating Gender with Usefulness."

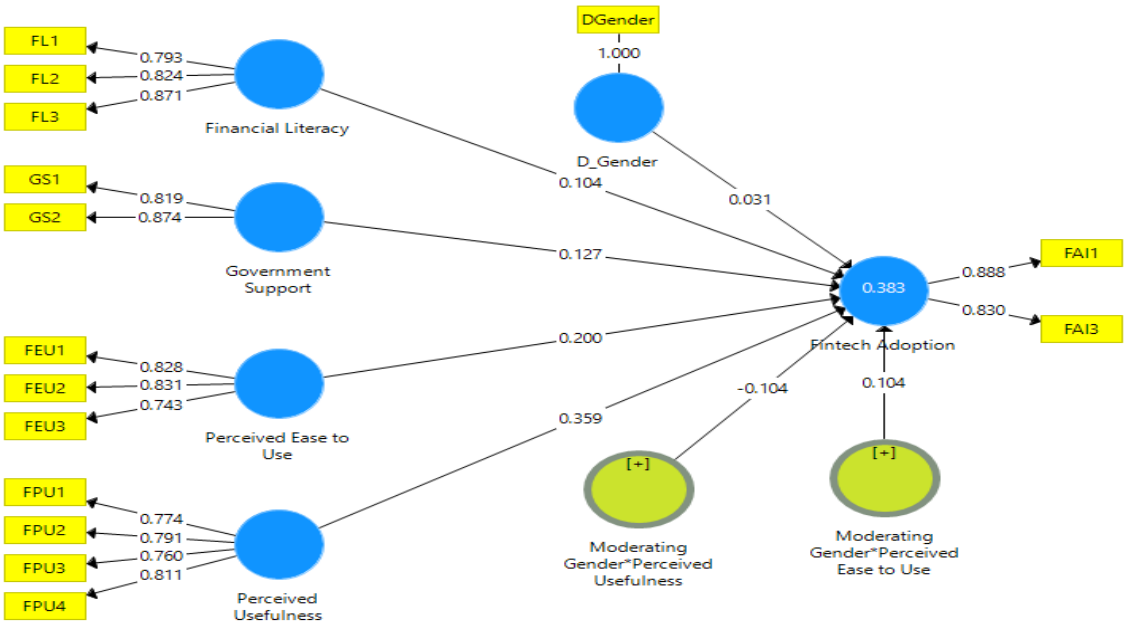

Figure 2. Results of hypothesis tests.

The empirical test results support the direct effect and moderating effect hypotheses. Table 4 indicates that four direct hypotheses and one moderation effect are supported by a significant level of = 5%, while a level of = 10% supports one moderation effect. Perceived usefulness (H_1; β_1= 0.36), perceived ease to use (H_2; β_2= 0.20), financial literacy (H_3; β_3= 0.10) and government support (H_4; β_4= 0.13) have a significant and positive direct effect on Fintech adoption.

Table 4. Hypothesis testing.

	Hypotheses	Effect size	p-value	Decision
H1	: PU -> Fintech Adoption	0.359	0.000***	supported
H2	: PEU -> Fintech Adoption	0.200	0.000***	supported
H3	: FL -> Fintech Adoption	0.104	0.030**	supported
H4	: GS -> Fintech Adoption	0.127	0.016**	supported
H5(a)	: Gender Moderate PU-> Fintech Adoption	0.104	0.042**	supported
H5(b)	: Gender Moderate PEU -> Fintech Adoption	-0.104	0.096*	supported
	R^2 Fintech Adoption		0.383	

Note: "Significant level ***, α = 1%; **, α = 5%; *, α =10%."

Table 7 also outlines the findings concerning the moderation effect of gender between perceived usefulness and Fintech adoption (H5(a); β=0,104). Despite the insignificant level, 5% perceived ease to use is not supported, but on a significant level, 10% of gender have a moderation effect between perceived ease to use and Fintech adoption (H5(a); β=-0,104). The exciting finding is that gender (men) has a more significant positive effect than women in terms of moderately perceived usefulness for Fintech adoption. However, in terms of perceived ease of use, men are lower than women in adopting fintech. In short, women's views are more receptive to fintech if women know or perceive how ease to use fintech, in contrast with men whose views are based on perceived usefulness.

DISCUSSION

The limited empirical studies on the determinants of Fintech adoption and the relatively low level of financial inclusion in Indonesia motivated this research. The study finds that all variables, namely perceived usefulness, perceived ease of use, financial literacy and government support, positively impact the adoption of Fintech for Indonesian users. In addition, the moderation analysis reveals interesting findings on gender preferences between women and men in adopting fintech through the TAM model. Women have a more significant impact on Fintech adoption through their perception of ease of use, while men are inspired by their perception of usefulness.

The perceived usefulness (PU) of Fintech services significantly affects the intentions of digital financial service users in Indonesia. This finding indicates that the level of Fintech adoption directly correlates to the utility of digital payment applications. This study's conclusion is consistent with previous research that documented that PU positively correlates with Fintech adoption in Indonesia and other countries (Alshari & Lokhande, 2022; Setiawan et al., 2021). Other study findings support the TAM model, which is related to perceived ease to use (PEU) and positively correlates to Fintech adoption. It shows that the convenience factor provided by Fintech applications in terms of user-friendly interface and easy access to Fintech applications from multiple devices is still a crucial component for Fintech adoption in Indonesia. The research results are consistent with previous studies by Tao et al. (2022) and Wang (2021).

Financial literacy (FL) was also discovered to impact Fintech adoption in Indonesia significantly. The greater an individual understands basic economic concepts such as risk diversification, inflation, and compound interest, the higher the probability of Fintech adoption. This finding also provides recommendations for policymakers regarding encouraging financial literacy education to increase financial inclusion. In particular, for individuals living in rural areas who still face obstacles to accessing formal and semi-formal financial services. Financial literacy education programs can also be carried out through the Fintech application, thereby accelerating the achievement of the government's financial inclusion target of 90% by 2024. The finding of this study is in line with previous results by Jünger and Mietzner (2020; Yoshino et al. (2020). However, according to Nathan et al. (2022), financial literacy does not directly impact Fintech adoption among Vietnamese users. This finding suggests that financial literacy has no impact on Fintech adoption; in other words, individuals with low levels of financial literacy can utilize digital-based financial services.

Furthermore, government support (SG) also plays an essential role in technology adoption in Indonesia. Therefore, support from government in improving soft infrastructure such as digital literacy education and equitable distribution of internet access is critical. Also, the construction of new internet towers in rural areas needs to be accelerated to encourage equitable internet access, which impacts access to digital finance for society. Hu et al. (2019) and Hua and Huang (2021) argue that government support plays a pivotal role in increasing new technology adoption, in line with the findings of this study.

In terms of gender as a moderating variable, the findings of this study explain that women tend to be more likely to adopt fintech that provides convenience services. At the same time, men have greater attention to the benefits of Fintech services. This finding is consistent with the cognitive self-theory personality, which reveals that men tend to be more rational reasoning in decision-making (Epstein, 2008), including in adopting new technology. These findings align with previous research, which explains that women and men have different preferences for technology adoption (Nathan et al., 2022). In contrast, in their study, Singh et al. (2021) did not find gender as a moderating variable on Fintech adoption. The different findings related to gender in the

moderation of Fintech adoption offer valuable insight for understanding the local consumers in Indonesia while also calling for further research in understanding gender impact on technology adoption, particularly fintech in developing economies.

FURTHER STUDY

Although this research creates some contributions through the extended TAM model by incorporating financial literacy and government support, further research is needed to provide more comprehensive information about Fintech adoption. A study comparing adoption in the Covid-19 and post-pandemic periods is highly required to determine whether there is a shift in individual behaviour in adopting fintech. Furthermore, several other factors, such as trust, culture, social influence, and risk, as well as respondents' location of residence, such as urban and rural areas, who may have differences in both soft and hard infrastructure in accessing digital financial services, should be explored in future research. Finally, this study was conducted in Indonesia, a developing country. Future research could compare respondents from developed, developing and under-developed countries to provide more comprehensive results on individual behaviour in adopting technology-based financial services.

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REFERENCES

Abbasi, K., Alam, A., Du, M. (Anna), & Huynh, T. L. D. (2021). FinTech, SME efficiency and national culture: Evidence from OECD countries. *Technological Forecasting and Social Change*, *163*, 120454. https://doi.org/10.1016/j.techfore.2020.120454

Agyei, J., Sun, S., Abrokwah, E., Penney, E. K., & Ofori-Boafo, R. (2020). Mobile Banking Adoption: Examining the Role of Personality Traits. *SAGE Open*, *10*(2), 215824402093291. https://doi.org/10.1177/2158244020932918

Ahmad, S., Tajul Urus, S., & Syed Mustapha Nazri, S. N. F. (2021). Technology acceptance of financial technology (fintech) for payment services among employed fresh graduates. *Asia-Pacific Management Accounting Journal (APMAJ)*, *16*(2), 27–58.

Al nawayseh, M. K. (2020). FinTech in COVID-19 and Beyond: What Factors Are Affecting Customers' Choice of FinTech Applications? *Journal of Open Innovation: Technology, Market, and Complexity*, *6*(4), 153. https://doi.org/10.3390/joitmc6040153

Alnemer, H. A. (2022). Determinants of digital banking adoption in the Kingdom of Saudi Arabia: A technology acceptance model approach. *Digital Business*, *2*(2), 100037. https://doi.org/10.1016/j.digbus.2022.100037

Alshari, H. A., & Lokhande, M. A. (2022). The impact of demographic factors of clients' attitudes and their intentions to use FinTech services on the banking sector in the least developed countries. *Cogent Business & Management*, *9*(1), 2114305. https://doi.org/10.1080/23311975.2022.2114305

Chinnasamy, C. V., Arabi, M., Sharvelle, S., Warziniack, T., Furth, C. D., & Dozier, A. (2021). Characterization of Municipal Water Uses in the Contiguous United States. *Water Resources Research*, *57*(6). https://doi.org/10.1029/2020WR028627

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. *Management Science*, *35*(8), 982–1003. https://doi.org/10.1287/mnsc.35.8.982

Demirgüç-Kunt, A., Klapper, L., Singer, D., & Ansar, S. (2021). Financial Inclusion, Digital Payments, and Resilience in the Age of Covid-19. *The Global Findex Database 2021*, 225. https://doi.org/10.1596/978-1-4648-1897-4

Epstein, S. (2008). Intuition from the perspective of cognitive-experiential self-theory. *Intuition in Judgment and Decision Making*, *23*, 37.

Fuentes, O., & Price, W. (2020). How supervisors can improve the effectiveness of financial education. *Toronto: Toronto Centre*.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis. Vectors (p. 816)*.

Hasan, R., Ashfaq, M., & Shao, L. (2021). Evaluating Drivers of Fintech Adoption in the Netherlands. *Global Business Review*, 097215092110274. https://doi.org/10.1177/09721509211027402

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, *43*(1), 115–135.

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

Hua, X., & Huang, Y. (2021). Understanding China's fintech sector: Development, impacts and risks. *The European Journal of Finance*, *27*(4–5), 321–333. https://doi.org/10.1080/1351847X.2020.1811131

Jahanmir, S. F., & Cavadas, J. (2018). Factors affecting late adoption of digital innovations. *Journal of Business Research*, *88*, 337–343. https://doi.org/10.1016/j.jbusres.2018.01.058

Ji, Z., Yang, Z., Liu, J., & Yu, C. (2019). Investigating Users' Continued Usage Intentions of Online Learning Applications. *Information*, *10*(6), 198. https://doi.org/10.3390/info10060198

Jünger, M., & Mietzner, M. (2020). Banking goes digital: The adoption of FinTech services by German households. *Finance Research Letters*, *34*, 101260.

Kaiser, T., Lusardi, A., Menkhoff, L., & Urban, C. (2022). Financial education affects financial knowledge and downstream behaviors. *Journal of Financial Economics*, *145*(2), 255–272. https://doi.org/10.1016/j.jfineco.2021.09.022

Khera, P., Ng, S., Ogawa, S., & Sahay, R. (2022). Measuring digital financial inclusion in emerging market and developing economies: A new index. *Asian Economic Policy Review*.

Li, Y., Wang, M., Liao, G., & Wang, J. (2022). Spatial Spillover Effect and Threshold Effect of Digital Financial Inclusion on Farmers' Income Growth—Based on Provincial Data of China. *Sustainability*, *14*(3), 1838. https://doi.org/10.3390/su14031838

Liao, Y.-K., Wu, W.-Y., Le, T. Q., & Phung, T. T. T. (2022). The Integration of the Technology Acceptance Model and Value-Based Adoption Model to Study the Adoption of E-Learning: The Moderating Role of e-WOM. *Sustainability*, *14*(2), 815. https://doi.org/10.3390/su14020815

Linares, M., Gallego, M. D., & Bueno, S. (2021). Proposing a TAM-SDT-Based Model to Examine the User Acceptance of Massively Multiplayer Online Games. *International Journal of Environmental Research and Public Health*, *18*(7), 3687. https://doi.org/10.3390/ijerph18073687

Liu, Y., Dilanchiev, A., Xu, K., & Hajiyeva, A. M. (2022). Financing SMEs and business development as new post Covid-19 economic recovery determinants. *Economic Analysis and Policy*, *76*, 554–567. https://doi.org/10.1016/j.eap.2022.09.006

Lusardi, A. (2019). Financial literacy and the need for financial education: Evidence and implications. *Swiss Journal of Economics and Statistics*, *155*(1), 1. https://doi.org/10.1186/s41937-019-0027-5

Mejia-Escobar, J. C., González-Ruiz, J. D., & Duque-Grisales, E. (2020). Sustainable Financial Products in the Latin America Banking Industry: Current Status and Insights. *Sustainability*, *12*(14), 5648. https://doi.org/10.3390/su12145648

Mufarih, M., Jayadi, R., & Sugandi, Y. (2020). Factors Influencing Customers to Use Digital Banking Application in Yogyakarta, Indonesia. *The Journal of Asian Finance, Economics and Business*, *7*(10), 897–907. https://doi.org/10.13106/JAFEB.2020.VOL7.NO10.897

Nathan, R. J., Setiawan, B., & Quynh, M. N. (2022). Fintech and Financial Health in Vietnam during the COVID-19 Pandemic: In-Depth Descriptive Analysis. *Journal of Risk and Financial Management*, *15*(3), 125. https://doi.org/10.3390/jrfm15030125

OECD (Ed.). (2020). *Sustainable and resilient finance*. OECD. https://doi.org/10.1787/eb61fd29-en

Ryu, H.-S. (2018). Understanding benefit and risk framework of fintech adoption: Comparison of early adopters and late adopters. *Proceedings of*

the 51st Hawaii International Conference on System Sciences. Hawaii International Conference on System Sciences. http://hdl.handle.net/10125/50374

Savitha, B., & Hawaldar, I. T. (2022). What motivates individuals to use FinTech budgeting applications? Evidence from India during the covid-19 pandemic. *Cogent Economics & Finance*, *10*(1), 2127482.

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

Singh, K., Misra, M., & Yadav, J. (2021). Corporate social responsibility and financial inclusion: Evaluating the moderating effect of income. *Managerial and Decision Economics*, *42*(5), 1263–1274. https://doi.org/10.1002/mde.3306

Sugandi, E. A. (2021). The COVID-19 Pandemic and Indonesia's Fintech Markets. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3916514

Talwar, S., Dhir, A., Khalil, A., Mohan, G., & Islam, A. K. M. N. (2020). Point of adoption and beyond. Initial trust and mobile-payment continuation intention. *Journal of Retailing and Consumer Services*, *55*, 102086. https://doi.org/10.1016/j.jretconser.2020.102086

Tao, D., Li, W., Qin, M., & Cheng, M. (2022). Understanding Students' Acceptance and Usage Behaviors of Online Learning in Mandatory Contexts: A Three-Wave Longitudinal Study during the COVID-19 Pandemic. *Sustainability*, *14*(13), 7830. https://doi.org/10.3390/su14137830

Thathsarani, U. S., & Jianguo, W. (2022). Do Digital Finance and the Technology Acceptance Model Strengthen Financial Inclusion and SME Performance? *Information*, *13*(8), 390. https://doi.org/10.3390/info13080390

Varkey, J. (2020). Financial Literacy in the FinTech Era: A Study of Scheduled Tribes in Kerala. *International Journal of Advanced Science and Technology*, *29*(5), 12.

Wang, J. S. (2021). Exploring biometric identification in FinTech applications based on the modified TAM. *Financial Innovation*, *7*(1), 42. https://doi.org/10.1186/s40854-021-00260-2

Wang, S., Tlili, A., Zhu, L., & Yang, J. (2021). Do Playfulness and University Support Facilitate the Adoption of Online Education in a Crisis? COVID-19 as a Case Study Based on the Technology Acceptance Model. *Sustainability*, *13*(16), 9104. https://doi.org/10.3390/su13169104

Xu, L., & Zia, B. (2012). *Financial Literacy around the World: An Overview of the Evidence with Practical Suggestions for the Way Forward*. The World Bank. https://doi.org/10.1596/1813-9450-6107

Yoshino, N., Morgan, P. J., & Long, T. Q. (2020). *Financial Literacy and Fintech Adoption in Japan*. 35.

Appendix 1. Variable Description

No	Construct Variable	Sources	Indicator	Code
1	Fintech Adoption	(Hasan et al., 2021; Jahanmir & Cavadas, 2018; Ryu, 2018)	I would like to continue using Fintech services in the future.	FA1
			I want to use fintech services as soon as possible	FA2
			I will recommend Fintech services to my friends.	FA3
2	Perceived ease to use	(Agyei et al., 2020; Tao et al., 2022; J. S. Wang, 2021)	Fintech services are simple to use.	PEU1
			The Fintech operation interface is user-friendly and easy to understand	PEU2
			It is easy to obtain the device required to use Fintech services (cellphone, APP, WIFI, and others)	PEU3
3	Perceived Usefulness	(Davis et al., 1989; Talwar et al., 2020)	Fintech can help me meet my service needs.	PU1
			Fintech can help me save time.	PU2
			Fintech offerings can enhance efficiency	PU3
			Fintech services are generally useful.	PU4
4	Financial Literacy	(Kaiser et al., 2022; Lusardi, 2019; Varkey, 2020; Xu & Zia, 2012)	I am familiar with compound interest.	FL1
			I have knowledge about inflation	FL2
			I have knowledge of risk diversification	FL3
5	Government Support	(Chinnasamy et al., 2021; Hua & Huang, 2021; Mejia-Escobar et al., 2020)	I believe that government support will improve fintech services.	GS1
			I believe the government has favorable laws and regulations for fintech services.	GS2

No	Construct Variable	Sources	Indicator	Code
			I think the government is actively involved in building all kinds of infrastructure like infrastructure communication networks and plays an active role in promoting fintech services.	GS3
6	Gender	(Fuentes & Price, 2020; Khera et al., 2022; Singh et al., 2021)	Dummy Variabel "0" = Women and "1"= Man	D_G