



A multigroup analysis of gender in adopting Fintech services in Indonesia

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ABSTRACT

The proliferation of technology, coupled with a substantial population of smartphone users, is revolutionizing how people access financial services in Indonesia. This study investigates the driving factors behind the adoption of Fintech among users in Indonesia by employing an extended Unified Theory of Acceptance and Use of Technology (UTAUT) model integrated with digital financial literacy. Furthermore, this study also evaluates the differences between male and female respondents in adopting Fintech services. This research, which gathered data from 228 participants and analyzed it using Partial Least Square Structural Equation Modeling (PLS-SEM), found that performance expectancy is the primary factor influencing behavioral intention in Indonesia. Use behavior plays a significant role in affecting continuance intention. Furthermore, notable differences were identified between men and women regarding the correlation between performance expectancy and behavioral intention. These findings have implications for Fintech business providers in designing effective strategies aimed at increasing access to financial services and promoting financial inclusion in Indonesia. For policymakers, performing a multi-group analysis on gender and technology adoption is consistent with the United Nations Sustainable Development Goal (UNSDG) number 5, which aims to promote gender equality.

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INTRODUCTION

Indonesia has attracted international attention over the past decade due to its stable economic growth of around 5% from 2013 to 2022 (World Bank, 2023), accompanied by significant progress in the financial technology (Fintech) sector. In 2023, there was a notable increase in the number of digital financial service transactions. For example, peer-to-peer (P2P) financing is expected to grow by 18 percent in 2024 compared to 2023 (OJK, 2024). With Indonesia's large population and

increasing internet penetration, Fintech has emerged as an innovative solution to provide access to financial services for the public.

Fintech services offer significant convenience compared to traditional finance by leveraging digital technology to streamline and expedite various financial transactions. Users can conduct a wide range of financial activities online through applications or web platforms, eliminating the necessity to visit a physical bank or financial institution. Moreover, fintech frequently provides lower fees, quicker processing times, and greater accessibility for individuals who may be underserved by traditional banks (Koranteng & You, 2024).

Despite these advancements, the Global Findex Database 2021 report reveals that Indonesia has the fourth-highest number of unbanked populations globally, with approximately 100 million people lacking access to formal financial services in 2021 (Global Financial Index, 2022). This inability to access financial services negatively impacts individual welfare, hindering economic and social opportunities (Younas et al. 2022). Fintech plays a crucial role in overcoming this problem by providing more inclusive and accessible financial solutions. Through digital technology, fintech enables previously unreachable populations to access various financial services, thereby improving economic welfare and encouraging financial inclusion in Indonesia (Setiawan et al. 2021; Oanh, 2024).

However, the adoption of Fintech services in Indonesia remains insufficient. According to a 2022 survey by the Financial Services Authority (Otoritas Jasa Keuangan / OJK), Fintech literacy and inclusion in Indonesia are only 10% and 2%, respectively. This is significantly lower compared to banking literacy and inclusion levels, which are at 49% and 74%. To enhance this adoption, it is essential to focus on several key factors identified by the Unified Theory of Acceptance and Use of Technology (UTAUT), including performance expectancy, effort expectancy, social influence, and facilitating conditions. The ability of UTAUT to predict technology adoption has been demonstrated by several previous studies in various countries, including Indonesia. Therefore, these constructs can effectively explain Fintech adoption in Indonesia (Igamo et al. 2024). As an extension of UTAUT, this research incorporates digital financial literacy, which is considered to influence Fintech adoption in Indonesia. Additionally, it evaluates the relationship between use behavior and continuance intention, addressing a future research suggestion from Marhadi et al. (2024).

By addressing these factors, the drivers to adopting Fintech services can be better understood and anticipated. Performance expectancy refers to the belief that using Fintech services will increase the efficiency and effectiveness of financial management. Notably, studies by Bajunaied et al. (2023) and Sharma et al. (2024) have shown that performance expectancy has a positive and significant effect on behavioral intention.

Effort expectancy, focusing on the ease and accessibility of using Fintech services, has received significant scrutiny in previous academic inquiries. Senyo and Osabutey (2020); Ong et al. (2023) presented convincing evidence of a positive and significant relationship between effort expectancy and behavioral intention. Their research indicated that users are more inclined to adopt Fintech services when they perceive the technology as easy and uncomplicated to use. Furthermore, they emphasized that reducing complexity and providing clear, intuitive interfaces can significantly enhance user engagement and satisfaction. These findings underscore the importance of designing Fintech solutions that prioritize user experience to drive widespread adoption.

Social influence pertains to the effect that others' opinions and recommendations have on an individual's decision to adopt new technologies, has been a focal point in previous research. This factor examines how the perceptions and endorsements of peers, family members, and influential figures can shape an individual's attitudes and decisions regarding the use of new technologies. Xie et al. (2021) and Almashhadani et al. (2023) discovered a strong and positive correlation between social influence and behavioral intention. Their study showed that individuals

are more likely to adopt Fintech services when they receive positive feedback and recommendations from their social networks. This effect is especially strong in close communities, such as Indonesia, where word-of-mouth and social approval is crucial. Moreover, using social influencers and community leaders to endorse Fintech services can greatly increase their acceptance and adoption.

Facilitating conditions associates to adequate technological infrastructure and supportive regulations, which are necessary to ensure users can access and use Fintech services without obstacles. A previous study by Ho et al. (2020) revealed a positive and significant relationship between facilitating conditions and behavioral intention. Their results suggest that users are more inclined to adopt Fintech services when they have access to the necessary resources and support. This underscores the importance of developing a strong technological foundation and regulatory framework to foster an environment conducive to the growth and adoption of Fintech. Additionally, ensuring that users are aware of and can easily navigate these resources can further enhance their willingness to engage with Fintech platforms.

The objectives of this study are to investigate the determinants of Fintech adoption in Indonesia by employing the Unified Theory of Acceptance and Use of Technology (UTAUT) model and integrating digital financial literacy. Specifically, it seeks to evaluate how key factors such as performance expectancy, effort expectancy, social influence, and facilitating conditions influence behavioral intention and use behavior of Fintech services. Additionally, the research will explore the relationship between use behavior and the intention to continue using Fintech services, providing insights into long-term adoption patterns. The study will also assess potential gender differences in Fintech adoption through multigroup analysis, identifying any significant differences in the factors driving adoption between men and women. This aspect aims to contribute to gender equality (SDG5) by understanding how Fintech can economically empower women through improved access to financial services.

Following a structured format, this paper begins with an introduction to the research background, followed by a detailed methodology in Section 2. Section 3 covers the results and discussion, and finally, Section 5 provides the conclusion and references.

RESEARCH METHOD

The study utilized a self-administered questionnaire to collect data from respondents in Indonesia between August 2023 and March 2024. To validate the questionnaire used, this study adopted all indicators sourced from existing literature and adapted them to fit the context of the research. This adaptation process included input gathered from interviews with academics and Fintech professionals in Indonesia. Content validity was ensured by refining questionnaire items to ensure clarity and ease of understanding for respondents regarding the nature of Fintech services in Indonesia. Consistent with the methodology proposed by Igamo et al. (2024), a five-point Likert scale, spanning from 1 (representing strongly disagree) to 5 (representing strongly agree), was employed to evaluate the variables under consideration. We collected a total of 316 participants through Google form using purposive sampling for our study. Nevertheless, in order to enhance the reliability of the data, incomplete responses and indications of potential response bias were eliminated. This involved excluding participants who repeatedly selected the same response for all questions, a behavior known as straight lining patterns as outlined by Cheah et al. (2020). Employing this refinement process, a total of 88 participants were removed from the dataset, resulting in 228 remaining respondents available for subsequent analysis. As suggested by Sekaran & Bougie (2016), sample sizes ranging from 30 to 500 are generally deemed sufficient for the majority of factor studies.

Following the data cleaning process using straight-lining patterns, this study employs the Method of Confirming Measurement Quality (MCMQ) to evaluate validity and reliability by

referring to Hair et al. (2022). Convergent validity is verified through an examination of factor loadings (FL) and average variance extracted (AVE), with the aim of achieving values surpassing 0.7. Discriminant validity is assessed by employing the Fornell-Larcker criterion and Cross-loadings. Reliability is evaluated via composite reliability (CR) and Cronbach's Alpha (α), with thresholds targeted above 0.6 and 0.7, respectively. To scrutinize the model, this study conducts MCMQ analysis, followed by Partial Least Squares-Structural Equation Modeling (PLS-SEM) and Multigroup Analysis (PLS-MGA) utilizing SmartPLS version 3.

RESULTS AND DISCUSSIONS

Table 1 presents the validity and reliability assessment using the Method of Confirming Measurement Quality (MCMQ), as outlined by Hair et al. (2022). Indicators failing to meet the threshold will be excluded from subsequent analysis, including those with load factor values below 0.7, such as EE3 (0.651) and SI2 (0.682).

Table 1. Method of Confirming Measurement Quality (MCMQ) Assessment

Construct	Items	FL	CR	α	AVE
Performance Expectancy (PE)	PE1	0.929	0.959	0.942	0.853
	PE2	0.936			
	PE3	0.929			
	PE4	0.899			
Effort Expectancy (EE)	EE1	0.879	0.939	0.903	0.838
	EE2	0.948			
	EE4	0.918			
Social Influence (SI)	SI1	0.957	0.958	0.912	0.919
	SI3	0.961			
Facilitating Conditions (FC)	FC1	0.871	0.946	0.923	0.813
	FC2	0.917			
	FC3	0.921			
	FC4	0.897			
Digital Financial Literacy (DFL)	DFL1	0.860	0.916	0.878	0.732
	DFL2	0.877			
	DFL3	0.852			
	DFL4	0.833			
Behavioral Intention (BI)	BI1	0.946	0.961	0.939	0.891
	BI2	0.947			
	BI3	0.940			
Use Behavior (UB)	UB1	0.849	0.927	0.881	0.809
	UB2	0.933			
	UB3	0.914			
Continuance Intention (CI)	CI1	0.926	0.960	0.944	0.856
	CI2	0.934			
	CI3	0.936			
	CI4	0.905			

Table 2 displays the result of the Fornell-Larcker criterion, indicating that the square root of AVE for every construct surpasses the highest correlation observed with other constructs. These findings led to the conclusion that discriminant validity, as per the Fornell-Larcker criteria, was satisfactory.

Table 2. Fornell-Larcker criterion Assessment

	BI	CI	DFL	EE	FC	PE	SI	UB
Behavioral Intention	0.944							
Continuance Intention	0.776	0.925						
Digital Financial Literacy	0.415	0.395	0.856					
Effort Expectancy	0.590	0.634	0.502	0.915				

Facilitating Conditions	0.503	0.573	0.525	0.690	0.902			
Performance Expectancy	0.628	0.663	0.435	0.828	0.753	0.923		
Social Influence	0.547	0.592	0.317	0.604	0.519	0.569	0.959	
Use Behavior	0.765	0.780	0.432	0.640	0.583	0.687	0.490	0.899

Table 3 shows the cross loading value for each item, with the criterion that the cross loading value must be higher than the value of the related item (Hair et al., 2022). This is important to ensure that each item shows a greater relationship to the construct in question than to other constructs in the study.

Table 3. Cross Loadings Measurement

	BI	CI	DFL	EE	FC	PE	SI	UB
BI1	0.946	0.731	0.392	0.567	0.505	0.627	0.501	0.729
BI2	0.947	0.724	0.363	0.544	0.436	0.567	0.525	0.716
BI3	0.940	0.741	0.419	0.560	0.483	0.585	0.522	0.722
CI1	0.750	0.926	0.323	0.580	0.513	0.636	0.572	0.745
CI2	0.721	0.934	0.372	0.591	0.540	0.604	0.527	0.710
CI3	0.722	0.936	0.388	0.604	0.532	0.621	0.530	0.753
CI4	0.676	0.905	0.378	0.569	0.536	0.591	0.564	0.675
DFL1	0.398	0.346	0.860	0.422	0.415	0.389	0.225	0.424
DFL2	0.343	0.272	0.877	0.411	0.421	0.350	0.230	0.305
DFL3	0.325	0.362	0.852	0.448	0.478	0.392	0.294	0.366
DFL4	0.346	0.370	0.833	0.440	0.490	0.358	0.343	0.374
EE1	0.494	0.534	0.424	0.879	0.655	0.744	0.483	0.581
EE2	0.573	0.616	0.486	0.948	0.632	0.774	0.578	0.603
EE4	0.550	0.586	0.466	0.918	0.612	0.756	0.593	0.574
FC1	0.411	0.486	0.499	0.602	0.871	0.616	0.449	0.483
FC2	0.399	0.491	0.466	0.617	0.917	0.663	0.436	0.479
FC3	0.497	0.536	0.484	0.627	0.921	0.704	0.489	0.549
FC4	0.490	0.542	0.449	0.639	0.897	0.720	0.488	0.575
PE1	0.599	0.614	0.403	0.741	0.712	0.929	0.516	0.630
PE2	0.590	0.632	0.406	0.757	0.717	0.936	0.549	0.626
PE3	0.599	0.658	0.410	0.802	0.711	0.929	0.563	0.678
PE4	0.529	0.536	0.389	0.756	0.637	0.899	0.469	0.599
SI1	0.512	0.556	0.303	0.565	0.506	0.537	0.957	0.487
SI3	0.536	0.579	0.304	0.593	0.489	0.554	0.961	0.453
UB1	0.688	0.726	0.279	0.478	0.381	0.536	0.473	0.849
UB2	0.671	0.679	0.409	0.611	0.571	0.645	0.439	0.933
UB3	0.701	0.695	0.478	0.637	0.621	0.670	0.406	0.914

Table 4 elaborates on the Heterotrait-Monotrait Ratio (HTMT) with values below 0.90. These values indicate that discriminant validity is acceptable, suggesting that the constructs being measured are not overly correlated with each other (Hair et al., 2022). This assessment further reinforces the robustness of the measurement model in capturing distinct constructs.

Table 4. Rasio Heterotrait-Monotrait (HTMT) Assessment

	BI	CI	DFL	EE	FC	PE	SI	UB
Behavioral Intention								
Continuance Intention	0.823							
Digital Financial Literacy	0.454	0.434						
Effort Expectancy	0.639	0.685	0.563					
Facilitating Conditions	0.535	0.611	0.586	0.757				
Performance Expectancy	0.666	0.700	0.478	0.898	0.802			
Social Influence	0.590	0.638	0.356	0.663	0.563	0.612		
Use Behavior	0.841	0.853	0.489	0.719	0.642	0.753	0.546	

According to Hair et al. (2022), a coefficient of determination (R^2) reaching 0.75 denotes strong or substantial explanatory capability, whereas values of 0.50 and 0.25 indicate moderate and

weak explanatory power, respectively. Table 5 illustrates moderate explanatory power for behavioral intention, use behavior, and continuance intention. Cohen (2013) classifies the f^2 value, where values surpassing 0.35 signify a large effect size, while those at 0.15 and 0.02 indicate medium and small effect sizes, respectively. All Q^2 values surpass 0, implying satisfactory predictive relevance for the research model.

Table 5. Effect Size, Coefficient Determinant, and Predictive Power Result

Path	f^2	R^2	Q^2
Performance Expectancy → Behavioral Intention	0.080		
Effort Expectancy → Behavioral Intention	0.001		
Social Influence → Behavioral Intention	0.078		
Facilitating Conditions → Behavioral Intention	0.003		
Digital Financial Literacy → Behavioral Intention	0.032		
Behavioral Intention		0.457	0.409
Use Behavior		0.584	0.468
Continuance Intention		0.607	0.513

The assessment of path coefficients is conducted to examine the statistical significance of the causal relationship among variables measured, which is then assessed through bootstrapping with a sample size of 5.000. The outcomes of this analysis are illustrated in Figure 1.

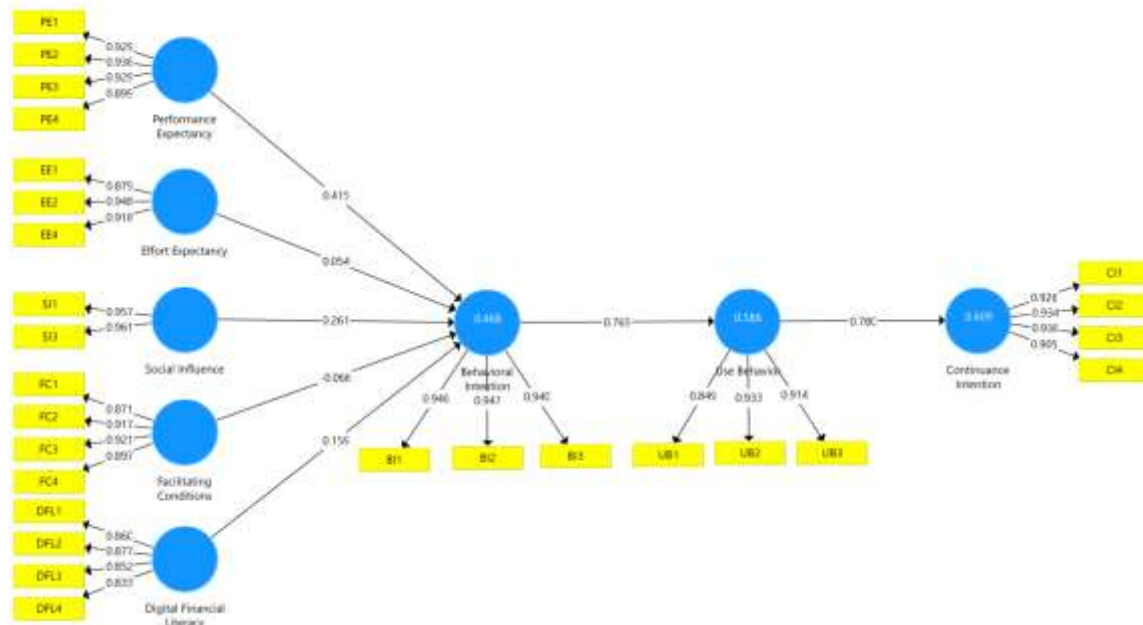


Figure 1. Hypotheses tests results

Table 6 summarizes the direct hypotheses, highlighting their significance level, with p-value remaining below the 5% threshold. This thorough examination assists in confirming the strength and relevance of the hypotheses within the research framework.

Table 6. Direct Hypotheses Result

Path	Path Coefficient	p-value	Decision
Performance Expectancy → Behavioral Intention	0.415	0.000	accepted
Effort Expectancy → Behavioral Intention	0.054	0.634	rejected
Social Influence → Behavioral Intention	0.261	0.002	accepted

Facilitating Conditions → Behavioral Intention	-0.066	0.586	rejected
Digital Financial Literacy → Behavioral Intention	0.159	0.079	rejected
Behavioral Intention -> Use Behavior	0.765	0.000	accepted
Use Behavior -> Continuance Intention	0.780	0.000	accepted

The research reveals the positive and significant impact of performance expectancy on behavioral intention, highlighting the crucial role of Fintech services in enhancing efficiency and effectiveness, thereby shaping individuals' intention to adopt Fintech services in Indonesia. This implies that as perceptions of Fintech's performance expectancy increase among users, so does the likelihood of their adoption. These findings are similar to prior investigations conducted by Bajunaied et al. (2023) and Sharma et al. (2024), further underlining the enduring significance of performance expectancy as a determinant factor in the adoption of digital financial services within the Indonesian context.

Meanwhile, effort expectancy does not have a significant influence on behavioral intention in Indonesia. This indicates that ease of use is not the primary factor influencing individuals' decisions to adopt Fintech services in Indonesia. This might be due to high trust in technology or other factors such as perceived benefits being more dominant. It suggests that users may prioritize the advantages and functionalities of Fintech over the simplicity of its use. Additionally, the rapid digitalization and increasing familiarity with technology in Indonesia could mean that users do not view ease of use as a major concern. These findings are consistent with the research by Merhi et al. (2019), which also found that effort expectancy does not have a significant impact in the context of digital financial services adoption in Indonesia.

The study findings indicate that social influence has a significant positive impact on behavioral intention in Indonesia. This suggests that social influences, such as recommendations from friends, family, or public figures, play a crucial role in encouraging individuals to adopt Fintech services in Indonesia. Social influence can enhance individuals' trust and confidence in the benefits and security of using Fintech. In a collectivist culture like Indonesia, opinions and support from the social environment greatly influence individuals' decisions. This may be due to the tendency of people to seek approval and follow trends perceived positively by their social groups. These findings are consistent with previous research by Hassan et al. (2023) and Sharma et al. (2024), which also found that social influence has a significant impact on behavioral intention in adopting digital financial services. However, the result contradicts Recskó and Aranyossy (2024); Shehata et al. (2023), who revealed an insignificant correlation between social influence and behavioral intention.

Facilitating conditions is documented has to be insignificant influence on behavioral intention in Indonesia. This implies that the presence of favorable circumstances or resources does not exert significant influence in motivating individuals to embrace Fintech services in the country. These findings suggest that factors beyond facilitating conditions may hold greater influence in shaping behavioral intentions toward Fintech adoption. This observation resonates with previous research by Bervell et al. (2023), which similarly found a lack of significant impact of facilitating conditions on behavioral intention in the realm of financial service adoption.

The correlation between digital financial literacy and behavioral intention in Indonesia is shown to be insignificant. This suggests that individuals' level of knowledge and understanding of digital financial concepts and technologies may not strongly influence their intentions to adopt Fintech services in the country. The findings imply that other factors, such as trust, perceived usefulness, or social influence, may play a more crucial role in shaping behavioral intentions toward Fintech adoption. This observation aligns with previous research conducted by Nathan et al. (2022), which also reported a lack of significant impact of digital financial literacy on behavioral intention in the context of financial service adoption.

This result reveals that behavioral intention has a positive significant impact on use behavior in Indonesia. This indicates that individuals' intentions to engage in certain behaviors significantly influence their actual use of Fintech services in the country. The findings suggest that the intentions individuals form regarding Fintech adoption are strong predictors of their subsequent behavior in utilizing these services. This observation aligns with previous research conducted by Odei-appiah et al. (2021), which also reported a significant influence of behavioral intention on use behavior in the context of digital financial service adoption.

This study documents that use behavior has a significant impact on continuance intention in Indonesia. This implies that individuals' ongoing engagement with Fintech services plays a pivotal role in shaping their intentions to persist with these services over time. Moreover, the findings underscore the importance of user satisfaction and experience in influencing their decisions to continue using Fintech platforms. This observation aligns with previous research conducted by Kang et al. (2022), which similarly emphasized the significant influence of use behavior on continuance intention in the context of digital financial service adoption.

Furthermore, Table 7 explains that most of the PLS-MGA results indicate no significant differences between male and female respondents regarding financial technology adoption, except for the relationship between performance expectancy and behavioral intention. The significant level for PLS-MGA is measured following Zarifis and Cheng (2022) by considering significance at p-values lower than 0.05 or higher than 0.95.

Table 7. Multigroup Analysis Result

	Path Coefficients-diff (Men - Women)	p-Value new (Men vs Women)
Behavioral Intention -> Use Behavior	0.128	0.167
Digital Financial Literacy -> Behavioral Intention	0.318	0.155
Effort Expectancy -> Behavioral Intention	-0.324	0.202
Facilitating Conditions -> Behavioral Intention	-0.418	0.103
Performance Expectancy -> Behavioral Intention	0.525	0.049
Social Influence -> Behavioral Intention	0.006	0.944
Use Behavior -> Continuance Intention	0.067	0.484

The significant difference between male and female respondents regarding the relationship between performance expectancy and behavioral intention toward Fintech adoption in Indonesia may stem from various social, cultural, and experiential factors influencing their perceptions and preferences towards financial technology, as differences in gender norms, roles within the family, and societal pressures can moderate this relationship. Prior research, such as that by Setiawan et al. (2023), has indicated that significant differences exist between men and women in adopting Fintech in Indonesia, suggesting that gender-related expectations and cultural preferences for technology significantly influence individuals' perceptions and responses to financial technology. Moreover, variations in prior experiences or exposure to Fintech may also shape how individuals evaluate the performance of such services. Understanding these social, cultural, and individual factors is essential for comprehending the significant differences observed and their implications for Fintech adoption among male and female respondents.

CONCLUSION

The study evaluates Fintech adoption drivers in Indonesia by extending the UTAUT model with digital financial literacy, aiming to provide a comprehensive understanding of the factors influencing individuals' decisions to adopt Fintech services. Additionally, this paper examines the relationship between use behavior and continuance intention to determine whether respondents perceive a need to continue using Fintech services. Furthermore, by examining the nuances of gender-specific responses through PLS-MGA analysis, the study sheds light on potential

disparities in Fintech use behavior and continuance intention between male and female respondents, contributing to a more comprehensive understanding of the gender dynamics within the Fintech adoption process.

The findings revealed that performance expectancy has the most influence on behavioral intention in Indonesia. A notable result when it was found that digital financial literacy does not significantly affect the adoption of digital financial services in Indonesia. This finding aligns with a prior study by Nathan et al. (2022), which revealed that basic financial skills are not a significant factor in Fintech adoption in Indonesia. Furthermore, the significant differences between male and female respondents provide valuable insights for Fintech business providers to determine strategies aimed at enhancing access to digital financial services more broadly and impacting the increase of digital financial inclusion in Indonesia.

Theoretically, by incorporating digital financial literacy and continuance intention into the UTAUT framework, this study extends the understanding of technology adoption models, particularly in the context of Fintech services. This expanded framework offers a more comprehensive view of the factors influencing Fintech adoption, with significant implications for guiding future research in this field. From a practical perspective, by examining gender differences in the adoption of Fintech services, this study provides valuable insights for policymakers and Fintech providers in Indonesia. Understanding these differences has important implications for tailoring Fintech products and marketing strategies to better meet the needs of both male and female users, thereby enhancing financial inclusion and service adoption across diverse demographic groups.

Despite this study has extended the UTAUT model by adding digital financial literacy, there are limitations evident from the complexity of the model. The combination of UTAUT and Innovation Resistance Theory (IRT) is predicted to explain the adoption of Fintech services more broadly, including tradition barriers and image barriers. Furthermore, Necessity Condition Analysis (NCA) can serve as a complementary analysis to identify important variables in UTAUT for predicting the adoption of digital financial services in Indonesia. Such an approach may offer valuable insights for subsequent scientific investigations aimed at generating more comprehensive research outcomes.

References

- Almashhadani, I. S., Abuhashesh, M., Bany Mohammad, A., Masa'deh, R., & Al-Khasawneh, M. (2023). Exploring the determinants of FinTech adoption and intention to use in Jordan: The impact of COVID-19. *Cogent Social Sciences*, 9(2). <https://doi.org/10.1080/23311886.2023.2256536>
- Bajunaied, K., Hussin, N., & Kamarudin, S. (2023). Behavioral intention to adopt FinTech services: An extension of unified theory of acceptance and use of technology. *Journal of Open Innovation: Technology, Market, and Complexity*, 9(1), 100010. <https://doi.org/10.1016/j.joitmc.2023.100010>
- Bervell, B., Kumar, J. A., Arkorful, V., Agyapong, E. M., & Osman, S. (2022). Remodelling the role of facilitating conditions for Google Classroom acceptance: A revision of UTAUT2. *Australasian Journal of Educational Technology*, 38(1), 115–135. <https://doi.org/10.14742/ajet.7178>
- Cheah, J. H., Thurasamy, R., Memon, M. A., Chuah, F., & Ting, H. (2020). Multigroup analysis using smartpls: Step-by-step guidelines for business research. *Asian Journal of Business Research*, 10(3), I-XIX. <https://doi.org/10.14707/ajbr.200087>
- Cohen, L., Manion, L. & Morrison, K. (2018). *Research Method in Education* (8th Edition). New York: Routledge.
- Global Financial Index. (2022). *The Global Findex Database 2021: Financial Inclusion, Digital Payments, and Resilience in the Age of Covid-19*. Available online: <https://www.worldbank.org/en/publication/globalindex> (accessed on 27 January 2024)
- Hair, J., & Alamer, A. (2022). Partial Least Squares Structural Equation Modeling (PLSSEM) in second language and education research: Guidelines using an applied example. *Research Methods in Applied Linguistics*, 1(3), 100027. <https://doi.org/10.1016/j.rmal.2022.100027>

- Hassan, M. S., Islam, M. A., Yusof, M. F. bin, Nasir, H., & Huda, N. (2023). Investigating the Determinants of Islamic Mobile FinTech Service Acceptance: A Modified UTAUT2 Approach. *Risks*, 11(2). <https://doi.org/10.3390/risks11020040>
- Ho, J. C., Wu, C. G., Lee, C. S., & Pham, T. T. T. (2020). Factors affecting the behavioral intention to adopt mobile banking: An international comparison. *Technology in Society*, 63(December 2019), 101360. <https://doi.org/10.1016/j.techsoc.2020.101360>
- Igamo, A. M., Rachmat, R. Al, Siregar, M. I., Gariba, M. I., Cheron, V., Wahyuni, A. S., & Setiawan, B. (2024). Factors influencing Fintech adoption for women in the post-Covid-19 pandemic. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(1), 100236. <https://doi.org/10.1016/j.joitmc.2024.100236>
- Kang, W., Shao, B., & Chen, H. (2022). What influences users' continuance intention of internet wealth management services? A perspective from network externalities and herding. In *Electronic Commerce Research* (Issue 0123456789). Springer US. <https://doi.org/10.1007/s10660-022-09580-6>
- Koranteng, B., & You, K. (2024). Fintech and financial stability: Evidence from spatial analysis for 25 countries. *Journal of International Financial Markets, Institutions and Money*, 93(September 2023), 102002. <https://doi.org/10.1016/j.intfin.2024.102002>
- Marhadi, M., Fathoni, A. F., Setiawan, B., Pratiwi, D., Hayati, R., Boros, A., & Sudibyo, N. A. (2024). Continuance Intention of Fintech Peer-to-Peer (P2P) Financing Shariah: Moderation Role of Brand Schematicity and Digital Financial Literacy. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(2), 100301. <https://doi.org/10.1016/j.joitmc.2024.100301>
- Merhi, M., Hone, K., & Tarhini, A. (2019). A cross-cultural study of the intention to use mobile banking between Lebanese and British consumers: Extending UTAUT2 with security, privacy and trust. *Technology in Society*, 59(January), 101151. <https://doi.org/10.1016/j.techsoc.2019.101151>
- 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.
- Oanh, T. T. K. (2024). Digital financial inclusion in the context of financial development: Environmental destruction or the driving force for technological advancement. *Borsa Istanbul Review*, 24(2), 292-303. <https://doi.org/10.1016/j.bir.2024.01.003>
- Odei-appiah, S., Wiredu, G., & Adjei, J. (2021). Fintech Use, Digital Divide and Financial Inclusion. *African Conference on Information Systems and Technology*, 0-12.
- OJK. (2022). Survei Nasional Literasi dan Inklusi Keuangan Tahun 2022. Retrieved online from <https://ojk.go.id/id/berita-dan-kegiatan/siaran-pers/Pages/Survei-Nasional-Literasi-dan-Inklusi-Kuangan-Tahun-2022.aspx> (accessed on 15 June 2024)
- OJK. (2024). The Financial Services Sector Stability Remained Resilient Amidst Global Economic Uncertainty. Retrieved online from <https://ojk.go.id/en/berita-dan-kegiatan/siaran-pers/Pages/The-Financial-Services-Sector-Stability-Remained-Resilient-Amidst-Global-Economic-Uncertainty.aspx> (accessed on 18 May 2024)
- Ong, M. H., Yusri, M. Y., & Ibrahim, N. S. (2023). Use and behavioural intention using digital payment systems among rural residents: Extending the UTAUT-2 model. *Technology in Society*, 74(December 2022), 102305. <https://doi.org/10.1016/j.techsoc.2023.102305>
- Recskó, M., & Aranyossy, M. (2024). User acceptance of social network-backed cryptocurrency: a unified theory of acceptance and use of technology (UTAUT)-based analysis. *Financial Innovation*, 10(1). <https://doi.org/10.1186/s40854-023-00511-4>
- Sekaran, U. & Bougie, R. (2016). *Research Methods for Business: A Skill-Building Approach* (7th Edition). Hoboken, NJ: John Wiley & Sons, Inc
- Senyo, P. K., & Osabutey, E. L. C. (2020). Unearthing antecedents to financial inclusion through FinTech innovations. *Technovation*, 98(March), 102155. <https://doi.org/10.1016/j.technovation.2020.102155>
- Setiawan, B., Phan, T. D., Medina, J., Wieriks, M., Nathan, R. J., & Fekete-Farkas, M. (2023). Quest for financial inclusion via digital financial services (Fintech) during COVID-19 pandemic: case study of women in Indonesia. *Journal of Financial Services Marketing*, 0123456789. <https://doi.org/10.1057/s41264-023-00217-9>
- Setiawan, B., Saleem, A., Nathan, R.J., Zeman, Z., Magda, R., Barczy, J. (2021). Financial Market Development and Economic Growth: Evidence from Asean and CEE Region. *Polish Journal of Management Studies*, 23(2), 481. <http://dx.doi.org/10.17512/pjms.2021.23.2.29>

- Sharma, A., Mohan, A., Johri, A., & Asif, M. (2024). Determinants of fintech adoption in agrarian economy: Study of UTAUT extension model in reference to developing economies. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(2), 100273. <https://doi.org/10.1016/j.joitmc.2024.100273>
- Shehata, S. M., Abdeljawad, A. M., Mazouz, L. A., Aldossary, L. Y. K., Alsaeed, M. Y., & Sayed, M. N. (2023). Factors affecting customers' adoption of fintech in the gulf cooperation council countries. *Asian Economic and Financial Review*, 13(7), 463–477. <https://doi.org/10.55493/5002.v13i7.4800>
- World Bank. (2023). GDP Growth (annual %). Retrieved online from <https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG> (accessed on 14 May 2024)
- Xie, J., Ye, L., Huang, W., & Ye, M. (2021). Understanding fintech platform adoption: Impacts of perceived value and perceived risk. *Journal of Theoretical and Applied Electronic Commerce Research*, 16(5), 1893–1911. <https://doi.org/10.3390/jtaer16050106>
- Younas, Z. I., Qureshi, A., & Al-Faryan, M. A. S. (2022). Financial inclusion, the shadow economy and economic growth in developing economies. *Structural Change and Economic Dynamics*, 62, 613–621. <https://doi.org/10.1016/j.strueco.2022.03.011>
- Zarifis, A., & Cheng, X. (2022). A model of trust in Fintech and trust in Insurtech: How Artificial Intelligence and the context influence it. *Journal of Behavioral and Experimental Finance*, 36, 100739. <https://doi.org/10.1016/j.jbef.2022.100739>