



The Determinant of Fintech Adoption among Gen Z in Indonesia

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Abstract. This gap in financial literacy has the potential to hinder effective fintech adoption, posing a risk to financial inclusion and national economic development. Therefore, it is crucial to develop strategies that enhance financial literacy and support broader adoption of financial technology in Indonesia. This study aims to analyze the determinants of fintech adoption among Generation Z (Gen Z) in Indonesia, focusing on brand image, perceived ease of use, perceived usefulness, financial literacy, user innovativeness, and government support. The study employs a quantitative method with a Structural Equation Modeling (SEM) and Partial Least Square (PLS) approach. Data were collected through online questionnaires from 100 Gen Z fintech users in Indonesia between April and September 2024. The results indicate that brand image and perceived usefulness do not significantly influence fintech adoption. However, perceived ease of use and financial literacy significantly enhance fintech adoption. Furthermore, financial literacy and perceived ease of use mediate the impact of government support on fintech adoption. Interestingly, user innovativeness was found to reduce fintech adoption, potentially due to a critical stance toward new technology. The study suggests that fintech companies should focus on enhancing tangible benefits and ease of use, while the government should work on improving financial literacy among the population. Future research should consider using more specific samples and qualitative approaches to gain deeper insights into the motivations and barriers faced by Gen Z in adopting fintech.

Keywords: Fintech Adoption, Gen Z, SEM-PLS, TAM Analysis

1 Introduction

Innovation, technology, and advancements in information and communication technology have had a significant impact on all aspects of human life, bringing gradual changes to the economy (Lee, 2021). Digital advancements, such as fintech, offer increased convenience and efficiency for users (Saputra & Darma, 2022). These changes have disruptively affected the financial sector. The development of financial technology (Fintech) has become an innovation that helps people conduct financial transactions easily and quickly (Palmié et al., 2020). Fintech reflects a broader

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dissemination in providing financial services and quickly gaining users worldwide. Financial technology, commonly referred to as FinTech, is a term widely used in contemporary financial research (Saadah & Setiawan, 2023). It encompasses the application of cutting-edge technology in the financial sector, particularly involving the use of innovative and disruptive technologies to provide financial services.

Recent surveys highlight the impact of innovation and technology on the financial landscape, which has led to widespread job and income loss, particularly affecting households (Singh et al., 2020). This situation underscores the urgent need to enhance global financial resilience. The financial sector's rapid changes have made fintech essential, especially in Indonesia, where a large, internet-connected population drives its growth. With transaction values surpassing US\$20 billion in digital wallets and over US\$17 billion in loans from 2017–2022, expanding fintech use highlights the urgent need for improved financial literacy to support informed participation in this evolving landscape. Recent surveys highlight the crucial role of financial literacy in empowering individuals to make informed financial decisions, navigate financial services, and improve their overall financial well-being. However, in Indonesia, financial literacy remains significantly low, especially in fintech, where literacy is just 10.90% according to recent data from the Financial Services Authority (OJK). This substantial gap underscores the need for targeted educational initiatives to enhance financial understanding, particularly among the GEN Z demographic. Building a financially literate and inclusive society is essential for Indonesia's economic development. Despite being digitally connected, GEN Z in Indonesia shows a concerning lack of financial literacy, with fintech adoption at only 10.90%. This gap arises from the rapid fintech evolution and informal learning environments. Addressing this issue is vital for empowering GEN Z, promoting financial inclusion, and supporting Indonesia's economic growth, as financial literacy positively impacts fintech adoption (Setiawan et al., 2021). Research highlights the importance of financial literacy in fintech adoption among GEN Z. Studies A and B use the Technology Acceptance Model (TAM) to examine how Perceived Ease of Use and Perceived Usefulness affect GEN Z's attitudes toward fintech, offering insights into their technology adoption behaviors (Davis, 1985). In this study, the use of TAM is justified by its applicability in evaluating the factors shaping GEN Z's acceptance of fintech. By extending the scope of TAM's core variables, this study incorporates additional variables: User Innovativeness, Government Support, and Trust (Nugraha et al., 2022). These additions are essential for comprehensive analysis as they investigate users' innovative tendencies, the influence of government support, and the role of trust in shaping perceptions. By integrating these variables into the TAM framework, this study aims to provide a nuanced understanding of the multifaceted dynamics contributing to fintech adoption among GEN Z. This research innovatively focuses on GEN Z in Indonesia, examining the link between financial literacy and fintech adoption. By applying the Technology Acceptance Model (TAM) and adding variables like User Innovativeness, Government Support, and Trust, the study offers a detailed analysis of fintech adoption factors. It contributes significantly by addressing financial literacy gaps and enhancing understanding of fintech dynamics in Indonesia's evolving financial sector.

2 Methodology

This study adopts a quantitative research approach using Structural Equation Modeling (SEM) to analyze the adoption of financial technology (Fintech) among Generation Z in Indonesia. Data were collected via an online questionnaire distributed from April 2024 to September 2024. The study employed purposive sampling to target fintech users, with an initial pilot survey conducted in April 2024 to validate and refine the questionnaire. Feedback from the pilot phase led to revisions for clarity and specificity. The final sample consisted of 109 respondents from across Western, Central, and Eastern Indonesia, was selected through convenience sampling, which involved recruiting participants who were readily accessible and met the criteria of being Generation Z fintech users. The analysis proceeded in two phases: first, validating the measurement model for construct validity and reliability, and second, evaluating the structural model to assess relationships and correlations among variables. This methodology ensures a clear and replicable framework for studying fintech adoption among Generation Z in Indonesia.

3 Result and Discussion

3.1 Result

Characteristics of the Respondents. The study's respondents consist of 109 active Generation Z investors in Indonesia, primarily engaged in the stock market. Of these respondents, 57% are male, indicating a higher interest in fintech among men compared to women, who make up 43% of the sample. The age distribution reveals that 53% of respondents are over 25 years old, 39% are aged 18-25, and 8% are under 17, reflecting a group mostly in early adulthood with a strong familiarity with technology. Education-wise, the majority hold a Bachelor's degree (45%), followed by 22% with an Associate Degree, 20% with a Master's degree, 8% with a high school diploma, and 5% with a Doctoral degree, suggesting a well-educated group with a good understanding of fintech. Income levels vary, with 55% earning Rp 4-7 million per month, 17% earning over Rp 7 million, 19% earning less than Rp 3 million, and 8% having no income as they are financially supported by their parents. This income variation indicates differing levels of engagement with fintech, with higher earners likely utilizing more advanced services. Overall, the respondents are predominantly male, over 25 years old, well-educated, and have middle to high incomes, offering important insights into fintech adoption among Generation Z in Indonesia.

Evaluation of the Outer Model. The measurement model (outer model) is used to assess the validity and reliability of constructs. In this study, all constructs are reflective, so the evaluation of the outer model can be conducted through content validity, convergent validity, and discriminant validity of the latent construct indicators, as well as indicator reliability, composite reliability, and Cronbach's Alpha for the indicator blocks.

First, convergent validity testing is used to measure the correlation among constructs within the research model (Hair et al., 2019). Convergent validity in measurement scales is assessed through the outer model. A good measurement scale has an outer loading value of at least 0.70. However, an outer loading value of 0.50 is still considered acceptable (Hair, 2014). The minimum outer loading value used in this study is 0.50. Items with an outer loading value less than 0.50 (<0.50) will be removed from the model. The outer loading values for the convergent validity test of the research scale are presented in Table 1, which shows the results of the outer model test using SmartPLS 3.2.9.

Table 1. Convergent validity (outer loading value)

Variable	Indicator	Outer model value	Status
Brand Image (BI)	X1.1	0.858	Valid
	X1.2	0.928	Valid
	X1.3	0.906	Valid
Perceived Ease of Use (PEoU)	X2.1	0.789	Valid
	X2.2	0.904	Valid
	X2.3	0.907	Valid
Perceived Usefulness (PU)	X3.1	0.883	Valid
	X3.2	0.937	Valid
	X3.3	0.912	Valid
Financial Literacy (FL)	X4.1	0.919	Valid
	X4.2	0.878	Valid
	X4.3	0.887	Valid
User Innovativeness (UI)	X5.1	0.861	Valid
	X5.2	0.870	Valid
	X5.3	0.883	Valid
Government Support (GS)	X6.1	0.907	Valid
	X6.2	0.915	Valid
	X6.3	0.966	Valid
Fintech Adoption (FA)	Y1.1	0.933	Valid
	Y1.2	0.912	Valid
	Y1.3	0.881	Valid

Based on Table 1, the outer model test shows that the outer loading values for each indicator are greater than 0.50 (>0.50). This indicates that all indicators used in the study meet the criteria for convergent validity and are valid for measuring variables in the research.

Convergent validity can also be assessed based on the average variance extracted (AVE) score. A construct is considered valid if it has an AVE value greater than 0.50 (Hair, 2014). The AVE values for the convergent validity test in the research scale are presented in Table 2.

Table 2. Convergent validity (AVE value)

Variable	AVE value	Status
BI	0.737	Valid
PEoU	0.627	Valid
PU	0.770	Valid
FL	0.779	Valid
UI	0.787	Valid
GS	0.608	Valid
FA	0.599	Valid

The results of the convergent validity test through the Average Variance Extracted (AVE) output can be seen in Table 2. It shows that the AVE values for each research construct, including brand image, perceived ease of use, perceived usefulness, financial literacy, user innovativeness, government support, and fintech adoption, have all exceeded the threshold criterion of 0.50. Therefore, it can be concluded that the variables used in the study are valid.

Second is discriminant validity. Discriminant validity is related to the principle that measurements of different constructs should not be highly correlated. Discriminant validity can be measured by comparing the square root of the Average Variance Extracted ($\sqrt{\text{AVE}}$) values in the Fornell-Larcker test for each latent variable with the correlations among variables in the measurement model. The model is considered to have good discriminant validity if the ($\sqrt{\text{AVE}}$) value for each variable is greater than the correlation values among variables. ($\sqrt{\text{AVE}}$) in the Fornell-Larcker test can be seen in Table 3.

Table 3. Discriminant validity (cross-loading value)

	BI	FA	FL	GS	PEoU	PU	UI
BI	0.898						
FA	0.247	0.909					
FL	0.876	0.420	0.895				
GS	0.878	0.368	0.869	0.930			
PEoU	0.672	0.383	0.680	0.680	0.868		
PU	0.898	0.273	0.767	0.829	0.775	0.911	
UI	0.902	0.201	0.866	0.793	0.589	0.813	0.871

Based on Table 3, the discriminant validity test using the Fornell-Larcker Criterion also reflects favorable results, as the square root of AVE values is higher than the correlations among latent variables. Therefore, it can be concluded that the research data meets the criteria for good discriminant validity.

Composite reliability, which is an indicator block that measures the internal consistency of the construct's formative indicators reflects the degree of common latent (unobserved) variance. The accepted threshold for composite reliability is 0.7. In this study, data reliability was tested using Cronbach's Alpha coefficient, where an instrument is considered reliable if the coefficient is greater than 0.70 (Hair, 2014).

Composite reliability values range from 0 to 1, with a good and acceptable value for research being greater than 0.6 (>0.60) (Hair et al., 2019). The results of the internal consistency reliability test for this research are presented in Table 4.

Table 4. Composite reliability and Cronbach’s Alpha

	Cronbach’s Alpha	Composite reliability	Status
BI	0.879	0.926	Valid
PEoU	0.837	0.902	Valid
PU	0.897	0.936	Valid
FL	0.875	0.923	Valid
UI	0.842	0.904	Valid
GS	0.921	0.950	Valid
FA	0.895	0.934	Valid

Based on Table 4, it is observed that the Cronbach’s Alpha and composite reliability values for each variable are greater than 0.60 (>0.60). This indicates that the scales used in the study meet the criteria for reliability.

Inner Model Evaluation. The evaluation of the inner model, or structural model, is conducted to measure the causal relationships between the research constructs. The structural model evaluation can be carried out by analyzing the R^2 value for the dependent constructs, as well as the path coefficients or t-values to test the significance of the constructs.

First, R-Square (Coefficient of Determination). The R-Square analysis aims to measure the extent of variation in the dependent variable that can be explained by the independent variables. A higher R^2 value indicates a better predictive model for the research. The R^2 results can be seen in Table 5.

Table 5. R-square result

	R-square
BI	0.451
FA	0.320
FL	0.756
PEoU	0.600
UI	0.846

Based on Table 5, the model showing the influence of perceived ease of use on brand image has an R-Square (R^2) value of 0.451, meaning 45.1% of the variability in brand image is explained by perceived ease of use, while 54.9% is explained by other variables outside the study. The model analyzing the effects of brand image, perceived usefulness, financial literacy, user innovativeness, and government support on fintech adoption has an R^2 of 0.320, indicating 32% of the variability in fintech adoption is explained by these variables, with 68% explained by other factors.

The influence of government support on financial literacy has an R^2 of 0.756, meaning government support explains 75.6% of the variability in financial literacy, with 24.4% due to other variables. The model linking perceived usefulness to perceived ease of use has an R^2 of 0.600, indicating that 60% of the variability in perceived ease of use is explained by perceived usefulness, with 40% explained by other factors. Finally, the model examines the influence of brand image, perceived usefulness, government support and financial literacy on user innovativeness have an R^2 of 0.846, meaning 84.6% of the variability in user innovativeness is explained by these variables, with 15.4% attributed to other factors outside the study, such as security, actual usage, and attitude.

The Q-Square (Q^2) value is calculated to determine the observed values generated by the model and the parameter estimates. The Q-Square (Q^2) value is calculated as follows:

$$\begin{aligned}
 Q^2 &= 1 - (1 - R_1^2)(1 - R_2^2)(1 - R_3^2)(1 - R_4^2)(1 - R_5^2) \\
 &= 1 - (0.549)(0.680)(0.244)(0.400)(0.154) \\
 &= 1 - 0.00561 = 0.9943
 \end{aligned}
 \tag{1}$$

The Q-Square (Q^2) value obtained is 0.9943, which is greater than 0 (>0). This indicates that 99.43% of the variation in the exogenous and endogenous variables is explained by the model, while 0.57% is explained by other variables outside the research model.

Hypothesis Testing. Hypothesis testing in this study was conducted by measuring the path coefficients, which indicate the level of significance. The path coefficients or model values in this study were calculated through a bootstrapping process using SmartPLS 3.2.9. This research focuses only on testing direct effects in hypothesis testing, where two conditions must be met: the p-value must be smaller than the alpha value of 5% (<0.05). The results of the significance calculations for each relationship between variables are presented in Table 6.

Table 6. Hypothesis result

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
BI → FA	-0.599	-0.560	0.311	1.925	0.055
BI → UI	0.619	0.632	0.149	4.151	0.000
FL → FA	1.012	1.019	0.202	5.007	0.000
FL → UI	0.422	0.419	0.119	3.550	0.000
GS → FA	0.158	0.163	0.245	0.646	0.519
GS → FL	0.869	0.871	0.023	37.838	0.000
GS → UI	-0.200	-0.214	0.133	1.504	0.133
PEoU → BI	0.672	0.674	0.068	9.840	0.000
PU → FA	0.342	0.313	0.223	1.531	0.126
PU → PEoU	0.775	0.780	0.058	13.425	0.000
PU → UI	0.099	0.102	0.124	0.799	0.425
UI → FA	-0.540	-0.559	0.209	2.581	0.010

Based on Table 6, the direct effects between variables are summarized as follows: Based on the path analysis, the relationship between Brand Image and Fintech Adoption demonstrates a negative and insignificant effect, with a path coefficient of -0.599 and a p-value of 0.055, leading to the rejection of H1. However, Brand Image has a positive and significant impact on User Innovativeness, indicated by a path coefficient of 0.619 and a p-value of 0.000, thus H2 is accepted. Financial Literacy is shown to have a strong positive and significant effect on Fintech Adoption, with a path coefficient of 1.012 and a p-value of 0.000, supporting H3. Similarly, Financial Literacy also positively influences User Innovativeness, with a path coefficient of 0.422 and a p-value of 0.000, resulting in the acceptance of H4. In terms of Government Support, its effect on Fintech Adoption is positive but insignificant, as shown by the path coefficient of 0.158 and a p-value of 0.519, leading to the rejection of H5. However, Government Support positively and significantly impacts Financial Literacy with a path coefficient of 0.869 and a p-value of 0.000, supporting H6. On the contrary, Government Support's effect on User Innovativeness is negative and insignificant, indicated by a path coefficient of -0.200 and a p-value of 0.133, causing H7 to be rejected. Perceived Ease of Use positively and significantly influences Brand Image, as evidenced by the path coefficient of 0.672 and a p-value of 0.000, thus H8 is accepted. However, Perceived Usefulness has a positive but insignificant effect on Fintech Adoption, with a path coefficient of 0.342 and a p-value of 0.126, leading to the rejection of H9. Perceived Usefulness strongly affects Perceived Ease of Use positively and significantly, with a path coefficient of 0.775 and a p-value of 0.000, supporting H10. However, its influence on User Innovativeness is positive but insignificant, as indicated by the path coefficient of 0.099 and a p-value of 0.425, resulting in the rejection of H11. Lastly, User Innovativeness negatively and significantly impacts Fintech Adoption, as shown by the path coefficient of -0.540 and a p-value of 0.010, leading to the acceptance of H12.

3.2 Discussion

The analysis of the study's hypotheses provides several insights into the relationships between variables. Brand image negatively affects fintech adoption, with a coefficient of -0.599 and a p-value of 0.055, suggesting that a strong brand image does not significantly influence the adoption of fintech technologies (Alfarizi & Ngatindriatun, 2022). Conversely, brand image has a positive impact on user innovativeness, with a coefficient of 0.619 and a p-value of 0.000, indicating that a positive brand perception enhances openness to innovations (Setiawan et al., 2021). Financial literacy shows a positive and significant effect on both fintech adoption and user innovativeness, with coefficients of 1.012 and 0.422, and p-values of 0.000 for both. This suggests that higher financial literacy improves both the adoption of fintech and the inclination to embrace new technologies (Morgan & Trinh, 2020). Government support positively influences financial literacy (Yoshino et al., 2020), with a coefficient of 0.869 and a p-value of 0.000, but has no significant effect on fintech adoption or user innovativeness, with coefficients of 0.158 and -0.200 and p-values of 0.519 and 0.133, respectively (Nugraha et al., 2022). Perceived ease of use significantly enhances brand image, with a coefficient of 0.672 and a p-value of 0.000 (Davis, 1985). However, perceived usefulness has an insignificant effect on fintech adoption and user innovativeness, with coefficients of 0.342 and 0.099 and p-values of 0.126 and 0.425, respectively. Lastly, user innovativeness negatively impacts fintech adoption, with a coefficient of -0.540 and a p-value of 0.010, indicating that greater user innovativeness may decrease the likelihood of fintech adoption (Setiawan et al., 2021). The study reveals that brand image does not significantly affect fintech adoption but positively influences user innovativeness, suggesting that while a strong brand image doesn't drive fintech use, it does foster openness to innovations. Financial literacy significantly enhances both fintech adoption and user innovativeness, highlighting its crucial role in understanding and embracing new technologies. Government support positively impacts financial literacy but fails to significantly affect fintech adoption or user innovativeness. Perceived ease of use improves the brand image, yet perceived usefulness does not significantly influence fintech adoption or user innovativeness. Finally, increased user innovativeness appears to negatively affect fintech adoption, suggesting that highly innovative users may be less inclined to adopt new fintech solutions.

4 Conclusion

The research concludes that brand image and government support do not significantly influence Gen Z's adoption of fintech, although a positive brand image can boost their willingness to embrace new technologies, and government support can improve financial literacy. Higher financial literacy is strongly linked to increased fintech adoption and innovation, while greater user innovativeness might reduce the likelihood of adopting fintech, possibly due to Gen Z's critical approach to new technologies. Additionally, while perceived ease of use enhances brand image, perceived usefulness does not significantly impact fintech adoption or innovation. Fintech companies should

focus on tangible benefits and ease of use, and future studies should explore more targeted samples and qualitative methods to better understand the factors driving fintech adoption among Gen Z.

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