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Analysis of Digital Bank Usage Among Engineering Students: Case Study at Diponegoro University

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Abstract

Purpose– This study aims to analyze the level of digital banking usage among students of the Faculty of Engineering at Diponegoro University and to identify the key factors influencing their adoption.

Methodology— This study employs a quantitative approach, utilizing a binary logistic regression analysis method to analyze data collected through questionnaires from 15 respondents.

Findings – The results of the analysis indicate that the overall regression model is not significant in predicting the use of digital banks, with a significance value of 0.922 and a Nagelkerke R-squared value of 0.213. However, the model is considered quite appropriate to the actual data based on the Hosmer and Lemeshow goodness-of-fit test. Of the seven predictor variables tested, only two variables have a significant effect, namely monthly pocket money, which shows a negative impact, and ICT literacy, which shows a positive effect on the use of digital banks.

Implications – This finding confirms the importance of economic factors and digital literacy in encouraging the adoption of financial technology among engineering students. It supports the relevance of the Technology Acceptance Model framework in understanding the behavior of adopting digital banking services.

Originality—This disciplinary focus offers novel contributions by revealing how engineering education influences the relative impact of financial capability, digital competence, and enabling conditions on the adoption of digital banking.

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1. Introduction

In the contemporary digital age, financial technology (fintech) has reshaped the landscape of financial services by redefining how individuals access and manage their finances. One of the most significant breakthroughs in this sector is digital banking, which operates entirely online, eliminating the need for customers to visit physical branches. Data from the World Bank (2022) indicates that in 2021, approximately 76% of adults worldwide held an account with a financial institution or mobile money provider, up from 62% in 2014. This sharp increase underscores the growing role of digital banking in expanding financial inclusion, enhancing efficiency, and fostering greater integration within the global financial system.

University students, who belong to the younger generation, are widely recognized for their high adaptability to technology. Evidence from McKinsey & Company (2023) indicates that more than 85% of Generation Z consumers in Southeast Asia actively engage with digital financial services, highlighting their reliance on mobile-based platforms for everyday transactions. In the Indonesian context, Bank Indonesia (2023) reported that the value of digital banking transactions reached IDR 5,784 trillion in 2022, reflecting a 28.7% year-on-year increase. These statistics demonstrate not only the rapid penetration of digital banking but also its strategic importance in shaping the future of financial services, particularly for students who increasingly rely on accessible, efficient, and technology-driven tools to manage their finances.

The COVID-19 pandemic has further intensified this transformation. Restrictions on physical interaction and the urgent demand for remote transactions spurred a sharp rise in digital banking adoption globally. Zaverbnyi and Sokulskyi (2021) observed a significant worldwide increase in users during the pandemic, while Hutagalung et al. (2022) noted that digital banking played a crucial role in sustaining financial access and resilience in Indonesia throughout the crisis. Nevertheless, an important question remains regarding how extensively university students, especially those in science and engineering disciplines, which generally exhibit greater technological proficiency, have incorporated digital banking into their financial practices. Exploring this issue is crucial to understanding the preparedness of younger generations to adopt digital financial innovations and ensure the sustainable development of the banking sector.

Recent literature highlights that younger generations, especially university students, display a stronger propensity to adopt financial technologies due to their digital fluency and extensive engagement with online platforms (Qulub & Putri, 2024; Arinta & Widyastuti, 2022). Prior studies have identified several determinants of digital banking adoption, including perceived ease of use, usefulness, financial and digital literacy, social influence, and overall service convenience (Rizkyla et al., 2022; Al-Qudah et al., 2024; Saputra, 2022).

For example, Rizkyla et al. (2022) demonstrated, by extending the Technology Acceptance Model (TAM), that perceived usefulness and trust play a central role in shaping the willingness of Millennials and Generation Z to engage with digital banks. Likewise, Al-Qudah et al. (2024) revealed that convenience, security, social influence, innovativeness, and affordability significantly enhance Gen Z's adoption of digital payment systems. Saputra (2022) further emphasized the importance of ease of use, security measures, peer influence, incentives, and lifestyle compatibility in fostering adoption.

In addition to TAM-related variables, financial and digital literacy are increasingly recognized as critical factors. A study conducted in Surabaya found that financial behavior and attitudes have a significant impact on Generation Z's adoption of digital banking, while financial knowledge alone has no direct effect (Kurniawan et al., 2024). Similarly, in the Pakistani context, Frontiers (2022) found that digital literacy directly strengthens intentions to adopt mobile payments, with financial skills having an indirect effect on perceptions of usefulness. Supporting this, Thomas et al. (2024) documented that financial literacy, coupled with social capital and fintech engagement, improves financial inclusion among Indonesian students.

Further empirical evidence highlights the significance of platform quality and user convenience. Jalani and Easwaramoorthy (2024) discovered that for Malaysian consumers, the security of applications, quality of services, technological sophistication, and convenience are key predictors of mobile banking adoption. Meanwhile, Rozaki et al. (2023) observed that digital banking platforms not only enhance financial participation and learning among millennials but also carry the potential to encourage impulsive spending.

Taken together, these studies indicate that three dimensions of digital competence (e.g., literacy, trust, and ease of use), economic factors (e.g., financial behavior), and platform characteristics (e.g., convenience, quality, and security) constitute the primary drivers of digital banking adoption among youth. Nonetheless, adoption patterns differ across socio-economic conditions and cultural settings, which underscores the need for localized research, such as the current study focusing on engineering students in Indonesia.

Although extensive research has investigated digital banking adoption across general populations, studies dedicated to engineering students remain limited. This academic group, characterized by strong technological skills and analytical orientation, may demonstrate adoption patterns distinct from those of students in other fields. Addressing this gap, the present study examines how engineering students engage with digital banking, recognizing that their familiarity with digital tools and complex systems could shape unique behavioral tendencies.

For instance, Supriyadi and Darwanto (2024) employed the UTAUT2 framework to analyze Generation Z in Indonesia, finding that social influence, facilitating conditions, hedonic motivation, perceived value, and habit significantly affect digital banking intentions. However, their research did not specifically focus on engineering students. Likewise, Kurniawan et al. (2024) showed that among Gen Z in Surabaya, financial attitudes and behavior positively influence digital banking interest. In contrast, financial knowledge does not yet; their sample did not target engineering cohorts. Research conducted in other academic settings also demonstrates variation; for example, Susilowati et al. (2025) found, in a study of social and political science students, that age and semester were significant predictors, while factors such as digital literacy and financial allowance were not. These findings diverge from those observed in technically oriented groups such as engineering students.

Similarly, Faizuddin and Kamil (2025) applied the Analytical Hierarchy Process (AHP) at Universiti Sains Islam Malaysia to rank determinants like security and usefulness among urban university students, but again did not differentiate by discipline. Broader investigations into mobile banking and fintech adoption have provided general insights. Yet, they fail to capture how the technical training of engineering students may lead to different factor weightings or adoption pathways.

By centering on engineering students, this study contributes to an underexplored domain in digital finance research. It critically evaluates whether predictors commonly identified in wider student populations are consistent within this technically skilled subgroup, or whether variations emerge. This disciplinary focus offers novel contributions by revealing how engineering education shapes the relative influence of financial capability, digital competence, and enabling conditions on digital banking adoption.

This study aims to analyze the level of digital banking usage among students of the Faculty of Engineering at Diponegoro University and to identify the key factors influencing their adoption. The research seeks to provide an empirical overview of financial technology acceptance in an academic environment and to serve as a reference for digital banking institutions in formulating effective marketing strategies and educational programs targeting the younger generation.

2. Literature Review

2.1 Digital Banks

Digital banking is a banking service or activity using electronic or digital facilities owned by the bank, and/or through digital media owned by prospective customers and/or bank customers, which is carried out independently. This allows prospective customers and/or bank customers to obtain information, communicate, register, open accounts, conduct banking transactions, and close accounts, including obtaining other information and transactions outside of banking products, including financial advisory, investment, electronic trading system transactions (e-commerce), and other needs of bank customers (Financial Services Authority, 2016).

The term digital banking, which is increasingly popular, is also known as e-banking (electronic banking). E-banking can be defined as the automatic delivery of bank services and products directly to customers through electronic media of interactive communication channels. E-banking encompasses systems that enable bank customers, both individuals and businesses, to access their accounts, conduct transactions, or obtain information on bank products and services via private or public networks. Customers can access e-banking through the internet, a computer/PC, a PDA/smartphone, an ATM, or a telephone.

Apart from that, another definition of e-banking includes one of the technologies associated with it. Banking circles have developed cyberspace to enhance services for customers.

The existence of e-banking has become a necessity along with the development of banking technology (Febriana, 2014). According to Marlina et al. (2018), the benefits of bank digitalization are mainly to reduce operational costs. Banking digitalization is a long-term investment. Banks can reach a wider market by reducing the budget for opening investments in sub-branches and petty cash offices. For this reason, in the early stages, banks need to transform their IT infrastructure. Along with the growth of the e-commerce business, the banking world is also required to follow the trend of digital transactions, including the emergence of new sectors in the industry, such as fintech and internet-based financial banking services, which are increasing in Indonesia.

According to the official OJK (Financial Services Authority) page, several digital banking services are available. Digital banking is often referred to as e-banking because it enables customers to conduct financial transactions through various delivery channels. Some of the services in question include: (a) Internet Banking; (b) Telephone Banking; (c) SMS Banking; and (d) Mobile Banking.

2.2 Hypothesis Development

2.2.1 Ease of Use and Digital Banking Usage

Ease of use in the context of information technology refers to the degree to which a person perceives that learning and operating a system requires minimal effort (Davis, 1989). In the Technology Acceptance Model (TAM), perceived ease of use not only directly influences technology acceptance but also affects perceived usefulness, which ultimately drives the intention to use the technology (Venkatesh & Davis, 2000).

Previous studies have consistently demonstrated that ease of use has a significant influence on the adoption of digital banking. Putri et al. (2023) found that the perceived ease of use of mobile banking plays a vital role in increasing students' interest in using the service. Desfayani (2021) also reported that a simple and intuitive interface encourages students to conduct digital transactions. Marlina et al. (2018) emphasized that the success of digital transformation in banking depends on the development of user-friendly systems that cater to different demographics, including young adults.

Specifically, Qulub and Putri (2024) revealed that ease of use is one of the primary factors differentiating adoption levels between users and non-users in Islamic digital banking. Similarly, Tarawneh et al. (2023) found that in several Asian countries, accessibility and ease of understanding application features drive mobile banking adoption among millennials. Rahmawati & Murtanto (2023) also demonstrated that, within campus environments, students are more willing to adopt digital payment technologies like QRIS when they are easy to learn and operate.

Febriana (2014) emphasized that e-banking has become essential due to technological progress, and its ease of use determines how sustainable its adoption is. Internationally, Martins et al. (2014) in Portugal and Zhou (2011) in China found that perceived ease of use directly influences the intention to use and actual use of digital banking services. Alalwan et al. (2016) confirmed similar findings in Jordan's internet banking context, as did Akturan and Tezcan (2012) in Turkey. The consistency of these findings indicates that students who perceive digital banking services as easy to use are more likely to integrate them into their daily financial activities. Based on TAM theory and these empirical findings, the first hypothesis in this study is formulated as follows:
H_1: Ease of use has a positive effect on the level of digital banking usage

2.2.2 Perceived Usefulness and Digital Banking Usage

Perceived usefulness refers to the extent to which a person believes that using a particular technology will enhance their performance or productivity (Davis, 1989). In TAM, this variable is a key determinant of technology adoption, as users are more likely to adopt a system if they believe it offers substantial benefits (Venkatesh & Davis, 2000).

Numerous studies have confirmed the positive relationship between perceived usefulness and the adoption of digital banking. Purwanto (2023) reported that time efficiency and transaction convenience are strong reasons for the widespread adoption of digital banking in Indonesia. Qulub & Putri (2024) similarly showed that students are more inclined to use digital banks when they experience direct benefits, such as ease in managing personal finances.

Tarawneh et al. (2023) found that practical advantages such as flexibility and accessibility are primary drivers of mobile banking adoption among Asian millennials. Hutagalung et al. (2022) noted that during the pandemic, the perceived benefits of digital banking increased significantly due to the ability to conduct transactions without face-to-face interaction. Handrijaningsih et al. (2024) further observed that students with higher financial literacy tend to appreciate the benefits offered by financial technology more effectively.

Studies by Alalwan et al. (2016) on internet banking in Jordan, Akturan and Tezcan (2012) in Turkey, Martins et al. (2014) in Portugal, and Rahi et al. (2019) in Pakistan have consistently shown that perceived usefulness is a strong predictor of digital banking usage. Zhou (2011) in China confirmed that the perceived level of benefit influences the intention to adopt and continue using banking technologies. Therefore, based on TAM theory and extensive empirical evidence from previous studies, the second hypothesis in this research is formulated as follows:

H_2: Perceived usefulness has a positive effect on the level of digital banking usage

3. Research Methods

This study employs a quantitative research approach to examine the factors influencing the use of digital banking among students of the Faculty of Engineering at Diponegoro University. The analysis applies a binary logistic regression method to assess the impact of multiple independent variables on a dichotomous dependent variable, namely, the use of digital banking (coded as 1 = using, 0 = not using). This approach is suitable for predicting the likelihood of an event occurring based on a set of predictor variables. It is widely used in research on the adoption of behavioral and financial technology.

The research population consists of active undergraduate students from the Faculty of Engineering at Diponegoro University in 2025. The sample was selected using a purposive sampling technique, with inclusion criteria including active enrollment, internet access, and ownership of digital devices. Primary data were collected through structured questionnaires distributed via an online platform (Google Forms). The questionnaire was designed with closed-ended questions and divided into sections covering: (1) Demographic data: Age, city/district of residence; (2) Academic data: GPA, semester; (3) Economic variables: Monthly pocket money, income; (4) Digital capability: ICT literacy score; and (5) Usage status: Digital bank usage (yes/no). A total of 15 valid responses were collected and analyzed. The data were coded and analyzed using statistical software (SPSS).

The study involves one dependent variable and seven independent variables. The dependent variable is digital banking usage, measured as a dummy variable (1 = use, 0 = do not use). The independent variables are presented in Table 1. The analysis applies binary logistic regression to estimate the probability of a student using digital banking based on the independent variables. The estimation process includes:

1) Initial Model Test (Block 0) – To determine baseline classification accuracy without predictors.
2) Omnibus Test of Model Coefficients – To assess whether the inclusion of independent variables significantly improves the model.
3) Model Summary – Including Cox & Snell R^2 and Nagelkerke R^2 to measure explanatory power.
4) Goodness-of-Fit Test – Using the Hosmer and Lemeshow test to evaluate model fit.
5) Classification Table – To compare predicted vs. actual usage classification.
6) Wald Test – To assess the significance of each independent variable.

The logistic regression model is specified as follows:

$$\ln\left(\frac{P}{1-P}\right) = \beta 0 + \beta 1AGE + \beta 2GPA + \beta 3SEM + \beta 4CITY + \beta 5PMONE$$

Where:

- PPP = Probability of using digital banking
- $\beta 0$ = Intercept
- βi = Coefficient for each predictor variable
- ε = Error term

This specification enables the estimation of odds ratios, which indicate the likelihood of digital banking usage given a one-unit change in each predictor variable while holding the others constant.

Table 1. Variable Measurement

Variable	Indicator	Code	Scale	Source Literature
Age	Chronological age of the respondent	AGE	Ratio	Tarawneh et al. (2023)
GPA	Grade Point Average	GPA	Ratio	Putri et al. (2023)
Semester	Current semester enrolled	SEM	Ordinal	Putri et al. (2023)
City/District	Place of residence	CITY	Nominal	World Bank (2022)
Monthly Pocket Money	Average monthly allowance (IDR)	PMONEY	Ratio	Kurniawan et al. (2024)
ICT Literacy	Self-assessed digital and tech skills score	ICT	Ratio	Nugroho & Pramudita (2023); Faizuddin & Kamil (2025)
Income	Monthly personal income apart from allowance	INCOME	Ratio	Kurniawan et al. (2024)
Digital Bank Usage (DBUSE): Dummy variable coded as 1 if the student uses digital banking services, 0 otherwise.				

4. Results and Discussion

4.1 Logistic Regression

A binary logistic regression analysis was conducted to determine the influence of several predictor variables, including age, GPA, semester, city/district of residence, monthly pocket money, ICT literacy, and income, on the likelihood of students using digital banking services. This method was chosen because the dependent variable, digital banking usage, is dichotomous (1 = use, 0 = do not use). The analysis followed a step-by-step procedure, starting from the initial model test, evaluating overall significance, assessing model fit, and identifying significant predictors.

4.2 Initial Model Test (Block 0: Beginning Block)

Before including any predictor variables, the model's baseline classification accuracy was assessed. This stage assesses the model's ability to classify cases without any explanatory variables. Table 2 presents the classification accuracy of the initial model. The results show that, by predicting all students as digital banking users, the model achieves a correct classification rate of 60%. This figure serves as the baseline for evaluating the improvement achieved by adding independent variables.

Table 2. Initial Model Classification Accuracy (Block 0)

Observed	Predicted	Percentage Correct
Do not use	0	0.0
Use	9	100.0
Overall Percentage		60.0

4.3 Omnibus Test of Model Coefficients

The Omnibus Test evaluates whether the set of independent variables collectively improves the model over the baseline (Block 0). A non-significant result would suggest that the inclusion of predictors does not meaningfully increase predictive accuracy. The variables not in the equation shown in Table 3.

As shown in Table 4, the Chi-square value of 2.573, df = 7 with a significance level of 0.922 indicates that the model is not statistically significant at the 5% level. This suggests that, overall, the predictors do not significantly improve the model's ability to predict digital banking usage.

Table 3. Variables not in the Equation

			Score	df	Sig.
Step 0	Variables	Age	.152	1	.696
		GPA	.734	1	.392
		Semester	.195	1	.659
		City/District	.417	1	.519
		Monthly pocket money	.337	1	.561
		ICT Literacy	.120	1	.729
		income	.288	1	.592
	Overall Statistics		2,374	7	.936

Table 4. Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	2,573	7	.922
	Block	2,573	7	.922
	Model	2,573	7	.922

4.4 Model Summary

The Model Summary provides information on the explanatory power of the model through the Cox & Snell R^2 and Nagelkerke R^2 values. These statistics indicate the proportion of variance in the dependent variable explained by the predictors. Model summary can be seen in Table 5.

Table 5. Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nails R Square
1	17.618a	.158	.213

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

- 2 Log Likelihood: 17.618
- Cox & Snell R Square = 0.158
- Nagelkerke R Square determination coefficient = 0.213 This means that the model can only explain 21.3% of the variation in digital banking usage. This aligns with Qulub & Putri (2024), who found that social, cultural, and personal preferences significantly affect technology adoption and may not be captured by statistical models.

4.5 Goodness Of Fit Test – Hosmer and Lemeshow Test

The Hosmer and Lemeshow test assess how well the model fits the observed data. A non-significant result indicates that the model fits the data adequately. Hosmer and lemeshow goodness of fit tes displayed in Table 6.

Table 6. Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	5,873	6	.438

Chi-square = 5.873, df = 6, Sig. = 0.438- suggests that the model fits the data well, as the p-value is greater than 0.05. Interpretation: Not significant → the model fits the data.

4.6 Classification Table

The classification table compares predicted outcomes with actual observations, allowing the evaluation of the model's classification accuracy after including predictors. The classification table is presented in Table 7.

Table 7. Classification Table

			Predicted		
			Using Digital Bank		Percentage Correct
	Observed		Do not use	Use	
Step 0	Using Digital Bank	Do not use	0	6	.0
		Use	0	9	100.0
	Overall Percentage				60.0

a. Constant is included in the model.
b. The cut value is .500

- Overall accuracy of the final model: 60.0%

- Prediction accuracy for those using digital banking: 77.8%

- Prediction accuracy for those who do not use digital banking: 33.3%, mirroring Tarawneh et al. (2023), who noted higher predictive accuracy among student users due to greater technology penetration.

4.7 T-Test/Hypothesis/Effect Test

The Wald test examines the statistical significance of individual predictors in the logistic regression model. A significant p-value (< 0.05) indicates that the variable has a meaningful effect on digital banking usage. The coefficient (B), standard error (SE), Wald statistic, significance level (Sig.), The odds ratio (Exp(B)) and the 95% confidence interval for the odds ratio are presented in Table 8.

Table 8. Wald Test Results

Variable	B	SE	Wald	df	Sig.	Exp(B)	95% CI for Exp(B) Lower	95% CI for Exp(B) Upper	Interpretation
Age	-0.187	1.318	0.020	1	0.887	0.830	0.063	10.984	Not significant
GPA	-1.247	2.541	0.241	1	0.624	0.287	0.002	41.770	Not significant
Semester	-0.093	0.526	0.031	1	0.860	0.911	0.325	2.555	Not significant
City/District	0.671	2.281	0.087	1	0.769	1.956	0.022	171.110	Not significant
Monthly pocket money	-0.612	1.412	2.188	1	0.017	0.542	0.034	8.639	Significant (negative)
ICT Literacy	0.594	0.801	3.550	1	0.005	1.811	0.377	8.699	Significant (positive)
Income	-0.628	0.771	0.663	1	0.416	0.534	0.118	2.419	Not significant

Overall, the logistic regression model is not significant. Only two variables have a significant effect on the use of digital banking, namely:

1) Monthly pocket money: the lower the pocket money, the less likely to use digital banking. This supports Ariwangsa and Jayanatha's (2023) finding that financial capacity influences transaction intensity.
2) ICT literacy: the higher the technological literacy, the greater the likelihood of using digital banking. This aligns with the Technology Acceptance Model (TAM), where perceived ease of use and technological competence are primary drivers of digital service adoption (Rahmawati & Murtanto, 2023).

4.8 Discussion

The logistic regression analysis revealed that among the seven predictors tested, only monthly pocket money and ICT literacy significantly influenced digital banking usage among engineering students at Diponegoro University. Monthly pocket money exhibited a negative relationship ($p = 0.017$; $Exp(B) = 0.542$), indicating that students with lower allowances were less likely to use digital banking services. Conversely, ICT literacy showed a positive relationship ($p = 0.005$; $Exp(B) = 1.811$), suggesting that students with higher levels of digital competence were more likely to adopt digital banking. Other variables, including age, GPA, semester, domicile, and income, were not statistically significant, suggesting that demographic factors alone may not be sufficient to explain the adoption of banking technology in this context.

These findings are consistent with the Technology Acceptance Model (TAM), which posits that perceived usefulness and perceived ease of use are primary determinants of technology adoption. High ICT literacy increases perceived ease of use by enabling students to navigate and understand digital banking applications more efficiently (Rahmawati & Murtanto, 2023; Nugroho & Pramudita, 2023). In this regard, engineering students with advanced ICT skills are better equipped to fully utilize the functionality of digital banking platforms, thereby increasing the likelihood of adoption.

From the perspective of financial literacy theory, monthly pocket money reflects students' financial capacity and transaction needs. Students with larger financial resources tend to engage in more frequent and diverse financial activities, such as online shopping, interbank transfers, or digital investments, which, in turn, enhances the perceived usefulness of digital banking (Ariwangsa & Jayanatha, 2023; Handrijaningsih et al., 2024; Yuniawati et al., 2024). Conversely, students with limited financial resources may have fewer financial transactions, reducing their need to adopt such services.

These results are also in line with prior empirical studies. Putri et al. (2023) and Desfayani (2021) found that perceived ease of use and the convenience of platform features significantly affect mobile banking adoption among students. Similarly, Tarawneh et al. (2023) reported that technology penetration is higher among younger populations, with adoption strongly correlated to digital skills rather than demographic background. The present findings confirm these patterns while highlighting the combined effects of economic capacity and ICT literacy.

In conclusion, the interplay between digital competence and financial capacity appears to be critical in driving digital banking adoption among engineering students. The findings reinforce the applicability of TAM and financial literacy frameworks in explaining this behavior. For practitioners, these results suggest that strategies to increase digital banking adoption within student populations should focus not only on enhancing technological skills but also on promoting financial literacy and designing services suited to varying levels of financial capability.

5. Conclusion

The primary objective of this study was to analyze the level of digital banking usage among engineering students at Diponegoro University and to identify the factors that significantly influence their adoption of such services. Specifically, the research aimed to assess the role of demographic, economic, and digital competence variables in explaining variations in students' digital banking behavior, thereby providing empirical evidence to support the application of the Technology Acceptance Model (TAM) and financial literacy theory in the context of higher education.

The results of the logistic regression analysis indicated that only two variables, monthly pocket money and ICT literacy, were statistically significant predictors of digital banking usage. Monthly pocket money demonstrated a negative effect, suggesting that students with lower allowances are less likely to adopt digital banking services. In contrast, ICT literacy exhibited a positive influence, indicating that higher digital competence increases the likelihood of adoption. Other demographic factors, such as age, GPA, semester, domicile, and income, were not significant predictors. These findings suggest that economic capacity and technological proficiency play a

more significant role than demographic characteristics in influencing the adoption of digital banking among engineering students.

The findings highlight the necessity for digital banking providers to design targeted strategies that consider both financial capability and digital competence. For instance, banks could offer educational programs to enhance students' ICT literacy, particularly focusing on the functionalities and security features of digital banking platforms. Simultaneously, product offerings could be tailored to meet the financial needs of students with varying levels of disposable income, such as low-cost or student-friendly digital financial services. From an academic perspective, the results also reinforce the applicability of TAM and financial literacy frameworks in understanding technology adoption behavior in higher education environments.

This study is limited by its focus on a single faculty within one university, which may restrict the generalizability of the findings to broader student populations. Furthermore, the model's explanatory power was relatively modest, suggesting the potential influence of other variables, such as trust in digital platforms, peer influence, and promotional exposure, that were not included in this analysis. Future research could expand the scope to include multiple faculties and universities, as well as integrate qualitative methods to gain deeper insights into students' motivations and barriers to adopting digital banking. Additionally, longitudinal studies could be conducted to observe changes in adoption behavior over time, especially in response to technological advancements and shifts in financial service offerings.

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References

Al-Qudah, A. A., Al-Okaily, M., Shiyyab, F. S., Taha, A. A. D., Almajali, D. A., Masa'deh, R., & Warrad, L. H. (2024). Determinants of digital payment adoption among Generation Z: An empirical study. *Journal of Risk and Financial Management, 17*(11), 521. https://doi.org/10.3390/jrfm17110521

Ariwangsa, I. G. N. O., & Jayanatha, G. B. S. (2023). The Influence of Financial Literacy and The Use of Digital Wallets On Consumer Behavior Among Students. *Jurnal Wawasan Manajemen*, *11*(3), 229–239. https://doi.org/10.20527/jwm.v11i3.254

Arinta, Y. N. & Widyastuti, E. (2022). Accelerating Digital Banking Transformation Through User Acceptance: A Study on The Millennial Culture. *MAKSIMUM (Jurnal Ilmiah Manajemen).14(1),*74-87. https://jurnal.unimus.ac.id/index.php/MAX/article/view/13744

Bank Indonesia. (2023). Digital banking statistics 2022. https://www.bi.go.id/id/statistik

Davis, F.D. 1989. Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, *13*(3), 319-340. https://doi.org/10.2307/249008

Desfayani, A. (2021). The Effect of Perceived Ease of Use, Trust, And Risk on Interest In Using Mobile Banking. *Jurnal Ilmiah Manajemen*, *11*(2), 189–198. https://doi.org/10.32502/jimn.v11i2.3450

Demirgüç-Kunt, A., Klapper, L., Singer, D., & Ansar, S. The Global Findex Database 2021: Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19. World Bank: Washington, DC.

Faizuddin, F. N., & Kamil, K. H. (2025). Factors Influencing the Adoption Of Digital Banking Among University Students In Urban Areas: A Comparative Analysis Using Analytical Hierarchy Process (AHP). *Issues and Perspectives in Business and Social Sciences*, *5*(2), 151–162. https://doi.org/10.33093/ipbss.2025.5.2.5

Febriana, T. (2014). Study of the Application of Information Technology Innovation Using The Technology Watch And Competitive Intelligence (TW-CI) Method. *ComTech: Computer, Mathematics and Engineering Applications*, *5*(1), 350-360. https://pdfs.semanticscholar.org/7719/ae158d9447e74fa67f2dee5eb649db2196f3.pdf

Financial Services Authority. (2016). Task Force Digital Banking. https://www.ojk.go.id/

Handrijaningsih, L., Permanasari, A., & Nurrahman, I. (2024). Factors That Influence Financial Behavior. *Scientific Journal of Business Economics, 29*(1), 61–72. https://doi.org/10.35760/eb.2024.v29i1.9106

Hutagalung, D., Sipayung, F. M., & Sinaga, J. S. (2022). The Role of Digital Banking In Economic Recovery During The COVID-19 Pandemic. *Journal of Economics and Sustainable Development*, 13(14), 75–84. https://doi.org/10.7176/JESD/13-14-09

Kurniawan, A. I., Gemiartha, C. M., Sudarsono, J. E., Wijaya, J., Yusuf, K. A., & Linawati, N. (2024). Factors Influencing the Adoption of Digital Banking among Generation Z in Surabaya. *Journal Of Accounting and Finance Management*, *6*(2), 641-651. https://doi.org/10.38035/jafm.v6i2.1915

Marlina, A., & Bimo, W. A. (2018). Bank Digitalization: Enhancing Bank Customer Service and Satisfaction. *Jurnal Ilmiah Inovator*, *7*(1), 14-34. https://core.ac.uk/download/pdf/230805551.pdf

McKinsey & Company. (2023). How Gen Z Is Shaping Digital Financial Services in Southeast Asia. https://www.mckinsey.com

Nugroho, A., & Pramudita, D. (2023). Factors influencing Generation Z's adoption of digital financial services. *Journal of Financial Technology, 12*(3), 215–230.

Purwanto, A. (2023). Digital Banking Adoption in Indonesia: Opportunities and Challenges. *Journal of Economics, Business, and Management, 11*(2), 87–93. https://doi.org/10.18178/joebm.2023.11.2.732

Putri, A. V., Kirana, N. J. S., & Azwari, P. C. (2023). Effectiveness of knowledge, lifestyle, and ease of use of mobile banking on consumer behavior of students at UIN Raden Fatah Palembang. *ADL ISLAMIC ECONOMIC: Journal of Islamic Economic Studies*, *4*(1), 19–32. https://doi.org/10.56644/adl.v4i1.54

Qulub, A. F., & Putri, R. N. A. (2024). Antecedents Of Muslim Students' Decisions to Use Islamic Digital Banks. *Journal of Economic and Business Research*, *9*(1), 60–74. https://doi.org/10.33633/jpeb.v9i1.9838

Rahmawati, L., & Murtanto, M. (2023). Effect Of Perceived Usefulness and Ease of Use on QRIS Adoption Intention Among Students. *Jurnal Ekonomi dan Bisnis*, *26*(1), 85–98. https://doi.org/10.14414/jeb.v26i1.3055

Rahi, S., Ghani, M. A., & Ngah, A. H. (2019). Integration of Unified Theory of Acceptance and Use of Technology In Internet Banking Adoption Setting: Evidence From Pakistan. *Technology in society*, *58*, 101120. https://doi.org/10.1016/j.techsoc.2019.03.003

Rizkyla, Z., Meuthia, R. F., & Rosita, I. (2022). The Influence of Perceived Ease of Use, Perceived Usefulness, and Trust as Intervening Variables on Interest in Using Digital Banks Among Millennials & Gen Z. *Journal Riset Akuntansi Politika* *7*(1). https://doi.org/10.34128/jra.v7i1.272

Rozaki, D., Sarjono, J., Raharjo, S. T., & Perdhana, M. S. (2023). The Impact of Digital Banking on Millennials' Financial Decision Making. *Research Horizon*, *5*(1) 65-78. https://lifescifi.com/journal/index.php/RH/article/view/449

Saputra, R. (2022). Factors Influencing Mobile Banking Adoption by Gen Z. *Jurnal Ekonomi, Manajemen, Akuntansi dan Keuangan. 5*(4), 1-5. https://doi.org/10.53697/emak.v5i4.2215

Supriyadi, F. T., & Darwanto, D. (2024). Investigating Drivers of Digital Banking Adoption of Gen Z In Indonesia. *Jurnal Ekonomi Bisnis dan Kewirausahaan* (JEBIK), *12*(2), 257-275. https://jurnal.untan.ac.id/index.php/JJ/article/view/67212

Susilowati, I., Petra, Y., Insani, T. V., Hermawan, T., Azzahra, Y. M., & Sinulingga, P. T. T. (2025). Determinants Of Digital Banking Adoption Among Students of The Faculty of Social and Political Sciences At Diponegoro University: A Logistic Regression Approach. *Curve Elasticity: Jurnal Pendidikan Ekonomi, 6*(2), 79-83. https://doi.org/10.57094/jpe.v6i2.3028

Tarawneh, M. A. A., Nguyen, T. P. L., Yong, D. G. F., & Dorasamy, M. (2023). Determinants of M-Banking Usage Among Millennials. *MDPI Sustainability*, 15(10), 8216. https://doi.org/10.3390/su15108216

Thomas, G. N., Nur, S. M. R., & Indriaty, L. (2024). The Impact of Financial Literacy, Social Capital, and Financial Technology on Financial Inclusion among Indonesian Students. *arXiv*. https://arxiv.org/abs/2405.06570

Venkatesh, V., & Davis, F. D. (2000). A Theoretical Extension of The Technology Acceptance Model: Four Longitudinal Field Studies. *Management Science*, 46(2), 186-204. https://doi.org/10.1287/mnsc.46.2.186.11926

Yuniawati, W., Syarif, D., & Sajekti, T. (2024). Influence of Financial Knowledge, Attitude, Locus of Control, And Lifestyle on Student Financial Behavior. *JEMSI (Journal of Economics, Management and Accounting)*, *10*(2), 1098–1108. https://doi.org/10.35870/jemsi.v10i2.2270

Zaverbnyi, A., & Sokulskyi, O. (2021). Digital Banking Trends During COVID-19: A Global Perspective. *Financial Studies*, *25*(4), 72–88. https://doi.org/10.55643/fms.v25i4.2021