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Examining the Factors Driving Digital Banking Adoption in Indonesia: A Modified Technology Acceptance Model Approach

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Abstract. This study examines the critical factors influencing Indonesian consumers' behavioral intention to use digital banking applications. Using a modified Technology Acceptance Model (TAM), the research investigates the impact of perceived usefulness, ease of use, security, risk, trust, and rewards on digital banking adoption. A survey of 114 university students in Greater Jakarta and Surabaya was conducted, and the data were analyzed using PLS-SEM. The results indicate that perceived usefulness, ease of use, trust, and rewards have significant positive effects on behavioral intention, while perceived risk and security do not. Trust is positively influenced by security but not affected by perceived risk. The findings suggest that digital banking providers should focus on enhancing the perceived benefits and trustworthiness of their services to increase adoption. The study contributes to the literature by providing insights into the factors driving digital banking adoption in Indonesia and offers practical recommendations for improving digital banking services in the post-COVID-19 era.

Keywords: Digital Bank, Behavioral Intention, Indonesian Consumers

1. Introduction

The COVID-19 outbreak has transformed individuals' lifestyles, prompting a transition toward digital platforms. According to the Indonesian Internet Profile 2022 report, internet usage in Indonesia has increased from 73.70% to 77.02%, with people mainly accessing financial services online (Asosiasi Penyelenggara Jasa Internet Indonesia, 2022). Banking is the most familiar financial industry as almost all financial transactions involve banking services (Otoritas Jasa Keuangan, 2022). Indonesia's fast adoption of digital technology (McKinsey Global Institute, 2019) and high internet penetration has created a potential ecosystem for the development of digital banks. A McKinsey report indicates that 78% of Indonesian consumers now engage with digital banking, a significant increase from 57% in 2017. Subsequently, the number of survey participants visiting a physical branch monthly decreased from 81% in 2017 to 55% and seven out of ten bank customers are willing to seek advice from bankers through remote digital means. This has made digital banks the main focus of our research (Barquin, Buntoro, & Pricillia, 2021).

Indonesia as the fastest digital adopter country (McKinsey Global Institute, 2019) combine with the increasing level of internet penetration among Indonesians create potential ecosystem for the development of digital banks in Indonesia. According to a report published by McKinsey’s Personal Financial Services 2021 survey, 78% of Indonesian customers now use digital banking actively (at least once a month via online or mobile channels)—up from 57% in 2017 (Barquin, Buntoro, & Pricillia, 2021). Also from the same report, 55% of survey respondents said they visit a branch at least once a month, as compared to 81% in 2017, and seven in ten bank customers are open to consulting with a banker via remote digital channels. With the increased popularity of digital banking and the openness of Indonesian to digital banking become the foundation of choosing digital bank as the main topic of our research.

Even though Indonesia has great potential and a supporting ecosystem, in reality the development of digital banks in Indonesia is still not optimal and the trend tends to decline. A survey by Finder.com projects that while the number of Indonesian adults with digital bank accounts will continue to grow, the country's ranking in digital banking is expected to decline from second place in 2021 to third in the world by 2026, with Vietnam overtaking it (Karnadi, 2021). Most big digital banks in Indonesia have experienced a significant decline in share trends (Dwi, 2023). According to a YouGov study in 2022, most consumers in APAC are concerned about digital financial services, mainly digital banks due to lack of trust and risk security concern (Tan, Consumer trust in traditional versus digital-only banks in APAC, 2022). Furthermore, the majority of big digital banks in Indonesia experienced a significant decline in share trends (Dwi, 2023), hence digital banks are still shrouded in negative sentiment.

Wimboh Santoso, Chairman of the Indonesia Financial Services Authority (OJK) Board of Commissioners, stated that with the presence of digital banks, Indonesia's digital economy has the potential to become the leading one in Southeast Asia by 2025, with a contribution of 124 billion US dollars (or Rp. 1,736 trillion) (Hidayat, 20). Although digital banking contributes significantly to Indonesia's economic development, it is a relatively new digital financial transformation product, and Indonesian society is still adjusting to this new type of banking. As a result, our research focuses on Technology Acceptance Model (TAM) and its modifications to determine which aspects influence customer intention to use digital banking application.

Using the TAM, these factors will be divided into three key elements as proposed by Fred Davis: perceived ease of use, perceived usefulness, and behavioral intention. Indonesians' top concern with using digital financial services is getting hacked (Tan, Digital financial services: What are Indonesians’ top concerns?, 2022). Thus, security and risk become the additional crucial variables that influence customer’s behavior intention to use digital bank applications. Several large digital banks in Indonesia use cashback and merchant discounts as marketing attractions, hence rewards become a considerable variable in our study. Based on the previous explanation, the modified TAM for our study consists of 7 variables, perceived ease of use, perceived usefulness, security, perceived risk, reward, trust, and behavioral intention.

Despite the growing popularity of digital banking in Indonesia, there exists a research gap in comprehensively understanding the factors influencing its adoption, particularly through the lens of a modified Technology Acceptance Model (TAM). While the TAM has been widely used to study technology adoption, its applicability and validity in the Indonesian context, especially concerning digital banking, remain underexplored. Existing studies often overlook culturally specific factors, regulatory environments, and the unique characteristics of the Indonesian market that may influence individuals' attitudes and intentions towards adopting digital banking services. Thus, there is a need for research that modifies and validates the TAM framework within the Indonesian context, considering additional factors from original TAM such as trust, reward, perceived risk, and security, to provide a more nuanced understanding of digital banking adoption behaviors in Indonesia. This research will not only contribute to academic literature but also offer practical insights for policymakers, financial institutions, and marketers seeking to promote digital banking adoption in Indonesia effectively.

In Indonesia, in particular, the government is also making efforts to encourage the recovery of the national economy after the COVID-19 pandemic with the National Economic Recovery Program (PEN, abbreviated in Indonesian). From the research (Legowo, Sorongan, & Subanidja, 2023), digital banking as part of the digital economy become the main driver for the success of the National Economic Recovery Program to fasten. Therefore, the presence of digital banking is very crucial and needs to be maintained and even improved.

To summarize, recognizing the vital role digital banks play in enhancing Indonesian level of financial inclusion and boosting overall economic recovery post-COVID-19 in Indonesia, it is anticipated that our research will aid in fostering the sustainability and increased customers used of digital banks in Indonesia. Hence, to ensure the stickiness of digital bank customers, our research aim to examine what factors significantly influence the behavioral intention of Indonesian people when using digital banks and provide a strategy for digital banks to be able to compete with traditional banks and remain relevant in a fast-changing, fast-paced environment. The structure of this research paper is outlined as follows:

1. Offers a literature review as the groundwork for our study.
2. Presents the research methodology, data analysis, and outcomes.
3. Summarizes the essence of the research we have conducted.

Previous Research

Researchers reviewed previous research literature to obtain a theoretical basis to support the solution to the problem under study. In addition, the collection of previous research limitations will support the purpose of our study. The previous research is shown in Table 1 below:

Table 1. Previous Research

No	Title	Year and Methods	Result
1	Digital Banking: Challenges, Emerging Technology Trends, and Future Research Agenda	2022, SLR Method	The study underscores various challenges encountered in digital banking innovation, spanning technology, organizational dynamics, human factors, procedural intricacies, environmental considerations, customer engagement, security concerns, and risk management. Furthermore, the study suggests that adoption models such as UTAUT, UTAUT2, TAM, and Diffusion of Innovation offer valuable frameworks for enhancing digital banking uptake by financial institutions. (Indriasari, Prabowo, & Purwandari, 2022).
2	Impact of digital	2018,	While digital finance particularly Fintech providers

	finance on financial inclusion and stability	Qualitative Method	enhances financial inclusion across global economies, responsible delivery, affordability, and managing crisis contagion are crucial challenges. (Ozili, 2018).
3	Customer Experience in Digital Banking: The Influence of Convenience, Security, and Usefulness on Customer Satisfaction and Customer Loyalty in Indonesia	2023, Quantitative Method	This research investigates how customer experience influences loyalty and satisfaction within Indonesia's digital banking sector. It finds that convenience and security have a positive impact on loyalty, but usefulness does not affect satisfaction. Nonetheless, customer satisfaction plays a crucial role in shaping loyalty. (Susanto, Manek, Setiawan, & Mustikasari, 2023).
4	The Impact of Digital Financial Technology on Accelerating Financial Inclusion in Developing Economies	2023, Quantitative and Qualitative Method	Digital finance acts as a catalyst for economic growth in developing regions. It grants remote residents access to basic financial services and boosts their living standards. Financial inclusion also drives revenue generation for the economy. (Telukdarie & Mungar, 2023).
5	Factors Affecting Customers' Perception Towards Digital Banking Services	2021, Descriptive Method	Customers find digital banking to be time and cost-efficient, with instant fund transfers and ubiquitous convenience. Individuals of all age ranges express a preference for digital banking as opposed to traditional banking methods. Key factors influencing digital banking users encompass transaction speed, compatibility, connectivity, security, convenience, and advantages. Users perceive digital banking as both time and cost-effective, offering instantaneous fund transfers and widespread convenience. (C.B.Pavithra & K.Geetha, 2021).
6	How's Prospect of Digital Banking in Indonesia? Notes from Islamic Views, Economic Value Added for Banking Industry, and Changing Costumer Behavior	2020, Qualitative Descriptive Analytic Approach	According to result investigations on changes in people's economic behavior as a result of increased use of digital media, customers and banks can benefit from the banking industry's increased use of information technology, including digital banking facilities, in terms of cost savings, improved product and service quality, and efficiency (Anggarani & Nurzaman, 2020).
7	The Challenges of Digital Banking in Today's Banking Industry	2023, Qualitative Descriptive Approach	Digital banking faces increased competition and security requirements, necessitating strong infrastructure and talent to mitigate information technology risks with competent resources. Despite the challenges, they remain critical to the regional and national economies (Haryono, Saha Ghafur, & Somantri, 2023).
8	Seizing Opportunities: The Race Toward Digital Banking in ASEAN	2023, Qualitative Descriptive Analytic Approach	The results of research on each ASEAN country's readiness to adopt digital banking are divided into several categories: Vietnam: Low readiness due to a digital skills gap, but excellent private credit. Indonesia, Philippines, and Thailand: Low infrastructure, literacy, and credit, but high growth potential, with early digital banking regulations in place. Singapore, Malaysia: High infrastructure and literacy; limited growth due to mature banking systems (Pradipta & Abdullah, 2023).
9	The Effect of Digital Banking Technology	2021, Data Envelopment	The study looked at how banks that use less digital technology tend to improve their efficiency a little,

	on Bank Efficiency and Employee Demand in Indonesian Banking Industry	Analysis (DEA) Method	while banks that heavily rely on digital technology and have high IT expenses compared to overall operational costs see a big improvement in efficiency (Rivai, 2021).
10	How Does the Digital Transformation of Banks Improve Efficiency and Environmental, Social, and Governance Performance?	2023, Regression Method	This study observes that bank transformation improves efficiency (internal, customer, and business) and financial performance by lowering costs, increasing non-interest income, and accelerating growth. It also improves corporate governance by implementing eco-friendly innovations that conserve resources and promote sustainability (Zhu & Jin, 2023).

Based on previous research, we discovered that the majority of them discussed the development and challenges of introducing digital bank technology to the public, which greatly aided us in understanding the prospects that could be developed to increase the use of digital banks. Aside from that, it helps us develop indicators as components based on identified challenges in order to validate how digital bank users in Indonesia perceive these indicators. The research's majority we discovered was conducted during a pandemic that was still ongoing; this situation is one of the reasons why the use of digital technology has increased in the past few decades. Therefore, the novelty of this research is that it also offers a different perspective of the time when global society, especially Indonesia, entered a post-COVID-19 pandemic period, where social and economic conditions have recovered. In addition, modified TAM variables, such as Security and Reward, were added to match the digital banking environment. Based on the explanation above, we want to analyze the utilization of digital banks in regular circumstances and their impact, especially on the Indonesian economic sector.

2. Method

2.1. Research Model

On the basis of the theories and literature review discussed in the previous section, below is the research model formulated (Fig. 1):

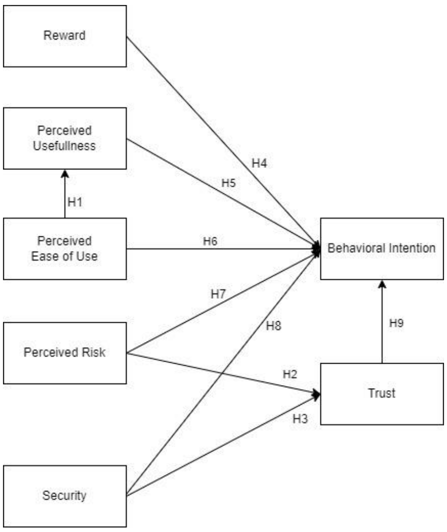

Fig 1. Research Model

2.2. Hypotheses

In accordance with the research model, there are nine hypotheses for the current research:

H1: Perceived ease of use (PE) positively influences Indonesian customers' perceived usefulness (PU) to use digital banking applications.

According to the TAM Model, perceived ease of use is defined as the degree to which an individual believes that utilizing a specific technology will require no physical or mental effort (Fred D. Davis, 1985). It has been proved in research of financial industry's product that good perceived ease of use will influence the amount of perceived usefulness, where the better the perceived ease of use that is felt when utilizing a service, the bigger the perceived usefulness will be (Wahyuni2 & Raksadigiri1, 2020). The influence of perceived ease of use on perceived usefulness is indirectly influenced by system attributes since the easier a system is to use, the easier it is for the user to increase work performance, which implies the perceived usefulness is larger (Fred D. Davis, 1985).

H2: Perceived risk (PR) negatively influences Indonesian customers' trust (T) to use digital banking applications.
A customer's perceived risk is a sense that they have when deciding whether or not to use a product or service. These emotions have unanticipated and negative consequences and mostly lead to disappointment when purchasing a product or service. According to one e-commerce study, the perceived risks felt by users can reduce users' trust in using the service since they feel less confident and protected, while also highlighting the potential negative effects of utilizing the platform. Risks can originate from a variety of sources, including a lack of security, hostile customer service, and a lack of transparency, all of which can undermine consumer trust. The conclusion can be drawn that Customers with a higher perception of risk are likely to have lower trust in using the application (Sari, 2022).

H3: Security (S) positively influences Indonesian customers' trust (T) to use digital banking applications.
Security in digital banking refers to the bank's approach to safeguarding and preventing unwanted access to customer data and information through increased security compliance, third-party seals, certification, guarantees, and legislation. Studies on similar banking industry, which is online banking have revealed that the key predictor of consumer trust is the bank's openness in giving relevant and accurate information about the security and privacy of the facilities utilized by clients (Skvarciany & Jureviciene, 2018). With this outcome, we intend to verify the validity of the theory that the higher the security value of a service, the higher the level of user trust in utilizing digital bank application.

H4: Reward (R) positively influences Indonesian customers' behavior intention (BI) to use digital banking applications.
A reward is a type of gratitude given to someone in the form of funds or non-funds for their activities or contributions. In digital banking, reward is an incentive provided directly by digital banks, such as discounts while utilizing digital bank payment services or daily interest gained based on how much the customer put in. According to this study, the reward feature in digital banks increases behavioral intention to use digital banks since incentives are given directly from digital banks without quotas limited to a few people, third-party involvement, or limited to participating merchants. Aside from the distinction between digital banks and traditional banks, notably the physical form of a bank, the incentive element is a crucial differential (Windasari, Kusumawati, Larasati, & Amelia, 2022). As a result, we are interested in knowing if digital bank users in Indonesia believe that one of the primary reasons, they want to use a digital bank is related to the reward feature.

H5: Perceived usefulness (PU) positively influences Indonesian customers' behavior intention (BI) to use digital banking applications.
According to the TAM, perceived usefulness is an important predictor of behavioral intention, as people are more inclined to utilize a technology if they think it will be valuable to them. The original definition of perceived usefulness refers to "the degree to which a person believes that using a particular system would enhance his or her job performance" (Davis, 1989). While in this study, perceived usefulness can be defined as the level to which utilizing a digital banking application will provide benefits for

customers in performing financial services. Prior studies in digital financial industry (Almaiah, et al., 2023) (Lin, et al., 2023) have mentioned that perceived usefulness is one of the strongest predictors in the TAM model and has a positive effect on the intention to use technology.

H6: Perceived ease of use (PE) positively influences Indonesian customers' behavior intention (BI) to use digital banking applications.
Perceived ease of use is defined as the extent to which an individual believes that using digital banking application would be free of effort. A system perceived to be easier to use will facilitate more system use and is more likely to be accepted by the user. Studies on similar banking industry, which is about e-banking (Rabaa'i & ALMaati, 2021) (Ramos-de-Luna, Montoro-Rı´os, & Lie´bana-Cabanillas, 2016) have confirmed that perceived ease of use has positive relationship with intention to use e-banking systems. Accordingly, in our study, perceived ease of use will have a significant role in encouraging bank clients to adopt and use digital banking applications.

H7: Perceived risk (PR) negatively influences Indonesian customers' behavior intention (BI) to use digital banking applications.
Digital banking applications allow the customers to fully conduct financial activities through an online platform, which inherently increases both financial and privacy risk (Chen, Jia, & Wu, 2023). Based on the previous research in banking industry (Chen, Jia, & Wu, 2023), digital banking applications allow the customers to fully conduct financial activities through an online platform, which inherently increases both financial and privacy risk. Another study analyzed components affecting the intention to use Digital Banking and discovered that perceived risk has an effect on people's intentions to use digital banking. Customers must be aware of the risks involved in providing bank information and personal data to the bank when using bank services, whether it is digital or traditional bank. If a customer has a high level of perceived risk, it can reduce the customer's intention to use the bank's services because the customer feels unsafe and at ease using the bank's services (Tugade, Reyes, & Nartea, 2021). Based on prior research, the study aims to test whether customers with a higher perceived risk will exhibit a lower intention to use the digital banking application's services

H8: Security (S) positively influence Indonesian customers' behavior intention (BI) to use digital banking applications.
In our study, security refers to "the degree to which an individual feels that digital banking application applications provide secure mechanisms for protecting their transactions and personal data and information." Finance and insurance companies rank second as the industry that faces the most cyber-attacks (Petrosyan, 2023). For this reason, establishing mechanisms to guarantee the security of customers' financial and non-financial transactions, as well as their personal data and information via digital banking applications, is considered a top priority. In addition, from previous research (Hendy, Hashim, & Mahmuddin, 2020), people would only be willing to use any kind of technological system if they believe that the particular technological system would not be vulnerable to security attacks and any kind of financial loss. Hence, it is assumed that the greater the individuals' security perceptions are, the higher their behavioral intention to use digital banking applications.

H9: Trust (T) positively influences Indonesian customers' behavior intention (BI) to use digital banking applications.
Digital bank applications are a product of digital transformation in the banking industry; thus, the overall environment of digital bank applications lives in a digital world. In the context of online services, trust is defined as the belief that consumers have in the ability of a service provider to deliver reliable services through the Internet, and it is an essential element in managing a relationship with the digital bank (Apriani, Respati, & Handarini, 2023). This is supported via research (Kantika, Kurniasari, &

Mulyono, 2022). The uniqueness of digital bank is that it does not have a physical location where customers can interact with them; therefore, digital banks should gain and maintain customers' trust in order for them to have the intention of using digital bank applications, even if they are fully digital.

2.3. Data Collection and Measures

Research on Digital Banking Applications is conducted using quantitative methods involving non-experimental surveys with the goal of collecting data and planning analysis. The data is gathered through using a questionnaire created through Google Form through various social media platforms, including Instagram, Line, and WhatsApp. Multiple-choice and 4-point Likert scale questions will be distributed through random sampling for online analysis. Random sampling is a highly suitable approach for our research as it minimizes the risk of bias in our sample selection process and increase the likelihood that the findings and conclusions drawn from our sample can be generalized to the larger population of consumers using digital bank applications in Indonesia. According to Roscoe (Memon, et al., 2020), the ideal sample size for the study is between 30 and 500. Additionally, when conducting multivariate analysis, such as correlations or regression, it's advisable for the sample size to be at least 10 times the number of variables under investigation. With this study encompassing 7 variables, the recommended minimum sample size would be 70 individuals. The survey was then completed by 114 university students whose universities are located in Greater Jakarta and Surabaya, two of Indonesia's largest metropolitan areas (MN, 2023) and highest income (Ki, 2023) in Indonesia and have used various digital banking applications available in Indonesia.

Data analysis employed Partial Least Squares Structural Equation Modeling (PLS-SEM) using SmartPLS for PLS and bootstrap values. PLS-SEM accommodates both reflective and formative measurement models, making it suitable for capturing the multidimensionality of constructs in our modified TAM model. This flexibility allows researchers to accurately represent constructs with both reflective and formative indicators in our analysis (Hair, Hult, Ringle, & Sarstedt, 2017). PLS-SEM also involves constructing models to depict causal relationships among latent variables (unobservable constructs) and observed variables, often represented by diagrams with arrows. Using PLS-SEM allows us to estimate the strength and direction of these relationships, facilitating simultaneous measurement and testing within one statistical estimation procedure. Thus, in our case, PLS-SEM aims to see the relationship between observable variables (e.g., survey questions) and latent variables (e.g., Reward, Trust, Perceived Ease of Use, Perceived Usefulness, Perceived Risk, Security, Behavioral Intention). Table 2 details the questionnaire's questions and indicators.

Table 2. Measurement Items Table

Variables and Indicators		***Ref.***
Reward (R)		
I enjoy using digital banking applications because they provide numerous benefits	R1	(Windasari, Kusumawati, Larasati, & Amelia, 2022), Self-Developed
I enjoy using digital banking applications because of the feeling that I have saved money through the rewards	R2	
Applying digital banking is extremely revenue-generating for myself	R3	
I enjoy using digital banking applications because of the multiple cashbacks offers	R4	
Trust (T)		
I trust digital banking applications will not divulge any of my information to third party	T1	(Siagian, Tarigan, Basana, & Basuki, 861-874), (Hossain, Adnan, Rahman, & Muhammad, 2023), Self-Developed
I feel safe when using digital bank applications	T2	
The service of digital banking application is trusted	T3	
The information provided on processes is trusted	T4	
Perceived Ease of Use (PE)		

My engagement towards digital banking application is easy to comprehend	PE1	(Nguyen & Nguyen, 2022), (Nguyen & Ao, 2022), (Sharma, Malik, & S, 2019)
I discover it really effortless to learn how to use digital bank applications	PE2	
I find it very simple to use digital bank applications	PE3	
I find it quick to be skillful at using digital bank application	PE4	
Perceived Usefulness (PU)		
Using digital bank application, users can control transactions when shopping with the savings sharing feature	PU1	(Nguyen & Nguyen, 2022), (Nguyen & Ao, 2022)
Digital bank applications provide various features such as e-wallet top ups, bill payments, transfers via virtual account numbers, and other useful features	PU2	
Perceived Risk (PR)		
I think there is a chance that my personal information easier to be stolen by using digital bank application	PR1	(Saprikis & Avlogiaris, 2021), Self-Developed
Digital bank application's system has the potential for errors to occur resulting it cannot respond to payment transactions quickly	PR2	
Security (S)		
I believe it is guaranteed safe to use digital bank application in payment and transaction activities	S1	(Saprikis & Avlogiaris, 2021), Self-Developed
I believe that digital bank application only uses user personal data for transaction processing needs	S2	
Every data sent for payment and transaction made in digital bank application is secure from hacker attack	S3	
Behavioral Intention (BI)		
I am likely to utilize digital bank application in the near future	BI1	(Lew, Tan, Loh, Hew, & Ooi, 2020), (Saudjhana, 2023), (Cheng, Lam, & Yeung, 2006)
If the chance arises, I will use the digital bank application	BI2	
I believe using digital bank applications would be beneficial	BI3	
I have a positive perception of using digital bank applications	BI4	
I will use digital banking to handle my banking transaction	BI5	

3. Result and Discussion

3.1. Measurement Model: Validity and Reliability

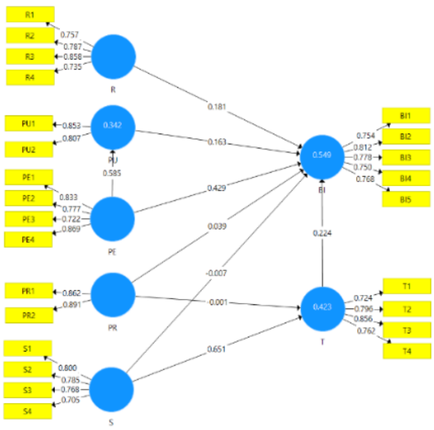

Fig 2. Model Path Coefficient Output

The initial phase of this study involves assessing the validity and reliability of the quantitative survey data. This is achieved by scrutinizing the outer loadings of individual variables and constructs, along with evaluating composite reliability (CR) and average variance extracted (AVE). Convergent validity is assessed based on the AVE values, which should be greater than 0.5. Reliability is assessed based on both CR and outer loadings. The CR values should be greater than 0.7 and all outer loadings should exceed 0.7 for the indicators can be said to have good reliability. If the outer loadings exceed 0.7, AVE surpasses 0.5, and CR exceeds 0.7, the data is deemed valid and reliable (detail see in figure 2 about Model Path Coefficient Output). During the data analysis process, several indicators were discovered that did not comply with the provisions, involving outer loadings less than 0.7, AVE less than 0.5, and CR less than 0.7. Indicators that do not comply with the provisions have been removed to avoid providing irrelevant and unreliable data. Therefore, Table 3 only displays indicators that has outer loadings exceeding 0.7, AVE surpasses 0.5, and CR exceeding 0.7 to meet the requirements for convergent validity and reliability.

Table 3. Variables / Indicators Validity And Reliability

No	Variables/ Indicators	Outer Loading	AVE (cut-off > 0.5)	CR(cut-off > 0.7)
1	**R**		**0.617**	**0.865**
2	**R1**	**0.757**		
3	**R2**	**0.787**		
4	**R3**	**0.858**		
5	**R4**	**0.735**		
6	**PU**		**0.689**	**0.816**
7	**PU1**	**0.853**		
8	**PU2**	**0.807**		
9	**PE**		**0.644**	**0.878**
10	**PE1**	**0.833**		
11	**PE2**	**0.777**		
12	**PE3**	**0.722**		
13	**PE4**	**0.869**		
14	**PR**		**0.768**	**0.869**
15	**PR1**	**0.862**		
16	**PR2**	**0.891**		
17	**S**		**0.585**	**0.849**
18	**S1**	**0.800**		
19	**S2**	**0.785**		
20	**S3**	**0.768**		
21	**S4**	**0.705**		
22	**BI**		**0.597**	**0.881**
23	**BI1**	**0.754**		
24	**BI2**	**0.812**		
25	**BI3**	**0.778**		
26	**BI4**	**0.750**		
27	**BI5**	**0.768**		
28	**T**		**0.618**	**0.866**
29	**T1**	**0.724**		
30	**T2**	**0.796**		
31	**T3**	**0.856**		
32	**T4**	**0.762**		

3.2. Hypotheses Testing and Discussion

Table 4 presents the outcomes of hypothesis testing, revealing that six out of the nine hypotheses posited by this study have been accepted. Conversely, the remaining three hypotheses were rejected due to their P-values exceeding 0.05.

Table 4. Hypotheses Testing

Hypotheses	P	Description

H1	PE	→	PU	0.000	Accepted
H2	PR	→	T	0.988	Rejected
H3	S	→	T	0.000	Accepted
H4	R	→	BI	0.031	Accepted
H5	PU	→	BI	0.046	Accepted
H6	PE	→	BI	0.000	Accepted
H7	PR	→	BI	0.521	Rejected
H8	S	→	BI	0.945	Rejected
H9	T	→	BI	0.024	Accepted

Based on Table 4, the results of hypothesis testing reveal relationships between independent and dependent variables are:

H1: Perceived ease of use (PE) positively influences Indonesian customers' perceived usefulness (PU) to use digital banking applications.
From the results of the research and data processing carried out on the related variables, the researcher can conclude that the perceived ease of use positively influences perceived usefulness (H1 Accepted) to use digital banking applications. This finding aligns with the TAM model, where ease of use is expected to enhance user exploration and discovery of functionalities within a technology (Fred D. Davis, 1985). In the context of digital banking, a user-friendly interface can make it easier for customers to navigate the application, experiment with features, and ultimately uncover the potential benefits it offers. This exploration process can lead to a heightened perception of usefulness, motivating customers to continue using the digital banking platform.

H2: Perceived risk (PR) negatively influences Indonesian customers' trust (T) to use digital banking applications.
This research mainly focuses on what critical factors primarily influence the behavioral intention of Indonesian customers when using digital bank applications; one of the critical factors is trust. Thus, in our hypotheses, we also want to test whether perceived risk and security significantly impact trust. From the bootstrapping test, it shows that perceived risk does not have a significant impact on trust (H2 Rejected) as the P-values 0.988 is greater than the requirement 0.05. In the survey that we distributed to respondents, we also asked what digital bank application features were most frequently used. As a result, the three most frequently used features are QR payment, e-wallet top-up, and virtual account transfer. Hence, we can conclude that the respondents do not use a digital bank as their primary savings account. Therefore, the nominal amount in their digital bank account is not large, so the perceived risk when using the application is not a significant factor in influencing their trust in the digital bank application.

H3: Security (S) positively influences Indonesian customers' trust (T) to use digital banking applications.
According to the data analysis result of this study, security positively influences trust (H3 Accepted). This aligns with established research highlighting the importance of perceived security in building trust for online transactions. Customers likely feel more confident using digital banking platforms when they perceive robust security measures in place to protect their financial information and transactions (Al-Sharafi, Shanab, Arshah, & Elayah, 2016).
H4: Reward (R) positively influences Indonesian customers' behavior intention (BI) to use digital banking applications.
The research shows that reward positively influences behavioral intention (H4 Accepted). This finding aligns with research suggesting that reward programs can act as effective motivators for technology adoption. A similar study on e-payment found that rewards such as cashback have a direct and positive

relationship with the intention to use e-payment (Alotaibi & Helmi, 2023). Digital banks in Indonesia can leverage this insight by offering attractive reward programs, such as cashback or loyalty points, to incentivize user engagement and continued use of the platform.

H5: Perceived usefulness (PU) positively influences Indonesian customers' behavior intention (BI) to use digital banking applications.
The research demonstrates that perceived usefulness positively influences behavioral intentions (H5 Accepted), which means the more valuable users perceive digital banks, the more likely they are to keep using them. This result reinforces the central role of perceived usefulness within the TAM Model (Fred D. Davis, 1985). For Indonesian digital banking users, a platform's perceived usefulness likely translates to a stronger intention for continued use. Digital bank developers should prioritize features and functionalities that demonstrably enhance user experience and address customer needs, ultimately increasing the perceived usefulness of the platform.

H6: Perceived ease of use (PE) positively influences Indonesian customers' behavior intention (BI) to use digital banking applications.
The result aligns with the TAM model by demonstrating that perceived ease of use (PE) positively influences Indonesian customers' behavioral intention (BI) to use digital banking applications (H6 Accepted), meaning that ease of use drives digital banking adoption. A user-friendly and intuitive interface can improve the user experience and encourage ongoing engagement with the platform. Digital banks can concentrate on improving their app design and user experience to ensure ease of use and positive user perceptions, resulting in increased user adoption.

H7: Perceived risk (PR) positively influences Indonesian customers' behavior intention (BI) to use digital banking applications.
From our hypotheses testing, it shows that perceived is does not has significant impact on Indonesian's customer behavioral intention when using digital bank application (H7 Rejected). Perceived risk, which has no significance on the behavioral intention of digital bank application users, can be caused by using digital banks, which are mostly not used as main savings accounts by our respondents who have student backgrounds. Our survey results also show that the most used feature in digital bank by respondents are QR payments and e-wallet top-up feature. Therefore, we can justify that the digital bank account used by respondents is not a savings account with a large nominal value because this account is mainly used for outgoing transactions. Hence, if the nominal value stored is not too large, perceived risk is certainly not a factor that respondents overthink about when using digital banking applications.

H8: Security (S) positively influence Indonesian customers' behavior intention (BI) to use digital banking applications.
According to Table 4, the security of digital banking applications does not have a significant impact on the behavioral intentions of Indonesian customers (H8 Rejected). This hypothesis was rejected because digital banks are subject to the same legal regulations as traditional commercial banks in Indonesia. Therefore, a customer's savings of up to 2 billion rupiah will be protected by the Indonesia Deposit Insurance Corporation (IDIC). Moreover, most digital bank brands used by the respondents are subsidiaries of established, reputable banks. Hence, customers are confident that their savings are secure and the reputable bank companies are likely to have already taken measures to ensure the security of their digital banking applications. The insignificance of security factors on Indonesian customers' behavioral intentions in using digital banks is also closely related to the National Digital Literacy Index. Even though in 2022, the score will reach 3.54 points (on a scale of 5) or an increase of 0.05 points compared to the previous year. However, digital security was the lowest of the four pillars measured, with 3.12 points. In fact, the digital literacy level in Indonesia is only 62%. This number is the lowest compared to other ASEAN countries, which average 70% (Anam, 2023). With a level of digital literacy

that tends to be low, Indonesian people don't really take into account the security factor when using digital bank applications and this causes an insignificant behavioral intention variable in our research model.

H9: Trust (T) positively influences Indonesian customers' behavior intention (BI) to use digital banking applications.
The results of this research show that trust positively influences behavioral intention (H9 Accepted), which is supported by previous research that states that building and maintaining customer trust is one of the most important ways to attract customers when purchasing products or services online and retain customers in order to return and become loyal customers of the online store (Mustaffa, Rahman, Wahid, Hudin, & Taib, 2023). Customers who trust a digital banking platform are more likely to feel comfortable using its services and engaging in transactions. Building trust can be achieved through transparent communication, robust security measures, and reliable customer service, ultimately influencing users' willingness to adopt and continue using the platform.

According to the previous researches mentioned in Hypotheses, H1 until H9 were accepted as the variables had significant effects to each other. However, in this research show that three hypotheses were rejected, which are H2, H7, and H8. The result of H2 and H7 are indeed contradictory to the results of previous research regarding the variable perceived risk. In previous research (Namahoot & Laohavichien, 2018), there were 6 types of risk (social, financial, psychological, performance, privacy, time) that were analysed, whereas in our research we only focused on performance and privacy risks so that it could influence H2 and H7 being rejected.

From the explanation of the nine hypotheses that we have tested in this research, digital bank players can find out what critical factors influence Indonesian customers, especially Gen Z users, in using digital bank applications. The reward, perceived usefulness, perceived ease of use, and trust factors are the most significant in influencing the intentions of Gen Z users in using digital banking applications in Indonesia. Giving rewards is indeed in demand by the Indonesian people. However, companies must also ensure that these rewards are a strategy that can be sustainable and maintain the finances and margins they want to achieve. Although security in this research is a less significant factor in user behavioral intention, this does not mean that companies can ignore security factors, especially cybersecurity, which is increasingly happening in Indonesia. In fact, companies must make it a priority so that people can be more sensitive to digital security, especially in financial technology.

Practical Implications

Based on the hypothesis testing that has been carried out, the factors that have a significant influence on the behavioral intention of Indonesian customers are Reward, Perceived Usefulness, Perceive Ease of Use, and Trust. From these results, the following are strategies that digital banks in Indonesia can implement.

- Implement a robust rewards program: Offer cashback, loyalty points, or exclusive discounts for certain transactions or account activities.
- Partner with other businesses: Forge partnerships with retailers, restaurants, or service providers to offer exclusive deals and discounts to users.
- Implement user-centric application interface design: Ensure the digital platform is intuitive, easy to navigate, and offers a seamless user experience. Conduct user testing and gather feedback to continuously improve usability.
- Simplify the onboarding process: Streamline the account opening process to make it quick and intuitive, minimizing the need for paperwork or in-person visits. This strategy is reinforced by the results of our survey which stated that one of the biggest reasons respondents chose to use a digital bank was because of the ease of opening a new account.
- Offer responsive customer support: Provide multiple channels for customer support, including

live chat, email, and phone support, with quick response times to address user queries and concerns.

- Prioritize security measures: Implement robust security features such as two-factor authentication, encryption, and biometric authentication to protect user data and transactions.
- Be transparent about fees and policies: Clearly communicate any fees, charges, or terms associated with accounts or transactions to build trust and avoid surprises.

Digital banks need to ensure that the reward strategy implemented does not have a significant impact on the company's profit margin.

4. Conclusion

This study provides valuable insights into the critical factors influencing Indonesian consumers' behavioral intention to use digital banking applications. The findings suggest that perceived usefulness, ease of use, trust, and rewards are key drivers of digital banking adoption, while perceived risk and security do not have significant direct effects. Trust is positively influenced by security, highlighting the importance of building a secure and reliable digital banking system.

The study contributes to the literature by extending the TAM to the context of digital banking in Indonesia and identifying the specific factors that shape consumers' attitudes and intentions towards these services. The findings have practical implications for digital banking providers, who should focus on designing user-friendly interfaces, communicating the benefits of digital banking, and offering attractive rewards to encourage adoption. Policymakers can also use the insights from this study to develop regulations and initiatives that promote the growth of digital banking while ensuring consumer protection and security.

However, the study has some limitations that should be acknowledged. The sample of university students in two cities may not be representative of the wider population of digital banking users in Indonesia. Future research could extend the study to other demographic groups and regions to improve the generalizability of the findings. Additionally, the cross-sectional nature of the study does not allow for causal inferences, and longitudinal research could provide further insights into the dynamics of digital banking adoption over time.

Despite these limitations, this study provides a valuable foundation for future research on digital banking adoption in Indonesia and other emerging markets. As thezz digital economy continues to grow and evolve, understanding the factors that drive consumer behavior in this space will be increasingly important for businesses, policymakers, and researchers alike.

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