ISSN 1816-6075 (Print), 1818-0523 (Online)
Journal of System and Management Sciences
Vol. 14 (2024) No. 3, pp. 437-451
DOI:10.33168/JSMS.2024.0325

Cues to Action and Habit as Key Drivers of Digital Banking App Adoption Across Age Cohorts in Indonesia

Hardi Tenang, Viany Utami Tjhin

Information System Management Department, BINUS Graduate Program – Master of Information System Management, Bina Nusantara University, Jakarta, Indonesia 11480

hardi@binus.ac.id; vtjhin@binus.edu

Abstract. Digital technology has many implications for development in various fields, including finance. Banks and financial industries continue to compete and deliver new banking experiences through digital-only banks. Although the development of digital-only banks shows a growing trend, digital-only banks face major challenges, especially facing traditional banks that also provide digital services. Recent research shows that nearly half of the prospective customers are not interested in using digital-only bank services. Understanding that this study is a useful reference, digital-only banks can use this research to enhance their understanding and knowledge of attracting more users from different generations, which could positively impact digital banking. This study analyzed factors influencing intentions to adopt digital banking apps in Indonesia across generational cohorts. An online survey was conducted with 112 respondents aged 17 and older in multiple Indonesian cities. Using UTAUT2, cues to action, and habit as key constructs, WarpPLS 8.0 was employed to analyze the Structural Equation Model (SEM). The results showed cues to action and habit significantly influenced adoption intentions, while effort expectancy, social influence, and firm reputation had no effect. Cues to action had the most substantial impact. Moderation analysis further revealed that habit was more salient for younger digital native generations. This study is among the first to examine the cues to action on intentions to use in a digital-only banking context, and the findings imply that informative, promotional strategies and leveraging online shopping habits can effectively boost digital banking acceptance.

Keywords: UTAUT2, Intention to Use · Cues to Action, Habit, Digital-only Banks.

1. Introduction

The Indonesian banking industry is currently undergoing rapid change and development due to technological advances. Technological developments drive digitization in almost every area of life, including banking. The digitization of banking has increased the trend to set up digital-only banks in Indonesia. Undoubtedly, the advent of digital-only banks in the era of Industry 4.0 will introduce novel challenges (Amiri et al., 2023).

Digital-only banks bring many advantages to banks and customers. Digital-only banks provide convenience and fast service for customers. Another advantage of banks' digital transformation is commercial banks' profitability and efficiency. (Zhu & Jin, 2023b). Banks' digital transformation also improved commercial banks' operational capabilities (Zhu & Jin, 2023a). Although the operating cost-to-income ratio is now high because of investment in technology infrastructure in the first year, resulting in lower efficiency (Rahman & Yudhistira, 2022), digital-only banks tend to be more efficient than traditional banks in the long run.

From the customer side, digital banks have advantages that make it easier for customers to make transactions easily without requiring much effort (Musyaffi et al., 2022). Bank customers now have various digital banking choices (Asif et al., 2023), such as mobile banking, digital-only banking, e-wallets, and online banking.

Digital financial services still need to be more popular than conventional services (Dihni, 2022). The report noted that of the 10 thousand respondents surveyed, as many as 73.5% have used financial services in the form of automated teller machines (ATMs). Meanwhile, those who use new digital wallets are 65.4%, and users of other digital financial services are even lower, such as mobile banking users, who are only 13.3%, and internet banking users 7.7%.

Indonesians use Mobile Banking instead of e-wallets and Digital Banking (Populix, 2022). It is based on the results of Populix research: 64% of respondents who have banking and financial services on their mobile phones, as many as 91%, said they have a mobile banking application, 84% have an e-wallet, and only 33% have a digital banking application.

Meanwhile, in the 2021 Fintech Report, 57.2% were interested in using digital bank services, and 42.8% said they were not interested (DSInnovate, 2021). The problem faced by digital banks is the reluctance of the public to use digital bank services. At the top of the list of reasons for reluctance to use digital bank services in the report, respondents do not feel the need to use digital bank services, and security issues are doubted by some people who are still skeptical about using fully digital services (DSInnovate, 2021), see Fig. 1.

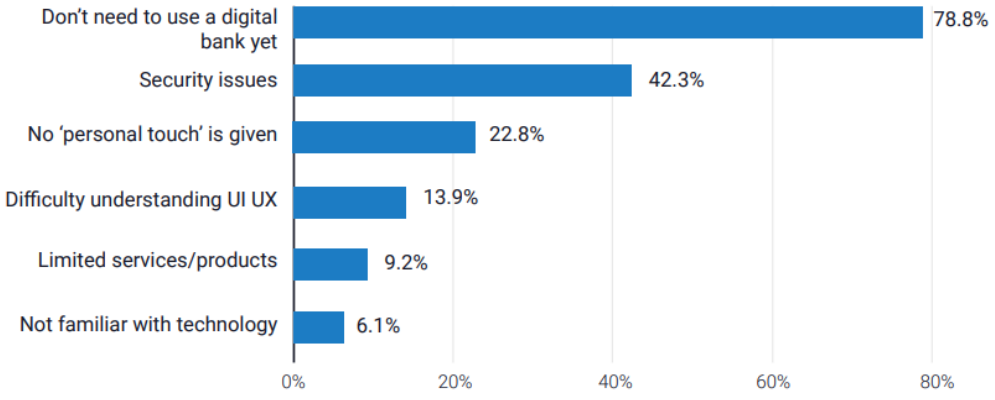

Fig. 1: Reasons for Reluctance to Use Digital Bank Services, Source: (DSInnovate, 2021)

Therefore, this study aims to determine the factors affecting intention to use digital-only banking apps in Indonesia and examine differences in adoption drivers across generations.

The paper about digital-only banks by Saif et al. (2022) shows that Convenience, Economic Efficiency, Number of Services, Trust, Perceived value, and Environmental concern determine the intention to adopt a digital-only bank in Malaysia. In addition, prior research focused on customer experience using digital-only banking among Gen Y and Gen Z (Windasari et al., 2022).

The rest of the paper is structured: Section 2 reviews the related literature and hypotheses development. Section 3 presents the research model and discusses the empirical study to measure respondents' intent to use digital-only bank apps. The analysis's findings, conclusions, and results are discussed in the last section.

2. Literature Review

2.1. Digital-only Banking

Referring to the provisions of the Financial Services Authority, the digital-only bank is an Indonesian legal entity bank that offers and conducts business primarily through electronic means, with only the head office serving as its other physical location (OJK, 2021).

Digital-only banks can operate in Indonesia through:

- Establishment of a new Indonesian Legal Entity Bank as a Digital Bank or
- The transformation from Indonesian Legal Entity Bank (existing) to Digital Bank.

Digital-only banks have been used as an alternative to virtual banks, banking services, digital banking services, or online banking services, causing difficulties in distinguishing them from the digital services offered by traditional banks. Digital-only banks are bank business models that offer and conduct business primarily through electronic channels.

Digital adoption in Indonesia has increased significantly over the past few years. Banking customers are now expecting more digital products and services from banking institutions. In recent years, several large banks in Indonesia have created their digital banks in various ways, such as digital units, forming subsidiaries, or even acquiring existing banks to transform them into digital banks (DSInnovate, 2021).

It is not only happening to incumbents (BCA and BRI); currently, Bank Mandiri has Livin' as its digital brand.

Digital-only banks that exist and are already operating in Indonesia are Aladin, Allo Bank, blu by BCA Digital, Digibank, Jenius, Jago, LINE Bank, Motion, Neobank, New Livin', Raya, SeaBank, and TMRW (DSInnovate, 2021).

2.2. Unified Theory of Acceptance and Use of Technology

The Unified Theory of Acceptance and Use of Technology (UTAUT) determines user acceptance of an information system. UTAUT is a theory developed by Venkatesh et al. (2003). According to experts, the UTAUT model offers a more comprehensive understanding of technology adoption than other related models (Kumar et al., 2023).

UTAUT theory has four main constructions: performance expectancy, effort expectancy, social influence, and facilitating conditions.

Later, this UTAUT theory was developed into UTAUT2. UTAUT2 adds hedonic motivation, price value, and habit to adapt it to the context of consumer technology use (Venkatesh et al., 2012).

2.3. Hypotheses Development - Effort Expectancy

Effort expectancy is one of the main constructs in UTAUT theory. Effort expectations are the ease of system use (Venkatesh et al., 2003). Venkatesh et al. argue that an easy-to-use application service will encourage individual customers to be optimistic about and use the application (Venkatesh et al., 2012).

Research on the adoption of community service applications by Yuniarty et al. argues that interacting with easy-to-understand online applications is very important for users, and the convenience that users feel in utilizing applications has a considerable impact on their behavioral intentions to utilize

those applications (Yuniarty et al., 2023).

Customers who believe that bank apps are easy to use will adopt them because they seek convenience to help with their daily lives (Pham et al., 2022). Effort expectations are a significant positive predictor of behavioral intentions (Hilal & Varela-Neira, 2022). In contrast, A study on the acceptance of e-wallets in the fintech era in Jordan revealed no significant relationship between effort expectancy and intention to use (Hammouri et al., 2023).

So, this study wants to clarify that effort expectancy may have a close connection with the intention to use digital-only bank applications, and the following hypothesis is proposed:

H1: Effort expectancy positively affects the intention to use digital-only bank applications.

2.4. Hypotheses Development - Social Influence

Social influence is the extent to which a person believes that others are significant and that they should use a new system (Venkatesh et al., 2003). Social influence refers to how the existing social environment affects an individual (Kumar et al., 2023). Recommendations and views of others can have some influence on a person's decisions and actions.

Research on the adoption of contact tracing applications with social influence variables shows that social influences such as colleagues, family, and peers significantly affect the adoption of these applications (Chopdar, 2022). Likewise, research on the use of web applications for daily needs also shows that the desire for web applications used by users is positively affected by social influences (Popova & Zagulova, 2022).

The research results on mobile banking adoption show that social influence is positively related to behavioral intentions (Al Tarawneh et al., 2023). Research on the adoption of social media banking conducted by Kumar et al. (2023) and Boontarig & Srisawatsakul also shows that social influence is a significant influence factor on the desire to adopt social media banking (Boontarig & Srisawatsakul, 2023).

In contrast, another study on digital banking adoption revealed no significant relationship between the adoption of digital banking and social influence (Nepal & Nepal, 2023). There is still uncertainty about the relationship between social influence and the adoption of digital banking.

Thus, this study wants to clarify the relationship between social influence and the intention to use digital-only bank applications. Therefore, the following hypothesis has been proposed:

H2: Social Influence positively affects the intention to use digital-only bank applications.

2.5. Hypotheses Development - Cues to Action

Cues to action are a facet of individual thinking in the Health Belief Model (HBM) theory. This theory is widely used in research on health-related behavior. Cues to action are stimuli that trigger the decision-making process to accept or change behavior; cues can come from internal or external sources.

Research on adult hesitancy to take the COVID-19 vaccine by Husted et al. (2023) uses cues to action, such as cues from disseminating information containing calls for vaccines and cues from known people, and results show that cues to action influence intent to do.

In terms of application adoption, Gumasing et al. (2022) research on the intention to use the application using cues to action factors proved that the cue to action was significantly related to the intention to adopt the application.

Unlike the previous opinion, the cues to action factor used by Alharbi et al. (2022) does not influence the intention to adopt the application.

Nevertheless, researchers have yet to find any research on banking app adoption that examines the relationship between cues to action factors and intent to adopt banking apps. Therefore, possible cues to action factors influence the intention to use digital-only bank applications.

H3: Cues to action positively affect the intention to use digital-only bank applications.

2.6. Hypotheses Development - Firm Reputation

Firm reputation is crucial since, before using the product, customers must have faith in the company (Windasari et al., 2022).

Companies with a good reputation are often more favored and, therefore, more likely to be trusted by consumers. In line with this, many studies have proven that consumers trust a good reputation. A good reputation has a positive relationship with consumer trust, indirectly affecting the intention to adopt mobile money (Osakwe et al., 2022).

Similar results are evidenced in research conducted by Windasari et al. (2022) on digital banking, where bank reputation significantly influences the intention to use digital banking.

Thus, it can be assumed that company reputation will likely influence the intention to use digital-only bank applications if respondents trust digital bank companies, including those related to data security. Therefore, the following hypothesis has been proposed:

H4: Firm reputation positively affects the intention to use digital-only bank applications.

2.7. Hypotheses Development - Habit

Habit is defined by Limayem, cited in Venkatesh et al. (2012), as the extent to which people tend to perform behaviors automatically because of learning. In social norms, habits are measured as part of an individual's drive to follow behavior. Opinion Ajzen & Madden, cited in Septiana et al. (2020) said that habits can build perceptions that reflect the results of previous experiences. Thus, habits are formed from knowledge, resulting from experience over time and can be an impetus for behavior.

Research on the use of e-commerce shows that habits are the most important predictor of the desire to use e-commerce (Higueras-Castillo et al., 2023), and research on the adoption of mobile banking by Septiana et al. (2020) reinforces that habits have a significant positive effect on mobile banking adoption. It indicates the possible influence of habits on the intention to use digital-only bank applications. Thus, the following hypothesis is proposed:

H5: Habit positively affects the intention to use digital-only bank applications.

2.8. Hypotheses Development - Age Generation

There are classifications of names and years of birth for representatives of a given generation. Examples of classifications of generations are Boomers, Generation X, Generation Y, or Millennials, and Generation Z. Every generation has its characteristics and attitudes.

Boomers have two different characteristics, meaning their values, attitudes, and behavioral patterns in markets change; some change from "traditional senior" to "modern high end." Generation X grew up with both parents in the workforce and was described as experiencing social insecurity, a rapidly changing environment, and a lack of solid traditions.

Generation Y, or Millennials, is characterized by confidence, belief in personal values and knowledge, change requirements, the will to develop, and excellent knowledge of the Internet and new technology.

Generation Z is a group of people who are highly educated, tech-savvy, innovative, and creative. It is the first generation born in a digital world to live their lives online.

Differences in characteristics and attitudes between generations form the basis for checking how they affect factors and the intention to use digital-only bank applications. Thus, the following hypothesis is proposed:

H6: Age generation moderates the relationship between effort expectancy and intention to use digital-only bank applications.

H7: Age generation moderates the relationship between social influence and intention to use digital-only bank applications.

H8: Age generation moderates the relationship between cues to action and intention to use digital-

only bank applications.

H9: Age generation moderates the relationship between a firm reputation and intention to use digital-only bank applications.

H10: Age generation moderates the relationship between habit and intention to use digital-only bank applications.

3. Research Methods

3.1. Model Building

Referencing the ideas from the prior section, the researchers developed a research-building model to determine the causes of the intention to use digital-only bank applications.

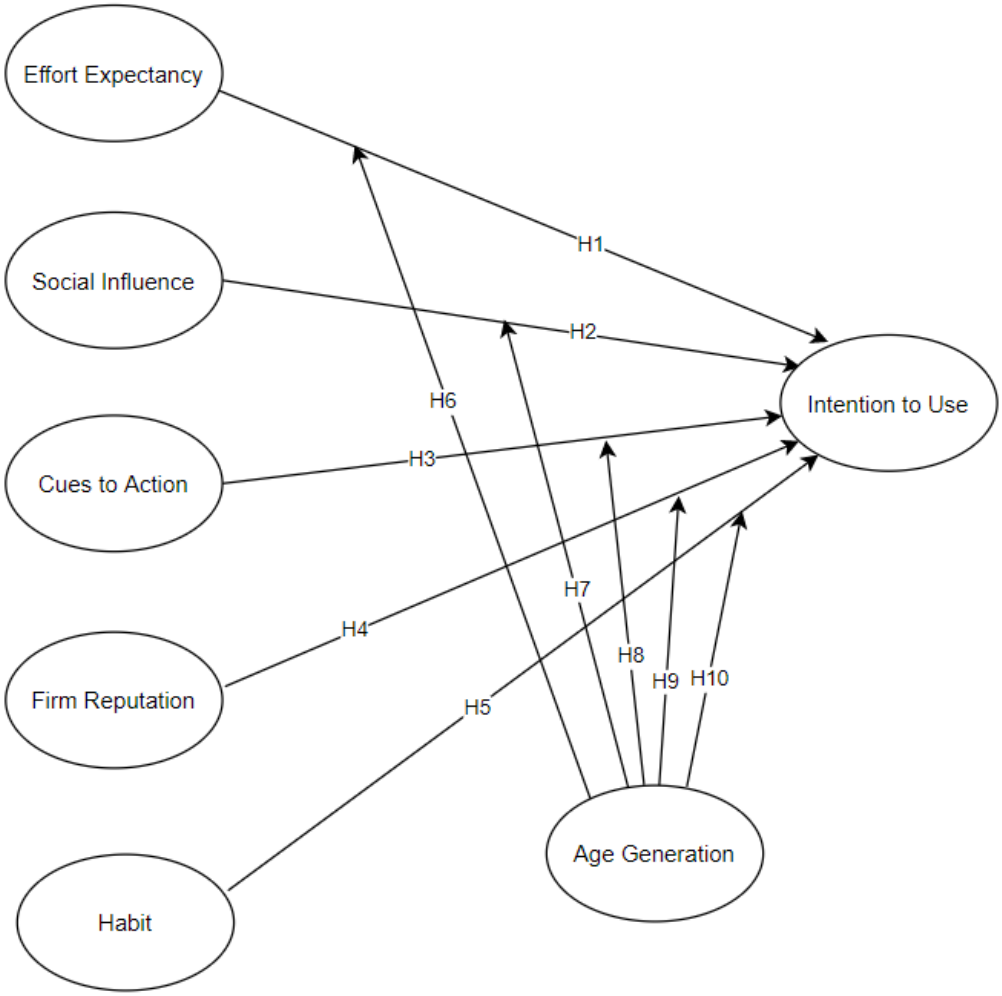

Fig. 2: Conceptual Framework

3.2. Data Source

In this research, there are two data sources: primary data and secondary data. The primary data were collected by distributing an online questionnaire. The sample in this study was made up of individuals aged 17 and older. To be a respondent to the survey, individuals must meet the criteria to open a digital bank account in Indonesia. This research has 112 respondents, which were obtained in June 2023. About 112 data points were deemed qualified, and any outliers were removed from the final dataset. Of the participants, 32.1% are female, 70.54% are undergraduate graduates, 49.1% are Gen X (43-58 years in 2023), 36.6% are Gen Y (27-42 years in 2023), 11.6 % are Gen Z (17-26 years in 2023), 2.7% gen

boomers (aged 59 and older in 2023), and 58% at Jakarta city.

Secondary data for this research was collected from journals, books, and articles. The data sampling method used in this research is simple random sampling, partial least squares SEM (Structural Equation Modeling), and the authors use WarpPLS 8.0 to test the hypotheses.

3.3. Analysis Design

The author considered multivariate statistical analysis in this research and used Structural Equation Modeling (SEM) and partial least squares (PLS) analysis to examine the relationship between variables. The authors evaluated the accuracy of their proposed research model with the SEM-PLS technique, which is based on the combination of dependence and interdependence to examine the link among multiple variables.

The survey was divided into two sections: demographic information and measurement items. There are 19 measurement items, as demonstrated in Table 1, which were graded on a 5-point Likert scale ranging from strongly disagree = 1 to agree = 5 strongly.

The authors employed WarpPLS 8.0 as a statistical tool to test the hypotheses.

Table 1: Construct Measures with Sources

Construct	Item	Question	References
Effort Expectancy (EE)	EE1	It is easy to learn to use digital-only bank apps	(Higueras-Castillo et al., 2023)
	EE2	It is clear and understandable when interacting with digital-only bank apps.	
	EE3	Easy-to-use digital-only bank apps	
Social Influence (SI)	SI1	People think that I should use a digital-only bank app	(Higueras-Castillo et al., 2023)
	SI2	People I trust think that I should use a digital-only app	
	SI3	People around me using digital-only apps	(Chopdar, 2022)
Cues to Action (CA)	CA1	Would you consider using a digital-only app if you are well-informed	(Mohammed et al., 2022)
	CA2	Knowing that many people are already using digital-only apps	
	CA3	Get attractive special promotions	Researcher Development
	CA4	Tempted by promos or discounts that require using digital-only apps	(Mahmudiono et al., 2022)
Firm Reputation (FR)	FR1	Companies that support digital-only banks have a good reputation	(Windasari et al., 2022)
	FR2	The name of the company that supports the digital-only bank is well-known	
	FR3	Trust in digital-only bank companies	(Farooq et al., 2021)
Habit (HB)	HB1	Online shopping is a habit	(Higueras-Castillo et al., 2023)
	HB2	Don't like queuing at the bank	Researcher Development

	HB3	Using a digital-only bank app will become a habit	(Chou & Hsu, 2016; Schretzlmaier et al., 2022; Wang et al., 2022)
Intention to Use (IU)	IU1	Immediately use a digital-only bank app	(Higueras-Castillo et al., 2023)
	IU2	Try to use a digital-only bank app in my daily life	
	IU3	Plan to use a digital-only app regularly.	

4. Result and Discussion

Multiple linear regression was utilized to analyze the data in this study. For the measurement model, researchers used the findings of cross-loading, Composite Reliability (CR), Cronbach Alpha (CA), and Average Variance Extracted (AVE) for reflective variables. Researchers use the variance inflation factor (VIF) and statistical significance for the formative variable. According to (Hair et al., 2019, 2020, 2021), the value of Cross-Loading should be greater than .708, Composite Reliability (CR) should be greater than .7, Cronbach's Alpha (CA) should be greater than .7, and Average Variance Extracted (AVE) should be greater than .5. To measure formative variable, the variance inflation factor (VIF) should below 5, and statistical significance is P < .05 (Amora, 2023).

Table 2: Results for the Measurement Model

Variables	Indicator	Indicator Loadings	VIF	P-value	Composite Reliability	Cronbach's alpha	AVE
Effort Expectancy (EE) (reflective)	EE1	.936			.956	.931	.879
	EE2	.950					
	EE3	.927					
Social Influence (SI) (reflective)	SI1	.906			.927	.881	.808
	SI2	.931					
	SI3	.859					
Cues to Action (CA) (formative)	CA1	-	2.320	< .001	-		-
	CA2	-	2.303	< .001			
	CA3	-	3.037	< .001			
	CA4	-	2.512	< .001			
Firm Reputation (FR) (reflective)	FR1	.920			.929	.886	.814
	FR2	.905					
	FR3	.882					
Habit (HB) (reflective)	HB1	.781			.836	.706	.630

	HB2	.774					
	HB3	.824					
Intention to Use (IU) (reflective)	IU1	.932			.966	.947	.905
	IU2	.971					
	IU3	.951					

From Table 2, the values of the loading factor of each reflective construct indicator range from .774 to .971 and meet specific standards greater than .708, which means 15 indicators are acceptable.

The composite reliability (CR) values that are shown in the table above are above level .7 and range between .836 and .966, which is acceptable. The Cronbach‘s alpha (CA) values in Table 2 show that all reflective constructs are above .7, and their values range between .706 and .947, which is acceptable.

The Average Variance Extracted (AVE) in Table 2 shows that all reflective constructs have values greater than .5 and range from .630 to .905. That means the Average Variance Extracted (AVE) is accepted.

The Cues to Action variable is a formative construct; from Table 2, the variance inflation factor (VIF) values for all CA indicators are below 5, and the statistical significance $P < .001$, which is accepted.

After confirming the validity and reliability of the indicators, the process continues to test the hypothesis and run SEM analysis on WarpPLS with PLS Regression as the outer model analysis algorithm, Warp3 as the inner model analysis algorithm, and the resampling method Stable3 using 112 samples. Using guides from Amora and Kock, The hypothesis will be significant if the path coefficient is less than .05 (Amora, 2023; Kock, 2022).

Table 3: Outcomes of the Path Analysis

Path	Beta	P-Value	Result
Effort Expectancy → Intention to Use	.069	.23	Non-Significant
Social Influence → Intention to Use	.117	.10	Non-Significant
Cues to Action → Intention to Use	.553	<.01	Significant
Firm Reputation → Intention to Use	.108	.12	Non-Significant
Habit → Intention to Use	.268	<.01	Significant
Age Generation * Effort Expectancy → Intention to Use	-.013	.45	Non-Significant
Age Generation * Social Influence → Intention to Use	.003	.49	Non-Significant
Age Generation * Cues to Action → Intention to Use	.081	.19	Non-Significant
Age Generation * Firm Reputation → Intention to Use	-.085	.18	Non-Significant
Age Generation * Habit → Intention to Use	.200	.01	Significant

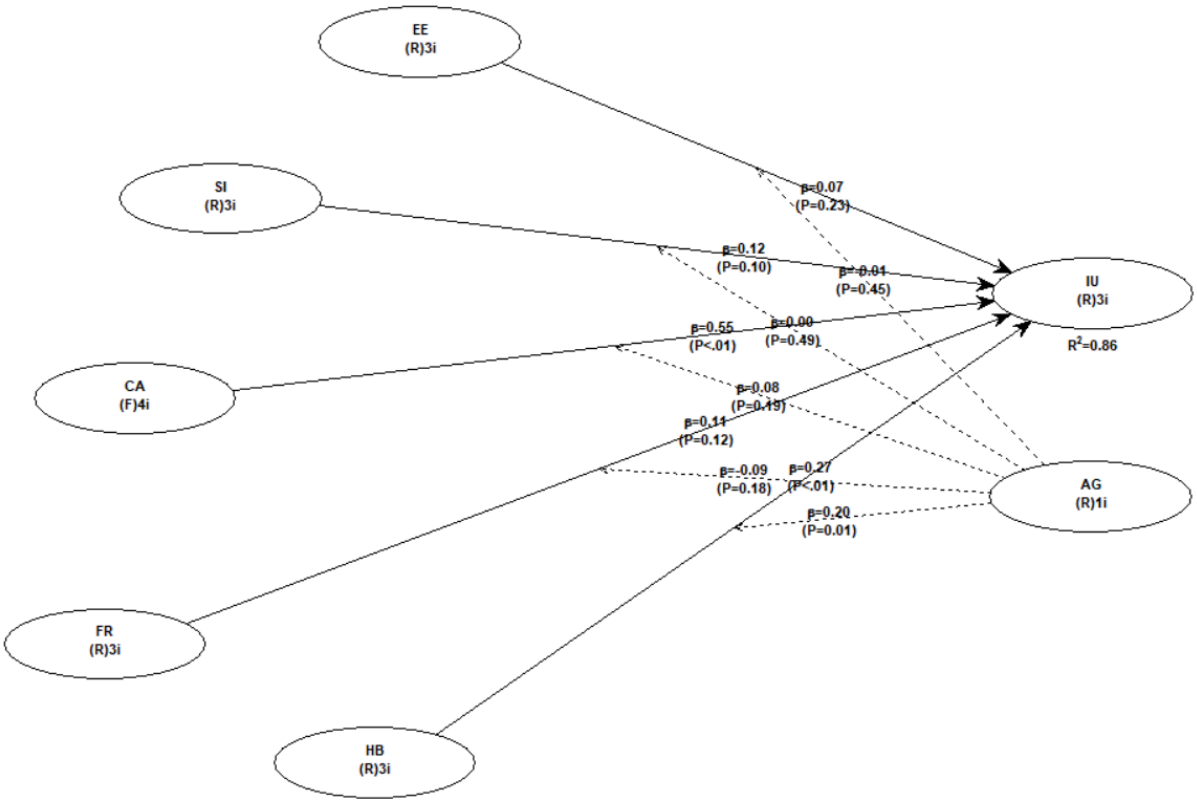

Fig. 3: Result of SEM Analysis using WarpPLS 8.0. Key: IU: Intention to Use digital-only bank apps; EE: Effort Expectancy; SI: Social Influence; CA: Cues to Action; FR: Firm Reputation; HB: Habit; AG: Age Generation

Table 4: Summary of Findings and Hypotheses Result

Hypotheses	Relationship	Result
H1	Effort Expectancy → Intention to Use	Not Supported
H2	Social Influence → Intention to Use	Not Supported
H3	Cues to Action → Intention to Use	Supported
H4	Firm Reputation → Intention to Use	Not Supported
H5	Habit → Intention to Use	Supported
H6	Age Generation * Effort Expectancy → Intention to Use	Not Supported
H7	Age Generation * Social Influence → Intention to Use	Not Supported
H8	Age Generation * Cues to Action → Intention to Use	Not Supported
H9	Age Generation * Firm Reputation → Intention to Use	Not Supported
H10	Age Generation * Habit → Intention to Use	Supported

Referring to the hypotheses proposed in the study, researchers find that effort expectancy, social influence, cues to action, firm reputation, and habit positively affect the intention to use digital-only bank apps. However, only cues to action and habit have a significant influence (see Table 3). Therefore, hypotheses H3 and H5 are supported (see Table 4). In contrast, the coefficient values for effort expectancy, social influence, and firm reputation are not significant, and thus, our hypotheses H1, H2, and H4 are not supported.

Furthermore, researchers find that age generation only significantly moderates the relationship between habit and intention to use digital-only bank applications. Therefore, hypothesis H10 is supported and H6, H7, H8, H9 are not supported.

These results demonstrate that cues to action had the strongest impact on the prospective customers' intention to adopt digital-only bank apps; this provides a new research direction, and habit also had a strong impact, which supports the existing literature on the adoption of mobile banking and technology acceptance contexts (Higueras-Castillo et al., 2023; Septiana et al., 2020).

Prospective customers would be encouraged to use digital-only bank apps. If they could be stimulated to take action, with experience in online shopping habits, sufficient information, and a dislike of queues at traditional banks, they would switch to digital-only bank apps.

Gen Boomers need help understanding, using, and interacting with digital-only bank apps. App utilization is difficult for Gen Boomers. They are less willing to move to digital-only bank apps since they need to have online shopping habits. Meanwhile, Gen Z is the most open and active user of digital-only bank apps. They are accustomed to using technology because they were raised online. In addition to their online shopping habits, they are also easily influenced, and if stimulated, they will move to utilize digital banking services.

Gen X and Gen Y also are refined understanding, using, and interacting with digital-only bank apps. They will use digital bank apps if they get sufficient information; many people around them use digital-only bank apps, so they feel it is time to switch to digital bank apps.

5. Conclusions

5.1. Theoretical Implications

The rise of digital banking has disrupted the banking sector. Although many traditional bank customers feel they must refrain from using digital-only bank services, opportunities in this sector are expected to increase annually. The fact that all services are provided through online platforms for digital-only banks makes traditional bank customers doubt their services.

Therefore, this study aimed to determine the intention to use digital-only bank apps, especially in Indonesia.

The results of this study have theoretical implications:

- Cues to Action significantly impact intentions to use digital-only bank apps; that means customers or prospective customers would be encouraged to use digital-only bank apps if they could be stimulated to take action, such as by being well-informed.
- Digital banks should develop targeted promotional strategies providing clear cues to motivate app usage among distinct generational segments.
- Habit has a significant impact on intentions to use digital-only bank apps; that means customers or prospective customers would be encouraged to use digital-only bank apps as they are addicted to the experience of online shopping habits and dislike some services from traditional banks, like queues at traditional banks.
- Messaging leveraging online shopping habits may resonate more with digital native cohorts.

5.2. Practical Implication

Companies in the digital-only banking sector can use the results of this research to convince customers to use their services, such as digital-only bank apps. By enhancing their services with stimuli for Cues to Action and Habit, digital-only banks could increase the number of people who intend to use their apps.

Based on the results of this study, digital-only banks can set up a booth or station with promotional agents close to a well-known crowded business store to provide potential consumers with perfect information. Digital banks should be close to potential customers, stimuli cues to Action for potential customers. Thus, it is expected that prospective customers will use digital bank applications.

Digital-only banks can also use these research findings to improve their ideas and knowledge on how to gain more digital-only bank app users in the 4.0 era.

5.3. Limitations and Recommendations for Future Research

This study has limitations. Although the study started with exploratory research to obtain the factors and validate them through surveys in Indonesia, not all cities in Indonesia have respondents willing to participate in this survey. Therefore, future research should include all cities in Indonesia in its investigations.

Limitations of the small sample size from select Indonesian cities restrict generalizability. Future research could survey a more extensive, nationally representative sample to validate findings.

Another limitation is that actual customer behavior towards digital-only banks in Indonesia may change over time. The widespread adoption of digital-only banks could impact and change customer behavior. Therefore, a future investigation is required to determine whether adoption's effects vary over time to maintain the long-term viability of digital-only banks in Indonesia.

Another possible area of future research is examining security issues and perceived risks and measuring customer engagement to retain customers' continued use.

References

Al Tarawneh, M. A., Nguyen, T. P. L., Yong, D. G. F., & Dorasamy, M. A. (2023). Determinant of M-Banking Usage and Adoption among Millennials. Sustainability (Switzerland), 15(10). https://doi.org/10.3390/su15108216

Alharbi, N. S., Alghanmi, A. S., & Fahlevi, M. (2022). Adoption of Health Mobile Apps during the COVID-19 Lockdown: A Health Belief Model Approach. International Journal of Environmental Research and Public Health, 19(7). https://doi.org/10.3390/ijerph19074179

Amiri, M., Hashemi-Tabatabaei, M., Keshavarz-Ghorabaee, M., Antucheviciene, J., Šaparauskas, J., & Keramatpanah, M. (2023). Evaluation of Digital Banking Implementation Indicators and Models in the Context of Industry 4.0: A Fuzzy Group MCDM Approach. Axioms, 12(6), 516. https://doi.org/10.3390/axioms12060516

Amora, J. T. (2023). On the validity assessment of formative measurement models in PLS-SEM. Analysis Perspectives Journal, 4(2), 1–7. https://www.scriptwarp.com,

Asif, M., Khan, M. A., Alhumoudi, H., & Wasiq, M. (2023). Examining the Role of Self-Reliance, Social Domination, Perceived Surveillance, and Customer Support with Respect to the Adoption of Mobile Banking. International Journal of Environmental Research and Public Health, 20(5). https://doi.org/10.3390/ijerph20053854

Boontarig, W., & Srisawatsakul, C. (2023). Social Media Banking Adoption Among Teenagers: A Case Study of Northeast Thailand. ICIC Express Letters, 17(2), 245–254. https://doi.org/10.24507/icicel.17.02.245

Chopdar, P. K. (2022). Adoption of Covid-19 contact tracing app by extending UTAUT theory: Perceived disease threat as moderator. Health Policy and Technology, 11(3), 100651. https://doi.org/10.1016/J.HLPT.2022.100651

Chou, S. W., & Hsu, C. S. (2016). Understanding online repurchase intention: social exchange theory and shopping habit. Information Systems and E-Business Management, 14(1), 19–45. https://doi.org/10.1007/s10257-015-0272-9

DSInnovate. (2021). The Convergence of (Digital) Financial Services Fintech Report 2021.

Farooq, A., Dubinina, A., Virtanen, S., & Isoaho, J. (2021). Understanding dynamics of initial trust and its antecedents in password managers adoption intention among young adults. Procedia Computer Science, 184, 266–274. https://doi.org/10.1016/j.procs.2021.03.036

Gumasing, M. J. J., Prasetyo, Y. T., Persada, S. F., Ong, A. K. S., Young, M. N., Nadlifatin, R., & Redi, A. A. N. P. (2022). Using Online Grocery Applications during the COVID-19 Pandemic: Their Relationship with Open Innovation. Journal of Open Innovation: Technology, Market, and Complexity, 8(2). https://doi.org/10.3390/joitmc8020093

Hair, J. F., Howard, M. C., & Nitzl, C. (2020). Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. Journal of Business Research, 109, 101–110. https://doi.org/10.1016/j.jbusres.2019.11.069

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2021). Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R. http://www.

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. European Business Review, 31(1), 2–24. https://doi.org/10.1108/EBR-11-2018-0203

Hammouri, Q., Aloqool, A., Saleh, B. A., Aldossary, H., Al Frejat, S. Y., Halim, M., Almajali, D. A., Al-Gasawneh, J. A., & Darawsheh, S. D. R. (2023). An empirical investigation on acceptance of e-wallets in the fintech era in Jordan: Extending UTAUT2 model with perceived trust. International Journal of Data and Network Science, 7(3), 1249–1258. https://doi.org/10.5267/j.ijdns.2023.4.013

Higueras-Castillo, E., Liébana-Cabanillas, F. J., & Villarejo-Ramos, Á. F. (2023). Intention to use e-commerce vs physical shopping. Difference between consumers in the post-COVID era. Journal of Business Research, 157, 113622. https://doi.org/10.1016/J.JBUSRES.2022.113622

Hilal, A., & Varela-Neira, C. (2022). Understanding Consumer Adoption of Mobile Banking: Extending the UTAUT2 Model with Proactive Personality. Sustainability (Switzerland), 14(22). https://doi.org/10.3390/su142214708

Husted, M., Gibbons, A., Cheung, W. Y., & Keating, S. (2023). COVID-19 Vaccination Hesitancy in Adults in the United Kingdom: Barriers and Facilitators to Uptake. Health Psychology. https://doi.org/10.1037/HEA0001256

Kock, N. (2022). WarpPLS User Manual: Version 8.0. www.scriptwarp.com

Kumar, R., Singh, R., Kumar, K., Khan, S., & Corvello, V. (2023). How Does Perceived Risk and Trust Affect Mobile Banking Adoption? Empirical Evidence from India. Sustainability (Switzerland), 15(5). https://doi.org/10.3390/su15054053

Mahmudiono, T., Rachmah, Q., Indriani, D., Permatasari, E. A., Hera, N. A., & Chen, H. L. (2022). Food and Beverage Consumption Habits through the Perception of Health Belief Model (Grab Food or Go Food) in Surabaya and Pasuruan. Nutrients, 14(21). https://doi.org/10.3390/NU14214482

Mohammed, A. H., Hassan, B. A. R., Wayyes, A. M., Gadhban, A. Q., Blebil, A., Alhija, S. A., Darwish, R. M., Al-Zaabi, A. T., Othman, G., Jaber, A. A. S., Al Shouli, B. A., Dujaili, J., Al-Ani, O. A., &

Muthanna, F. M. S. (2022). Parental health beliefs, intention, and strategies about covid-19 vaccine for their children: A cross-sectional analysis from five Arab countries in the Middle East. Vaccine, 40(45), 6549–6557. https://doi.org/10.1016/J.VACCINE.2022.09.052

Musyaffi, A. M., Johari, R. J., Rosnidah, I., Respati, D. K., Wolor, C. W., & Yusuf, M. (2022). Understanding Digital Banking Adoption During Post-Coronavirus Pandemic: An Integration of Technology Readiness and Technology Acceptance Model. TEM Journal, 11(2), 683–694. https://doi.org/10.18421/TEM112-23

Nepal, S., & Nepal, B. (2023). Adoption of Digital Banking: Insights from a UTAUT Model. Journal of Business and Social Sciences Research, 8(1), 17–34. https://doi.org/10.3126/jbssr.v8i1.56580

Osakwe, C. N., Okeke, T. C., & Kwarteng, M. A. (2022). Trust building in mobile money and its outcomes. European Business Review, 34(2), 244–262. https://doi.org/10.1108/EBR-09-2020-0221

Pham, A. H. T., Pham, D. X., Thalassinos, E. I., & Le, A. H. (2022). The Application of Sem–Neural Network Method to Determine the Factors Affecting the Intention to Use Online Banking Services in Vietnam. Sustainability (Switzerland), 14(10). https://doi.org/10.3390/su14106021

Popova, Y., & Zagulova, D. (2022). UTAUT Model for Smart City Concept Implementation: Use of Web Applications by Residents for Everyday Operations. Informatics, 9(1). https://doi.org/10.3390/informatics9010027

Populix. (2022). Consumer Preference Towards Banking and E-Wallet Apps.

Rahman, D. F., & Yudhistira, A. W. (2022). Bank Digital Berat di Awal, Berbuah Efisiensi di Masa Depan - Analisis Data Katadata. https://katadata.co.id/ariayudhistira/analisisdata/6319b657394dc/bank-digital-berat-di-awal-berbuah-efisiensi-di-masa-depan

Saif, M. A. M., Hussin, N., Husin, M. M., Alwadain, A., & Chakraborty, A. (2022). Determinants of the Intention to Adopt Digital-Only Banks in Malaysia: The Extension of Environmental Concern. Sustainability (Switzerland), 14(17). https://doi.org/10.3390/su141711043

Schretzlmaier, P., Hecker, A., & Ammenwerth, E. (2022). Extension of the Unified Theory of Acceptance and Use of Technology 2 model for predicting mHealth acceptance using diabetes as an example: a cross-sectional validation study. BMJ Health and Care Informatics, 29(1). https://doi.org/10.1136/bmjhci-2022-100640

Septiana, I., Salim, M., & Daulay, M. Y. I. (2020). Analysis the Effect of Habit and Perceived Enjoyment Mediated by Behavioural Intention to Adoption on Students using Mobile Banking BNI. Managament Insight: Jurnal Ilmiah Manajemen, 15(1), 78–94. https://doi.org/10.33369/insight.15.1.78-94

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. MIS Quarterly: Management Information Systems, 27(3), 425–478. https://doi.org/10.2307/30036540

Venkatesh, V., Walton, S. M., Thong, J. Y. L., & Xu, X. (2012). Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology. In MIS Quarterly (Vol. 36, Issue 1). http://ssrn.com/abstract=2002388

Wang, F., Wijaya, T. T., Habibi, A., & Liu, Y. (2022). Predictors Influencing Urban and Rural Area students to Use Tablet Computers as Learning Tools: Combination of UTAUT and TTF Models. Sustainability (Switzerland), 14(21). https://doi.org/10.3390/su142113965

Windasari, N. A., Kusumawati, N., Larasati, N., & Amelia, R. P. (2022). Digital-only banking experience: Insights from gen Y and gen Z. Journal of Innovation and Knowledge, 7(2). https://doi.org/10.1016/j.jik.2022.100170

Yuniarty, Ngatindriatun, Sriwidadi, T., Wijaya, D. I., Desak, F. P., Sukmandhani, A. A., Sari, N., & Marsintauli, F. (2023). The Effect of Extended UTAUT Model on Community Service Web Application Adoption. ICIC Express Letters, Part B: Applications, 14(2), 201–209. https://doi.org/10.24507/icicelb.14.02.201

Zhu, Y., & Jin, S. (2023a). COVID-19, Digital Transformation of Banks, and Operational Capabilities of Commercial Banks. Sustainability (Switzerland), 15(11). https://doi.org/10.3390/su15118783

Zhu, Y., & Jin, S. (2023b). How Does the Digital Transformation of Banks Improve Efficiency and Environmental, Social, and Governance Performance? Systems, 11(7), 328. https://doi.org/10.3390/systems11070328