Analysis of Factors Influencing the Adoption of Digital Banking Applications Based on The UTAUT2 Model

M A Fakhran[1], I Surjandari[2]

[1,2]Industrial Engineering Department, Faculty of Engineering, Universitas Indonesia, Kampus UI Depok, Indonesia
[1]muhammad.awal11@ui.ac.id, [2]isti@ie.ui.ac.id

Abstract. Digital banking services are becoming increasingly popular in Indonesia, as they offer convenient and efficient ways for consumers to manage their financial transactions. However, the adoption of these services varies among individuals, and it is important to understand factors that influence this variation. The Unified Theory of Acceptance and Use of Technology (UTAUT2) model provides a framework for understanding how factors such as performance expectancy, effort expectancy, social influence, and facilitating conditions impact a user's intention to use technology. In this study, we aim to examine the relationships between these variables and the adoption of digital banking services in Indonesia, with a particular focus on the impact of security on adoption. We have added security as an additional variable in our analysis. Data were collected from a sample of 41 individuals using an online survey and analysed using structural equation modelling (SEM) or partial least squares (PLS). Our findings will contribute to the existing body of knowledge on the adoption of digital banking services in Indonesia, and it will have implications for the design and marketing of these services in the Indonesian market, particularly with regard to the importance of security in the adoption process.

Keywords: Digital Banking, UTAUT2, Acceptance, Financial Technology, Financial Innovation, Banking Technology

24. Introduction

The rapid advancement of digital technology has greatly impacted the banking industry, and Indonesia is no exception. As more and more Indonesian consumers turn to online and mobile platforms for their financial transactions, traditional brick-and-mortar banks are facing increased pressure to adapt and innovate. This research also explore the current state of digital banking in Indonesia, examining the challenges and opportunities that have emerged in the country's rapidly evolving financial landscape. We will also examine the role of the Bank of Indonesia, Indonesia's central bank, in supporting the financial digitalization of the country. This includes a discussion of the various initiatives and regulations put in place by the Bank of Indonesia to promote the adoption of digital financial services and their potential impact on the development of digital banking in Indonesia. By providing a comprehensive overview of digital banking in Indonesia, with a focus on the role of the Bank of Indonesia, this paper aims to contribute to a better understanding of the challenges and opportunities facing banks in the country as they navigate the digital age.

The Central Bank of Indonesia (Bank Indonesia) has played a key role in supporting the national non-cash movement (Gerakan Nasional Non-Tunai) in the country. The Gerakan Nasional Non-Tunai is a government-led initiative to increase the use of non-cash payment methods, such as debit and credit cards, mobile payments, and electronic funds transfer, in Indonesia. The goal of the movement is to improve the efficiency and security of financial transactions, as well as to reduce the reliance on cash and promote financial inclusion.

Bank Indonesia has implemented various policies and initiatives to support the Gerakan Nasional Non-Tunai. These include the issuance of regulations and guidelines on non-cash payment systems, the establishment of a national payment gateway, and the promotion of financial literacy and education programs. By providing a comprehensive overview of Bank Indonesia's efforts to promote the adoption of non-cash payment methods in Indonesia, this research aims to contribute to a better understanding of the key factors driving the development of digital banking in Indonesia. Specifically, the objective of this research is to investigate the relationship among variables associated with the adoption of digital banking services in Indonesia using UTAUT2 Model. This is ongoing research, so in this paper we will discuss the UTAUT2 model along with the variables used in the model, the questionnaire along with the results of the validity and reliability tests from the questionnaire, as well as demographic data from the respondents.

25. Methodology

The UTAUT2 (Unified Theory of Acceptance and Use of Technology 2) method is a widely used framework for understanding and predicting the acceptance and use of technology. It is based on the original UTAUT model [1] and has been modified and expanded to include additional constructs that are relevant to the acceptance and use of technology [2].

The UTAUT2 model consists of eight constructs: Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Behavioural Intention, Hedonic Motivation, Price Value, and Habit. Performance expectancy refers to the belief that using technology will help an individual achieve their goals, effort expectancy refers to the perceived ease of use of technology, social influence refers to the influence of others on an individual's decision to use technology, facilitating conditions refers to the presence of resources and support that facilitate the use of technology, behavioural intention refers to an individual's intention to use technology, hedonic motivation refers to the pleasure or enjoyment that a user derives from using a technology, price value refers to the perceived value or worth of a technology in terms of its cost or the benefits it provides, and habit refers to the repetitive use of a technology, which can become automatic over time.
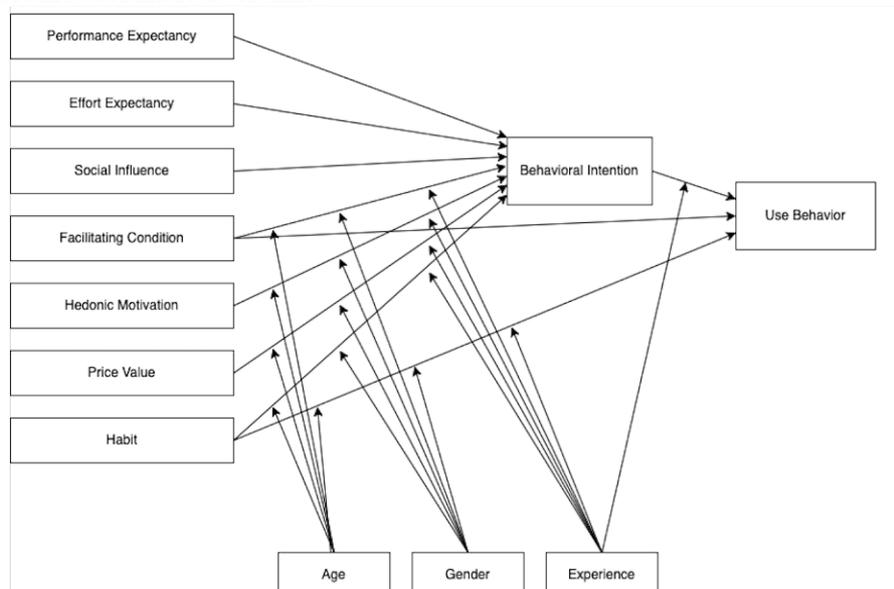

Figure 1. UTAUT2 Model

The UTAUT2 model has been applied in a variety of contexts, including in the field of digital banking. For example, [3] applied the UTAUT2 model to investigate the determinants of digital banking services in Vietnam. The study found that performance expectancy, effort expectancy, and social influence were

the main predictors of intention to use digital banking services. The results of the study have implications for the design and marketing of digital banking services in Vietnam and can inform efforts to promote the adoption of these services. Similarly, [4] conducted a study that aimed to identify the factors that influence consumers' intent to install mobile applications. The study applied the UTAUT2 framework to understand the drivers of intention to install mobile apps, and found that performance expectancy, social influence, and facilitating conditions were the significant predictors of the intention to install mobile apps. The researchers also added perceived security as a construct in UTAUT2 model which can be found in the literature as an important factor in mobile app adoption, as it address to the user's security concerns and may be a key in understanding and predicting the behaviour of mobile app users. The research can provide valuable insights for app developers and marketers to design and market mobile apps that addresses the perceived security and other factors that are important in determining the user's intentions.

The present study employed a quantitative research design to examine the factors influencing the adoption of digital banking services in Indonesia. Data were collected using an online survey, which was administered to a sample of 41 individuals in Indonesia who had experience using digital banking services. The sample was selected using a sampling approach. The survey instrument consisted of a series of questions designed to measure the eight constructs of the UTAUT2 model: Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Behavioural Intention, Hedonic Motivation, Price Value, and Habit. In addition, security was included as a separate construct in the survey instrument, with questions designed to measure respondents' perceptions of the security of digital banking services.

The survey questions were developed based on the measurement scales used in previous studies that have applied the UTAUT2 model in the context of digital banking [3] [4]. The survey questions were pilot tested with a sample of 41 individuals. The survey was administered using an online survey platform, and the responses were collected and analysed using statistical software. Data are analysed using regression analysis, with the adoption of digital banking services as the dependent variable and the eight constructs of the UTAUT2 model, as well as security, as the independent variables. The regression analysis was conducted to identify the relative importance of each construct in predicting the adoption of digital banking services in Indonesia. In addition, a reliability analysis was conducted to ensure the internal consistency of the survey questions.

Overall, the present study aims to provide a comprehensive analysis of the factors influencing the adoption of digital banking services in Indonesia, using the UTAUT2 model as the theoretical framework. By examining the relative importance of each construct, including security, in predicting the adoption of digital banking services, the study aims to contribute to a better understanding of the key drivers of digital banking adoption in Indonesia and inform the development of strategies to promote the adoption of digital banking services in the country.

Table 1. UTAUT2 Constructs and Security in the Adoption of Digital Banking Services

Construct	Definition
Performance Expectancy (PE)	The belief that using technology will help an individual achieve their goals.
Effort Expectancy (EE)	The perceived ease of use of technology.
Social Influence (SI)	The influence of others on an individual's decision to use technology.
Facilitating Conditions (FC)	Associations represent the potential to connect users to branded apps and are displayed in the context of branded apps via connectivity.

Habit (HT)	The automatic engagement in a behaviour or use of technology without conscious thought and is a predictor of continued use that is influenced by factors such as frequency of use, ease of use, and perceived usefulness.
Hedonic Motivation (HM)	The enjoyment or pleasure that an individual derives from using a technology, and is a predictor of intention to use a technology.
Price Value (PV)	The perceived cost-benefit ratio of using a technology, and is a predictor of intention to use a technology. It is influenced by factors such as the perceived price of the technology, the perceived benefits of using the technology, and the perceived costs of using the technology.
Security (SC)	An individual's perception of the security of the technology.
Behaviour Intention (BI)	The degree to which an individual is likely to adopt and use a technology.

26. Result and discussion

Digital banking services are increasingly popular among consumers, and understanding the demographics and usage patterns of these services can inform the design and marketing of these services. In this ongoing research study, we surveyed 41 individuals who use digital banking services and collected data on their demographics, including age group (Gen Z, Millennials, Gen X), gender, and length of time using digital banking services. The results of the survey showed that 65.9% of respondents were Gen Z, 22% were Millennials, and 12.2% were Gen X.
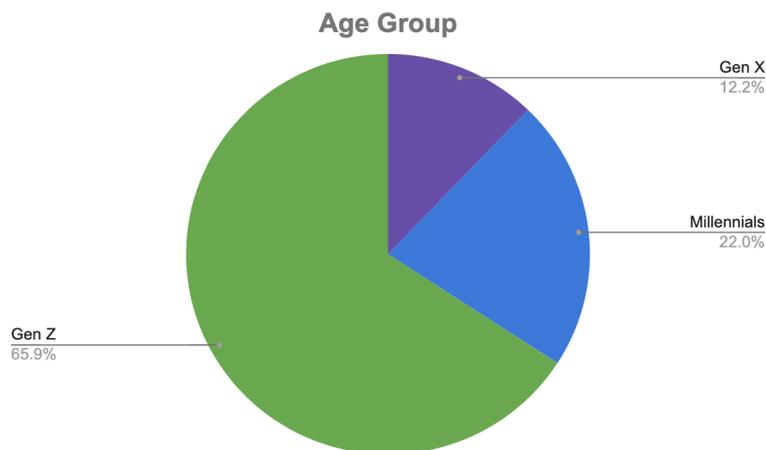

Age Group

Gen X
12.2%

Millennials
22.0%

Gen Z
65.9%

Figure 2. Age Group

The gender breakdown was 53.7% male and 46.3% female. In terms of usage patterns, 4.9% of respondents had been using digital banking services for less than 3 months, 12.2% had been using them for 4-8 months, 39% had been using them for 9-12 months, and 43.9% had been using them for more than 1 year. These findings provide insights into the characteristics of digital banking users and can inform the design and marketing of these services.
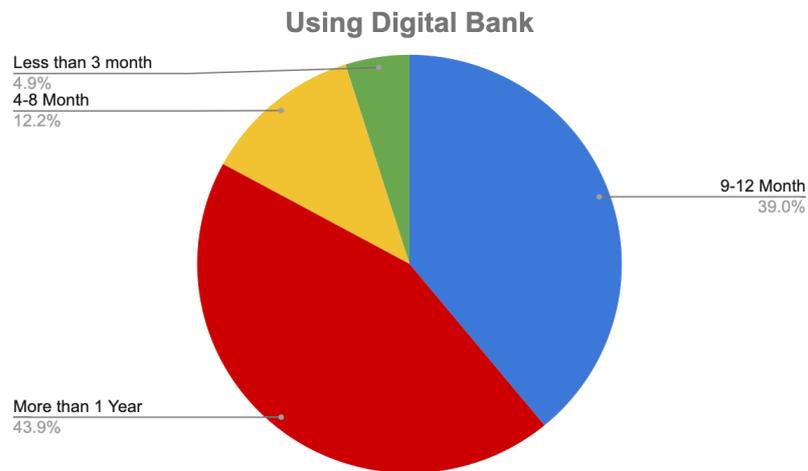
Figure 3. Respondent had been using Digital Banking

Overall, our results suggest that digital banking services are popular among young consumers in Indonesia, with a relatively even gender distribution. In terms of usage patterns, a significant proportion of respondents have been using digital banking services for more than a year, indicating a high level of adoption and satisfaction with these services. Further research is needed to confirm and extend these findings, but they provide a useful starting point for understanding the adoption of digital banking services in Indonesia.

The values of the average variance extracted (AVE), Cronbach's alpha (CA), and composite reliability (CR) are often used to assess the reliability and validity of the measurement model.

Table 2. Evaluation of scales for reliability and convergent validity

Variable	CA	CR	AVE
Performance Expectancy(PE)	0.799	0.858	0.602
Effort Expectancy (EE)	0.794	0.874	0.634
Social Influence (SI)	0.807	0.801	0.574
Facilitating Conditions (FC)	0.803	0.839	0.569
Hedonic Motivation (HM)	0.782	0.810	0.588
Price Value (PV)	0.783	0.808	0.587
Habit (HT)	0.779	0.905	0.705
Security (SC)	0.783	0.866	0.617
Behaviour Intention (BI)	0.787	0.755	0.507

According to the convergent validity, the model can be considered valid as demonstrated by the average variance extracted (AVE) values, which are all above 0.5 [5]. Additionally, all the values for Cronbach's alpha (CA) and composite reliability (CR) are also above 0.5 and 0.7 respectively, indicating that all the latent variables have met the criteria [5] [6].

27. Conclusions

In this ongoing research study, we surveyed 41 individuals in Indonesia who use digital banking services in order to investigate the factors that influence the adoption of these services. Using the Unified Theory of Acceptance and Use of Technology (UTAUT2) model as a framework, we collected data on variables such as performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, habit, price value, security, behaviour intention.

Our findings have implications for the design and marketing of digital banking services in Indonesia and can support the national non-cash movement (Gerakan Nasional Non Tunai) by providing insights into the factors that influence the adoption of these services. Further research is needed to confirm and extend our findings, but our results provide a useful starting point for understanding the adoption of digital banking services in Indonesia.

28. References

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