

A Study on the Antecedents of Cardless Withdrawal Adoption at Bank Syariah Indonesia from the Perspective of Generation Z in Yogyakarta Special Region

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Abstract

Background: The development and growth of technology in the banking sector, especially in sharia banking services, has a significant impact on consumer behavior, especially among the younger generation/generation Z

Objectives: This research aims to determine the factors that influence adoption cardless withdrawal Indonesian sharia bank through the perspective of generation Z D.I.Yogyakarta through approach Technology Acceptance Model 3 (TAM 3).

Novelty: The novelty in this research lies in the development of a more comprehensive and specific technology acceptance evaluation model, namely by application *Technology Acceptance Model* (TAM) in context *Cardless Withdrawal* on the BSI application *mobile banking*

Research Methodology / Design: In designing this study, the approach applied was a quantitative method. This research was distributed using an online questionnaire in the form of Google Form to 168 respondents who are Generation Z users of the cash withdrawal feature without a BSI card Mobile banking. The data collected was then processed using the SmartPLS 3.0 application for statistical analysis.

Findings: The research results show that seven of the eight variables have a positive influence on the adoption of the cardless cash withdrawal feature, while one variable, namely computer anxiety, has a negative influence on the perception of ease of use. These findings indicate that although these features are generally well received by users, certain factors such as technology anxiety remain barriers that need to be overcome.

Implication: Theoretically, this research enriches the literature on technology adoption in the Islamic banking sector with empirical evidence regarding the effectiveness of the cardless cash withdrawal feature. Practically, these results can be used by Bank Syariah Indonesia and other financial institutions to improve marketing and product development strategies, as well as to overcome obstacles faced by users in adopting this technology. Thus, this research helps encourage wider and more effective adoption of digital banking technology.

Keywords:

Cardless withdrawal, Technology Acceptance Model 3 (TAM 3), Generation Z, Bank Syariah Indonesia

JEL Classifications:

G21, G40, O33

A. Introduction

Technological advances in today's digital era make it easier for us to make transactions more efficiently. Developments in financial technology, such as financial technology (fintech), are very helpful in making lending and borrowing, buying and selling and cash withdrawals more practical and efficient through internet access at smartphones (Tarigan & Hartomo, 2022). Financial technology in various countries continues to develop rapidly through various sectors, including startups in the payment industry, loans, personal financial planning, financial research, money transfer, financing, retail investment, and so on (Adji et al., 2023). In Indonesia, most fintech players still focus on payments (43%) and loans (17%), while others include aggregators, joint funding, and the like (Rahma et al. 2021). Electronic banking has become one of the fintech services that is widely adopted by companies in the financial and banking sectors, apart from that, according to research from Mc. Kinsey and Co, usage of electronic banking in Indonesia has been increasing over the last three years. In 2017, Indonesia led the way in terms of usage of electronic banking in Asia. Rapid growth in consumption electronic banking in this country it is triggered by 124 million people who use it smartphone in Indonesia

The development and growth of technology in the banking sector, especially in sharia banking services, has a significant impact on consumer behavior, especially among the younger generation (Generation Z). Generation Z is a generation born between 1997 and 2012, this generation experienced a period of growth in the digital era and rapid advances in information technology. They belong to a group that is very familiar with technological developments, is used to using electronic devices, and has unique preferences in using banking services. The Yogyakarta Special Region was chosen as the research location because of its status as one of the centers of education and culture in Indonesia and reflects the diversity of society with a fairly high level of technology adoption. As an education center, Yogyakarta has a significant Generation Z population, especially with the large number of various public and private universities and schools in the area. Based on data compiled by the Central Statistics Agency in 2020, the population of Generation Z in the Special Region of Yogyakarta was 427,134 men and 407,866 women (Central Statistics Agency, 2020). Therefore, understanding the views and behavior of Generation Z in Yogyakarta regarding the adoption of sharia banking technology is very important in the Special Region of Yogyakarta.

APJII (Indonesian Internet Service Providers Association) has reported survey results covering statistics on internet users in Indonesia in 2018. The number of internet users reached 171.17 million people, or the equivalent of 64.8% of the total population. Every year, this trend continues to experience significant increases, creating conditions that support rapid growth in financial technology. APJII also recorded a significant increase in the number of internet users in the last 10 years (Wulandari, 2021). This increase in internet usage has driven the popularity of the service mobile banking and ATM as a user's favorite service because it provides various features to make customer transactions easier. As time goes by, the available features increase according to people's daily needs. Innovations such as cardless cash deposit and cash withdrawal services which were previously only available at ATMs and mobile banking also adds

to user comfort. In addition, ATMs and mobile banking also started adding features such as QRIS (Quick Response Code Indonesian Standard), recharge options, payments and various other features to increase customer satisfaction. BSI mobile banking is designed to help customers in various transactions such as checking balances, transferring money, paying tuition fees, purchasing credit, and paying bills E-Commerce. In fact, BSI also introduced a cardless cash withdrawal feature (cardless withdrawal) which utilizes the latest digital sharia-based financial services infrastructure.

Feature development cardless withdrawal by BSI aims to facilitate customers in transactions with a high level of security and respond to technological advances by providing the latest digital sharia-based financial service infrastructure. This is in line with economic and technological growth in the digital era, driven by the increasing use of smartphones in Indonesia. BSI continues to develop BSI banking services mobile banking, where customers can make cash withdrawals without a card not only at ATMs, but also at Indomaret, Alfamart, Alfamidi outlets and other BSI agents. This process involves the use of a cash advance code and a registered telephone number in the application mobile banking, without additional fees, and guarantees security by using a secret OTP code that is valid for 2 hours after receipt from BSI mobile banking (Marlina et al., 2021).

Previous research has discussed a lot about financial technology in the banking sector and startup companies, but the study focuses on the Bank Syariah Indonesia cardless cash withdrawal service feature via mobile banking, still relatively limited. Therefore, more thorough research is needed to examine the factors that influence customers' decisions in adopting this service. This study aims to evaluate whether this feature has succeeded in gaining the expected acceptance from customers, as well as to broaden the scientific view regarding potential success and improvements that may be needed. In the literature, research that applies the Technology Acceptance Model 3 (TAM 3) approach to evaluate the acceptance and use of cardless cash withdrawal features is still rare, especially in the context of BSI financial services. Technology Acceptance Model 3 (TAM 3) emphasizes aspects of belief, action, intention, and the relationship between user behaviour towards information technology. Factors such as perceptions of the utility and ease of use of information technology influence user acceptance of the technology. Therefore, individual assessments of usefulness and ease of use play an important role in the acceptance of information technology (Irawati et al., 2020). Therefore, this study adopts the TAM 3 approach as the main theoretical framework with a focus on variables such as perceived usefulness, perceived ease of use, subjective norms, impressions, computer self-efficacy, computer anxiety, perceived comfort, and intention to use. Through the basic basis of the background, observed phenomena, collected data, and theories strengthened by several previous studies as well as with the reasoning and basis of previous research, the author is interested in conducting a study with the topic entitled "A Study on the Antecedents of Cardless Withdrawal Adoption at Bank Syariah Indonesia from the Perspective of Generation Z in Yogyakarta Special Region"

B. Literature Review

Mobile banking is a banking service that allows customers to carry out financial transactions via mobile devices such as smartphones and tablets. This service includes various features, such as funds transfer, bill payment, and account management. According to Gitleman (2014), mobile banking facilitates users to carry out banking transactions using smartphones. This is confirmed by Slade et al. (2019), Arcand et al. (2019), and Kamboj et al. (2021:2) which states that mobile banking provides a variety of services including bill payments, money transfers, and receipt of deposit information. Masthura et al. (2021:40) added that currently, banks are starting to offer mobile banking services using Artificial Intelligence (AI) and algorithm-based interactions. Use of mobile banking allows customers to carry out transactions anytime and anywhere, leading to increased convenience and flexibility in financial management.

Technology Acceptance Model (TAM) is a theoretical model used to understand the factors that influence the acceptance and use of information technology by users. This model was developed by Davis (1989) and consists of two main constructs: perceived usefulness (perceived usefulness) and perceived ease of use (perceived ease of use). Surendran (2012) explains that TAM has become an approach that is often applied in various studies to evaluate how individuals receive technology in various contexts. This study also adopted the TAM 3 approach, which includes variables such as perceived usefulness, perceived ease of use, subjective norms, computer self-efficacy, computer anxiety, perceived comfort, and intention to use. TAM is used to evaluate the acceptance and use of the mobile banking cardless cash withdrawal feature by customers.

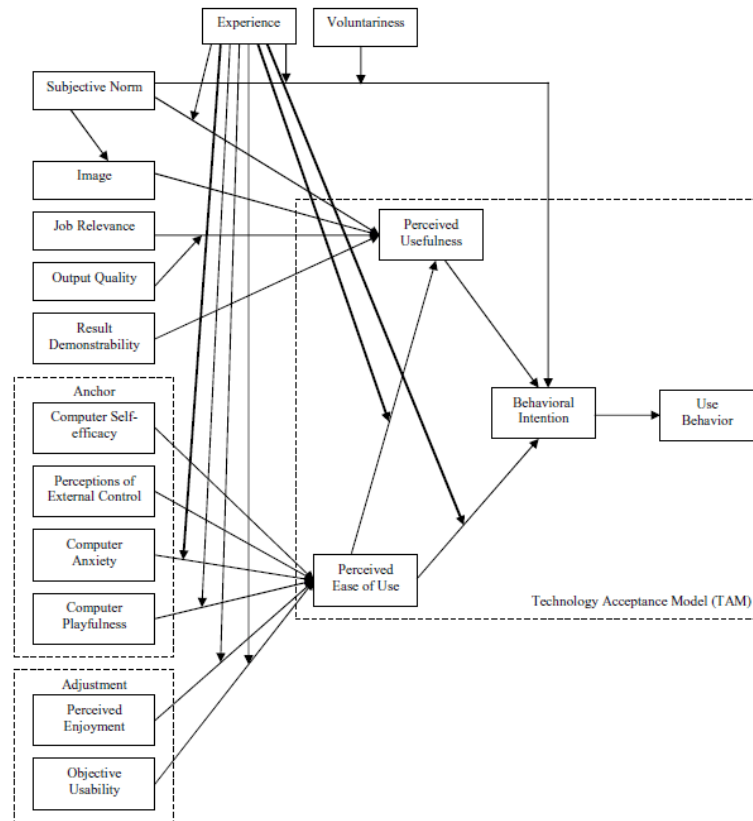


Figure 1. Technology Acceptance Model (TAM 3) (in Venkatesh & Bala, 2008)

- 1) Perceived Usefulness (Perceived Usefulness), Perceived usefulness refers to the user's understanding of the ability of an information system to improve their individual work results, in accordance with the concept of Davis (1989).
- 2) Subjective Norms (Subjective Norm), Subjective norms refer to individual beliefs about support or rejection from those closest to them towards certain behavior (Jogiyanto, 2007).
- 3) Effect (Image), Impression refers to an individual's belief that the use of technology will improve their social standing in the group (Moore & Benbasat, 1991; Venkatesh & Davis, 2000).
- 4) Perception of Ease of Use (Perceived Ease of Use), Perceived ease of use is the user's belief that using information technology will be easy to do without excessive effort (Davis, 1989).
- 5) Self-Efficacy (Computer Self-efficacy), Computer self-efficacy is an individual's assessment of their ability to use computer technology (Compeau & Higgins, 1991; Rustiana, 2004).
- 6) Computer Emergency (Computer Anxiety), Computer anxiety is psychological distress that arises from fear or difficulty related to computer use (Desai & Richards, 2000).
- 7) Perceived Comfort (Perceived Enjoyment), Perceived comfort is the belief that using technology will provide a pleasant experience (Tangke, 2004).

- 8) Intent to Use (Intention to Use), Intention to use is an individual's tendency to adopt certain behaviors related to technology (Agarwal & Karahanna, 2000).

Cardless withdrawal is a feature that allows customers to withdraw cash at an ATM without using a physical card. This feature utilizes technology such as OTP codes (One Time Password) which is sent to the customer's registered telephone number to secure the transaction. In Indonesia, this service has been introduced by various banks such as BCA, BNI, and Mandiri. This feature provides convenience, security and flexibility for customers, as well as reducing the risk of card loss and long queues at ATMs. Bank Syariah Indonesia (BSI) is a financial institution that operates based on sharia principles. BSI Mobile Banking is one of the mobile banking platforms with the largest users in Indonesia. This service is designed to help customers complete various transactions such as checking balances, money transfers, bill payments and cardless cash withdrawals. The development of the cardless withdrawal feature by BSI aims to facilitate customer needs by providing the latest digital sharia-based financial service infrastructure. This service also includes cardless cash withdrawals at outlets such as Indomaret and Alfamart, which increases convenience and accessibility for customers.

Generation Z, which is a young age group, shows a high interest in using digital technology, including mobile banking. In D.I. Yogyakarta, Generation Z's acceptance and use of mobile banking is driven by ease of access, flexibility, and innovative features such as cardless withdrawal offered by BSI. This study highlights the importance of understanding Generation Z preferences and perceptions to increase future adoption of digital banking technologies.

C. Research Methodology

This research uses a quantitative approach, which allows data analysis in the form of numbers using statistical tools to evaluate the problem under study and conclude the findings. This type of quantitative research was chosen because the resulting data can be processed into structured information and clearly describes the characteristics of objects or events. The population in this research is Generation Z customers in the Special Region of Yogyakarta who use mobile banking and have used the cardless cash withdrawal feature. Samples were taken using the method non-probability sampling with technique purposive sampling, namely based on certain criteria that are relevant to the research objectives. These criteria include the respondent's age being between 18 and 25 years, being a BSI customer, and using the cardless cash withdrawal feature.

Based on the method of Hair et al. (2010), the minimum sample size is 145 respondents, but can be increased according to the number of indicators used in the research. The data used in this research consists of primary data and secondary data. Primary data was obtained through distributing questionnaires to respondents who met the criteria, while secondary data was collected from various literature, books and documents relevant to the research topic. Data collection was carried out by distributing questionnaires online and offline to Generation Z customers mobile banking BSI has used the cardless cash withdrawal feature. The questionnaire contains questions designed to measure the variables studied.

This research measures several main variables, including perceived usefulness, perceived ease of use, subjective norms, computer self-efficacy, computer anxiety, perceived comfort, and intention to use. The operational definitions of variables are adjusted to the concepts in the model Technology Acceptance Model (TAM) and relevant to the research objectives. Data analysis was carried out using inner and outer models. The inner model is used to test the relationship between latent variables, while the outer model is used to test the reliability and validity of the construct. Hypothesis testing is carried out using appropriate statistical analysis techniques to test the influence of independent variables on the dependent variable. This research is expected to provide a better understanding of the factors that influence the adoption of the BSI mobile banking cardless cash withdrawal feature from the perspective of Generation Z in D.I. Yogyakarta.

D. Result & Discussion

This research focuses on Generation Z customers in the Special Region of Yogyakarta who use BSI mobile banking services and have utilized the cardless cash withdrawal feature. Samples were taken with purposive sampling, resulting in 168 respondents who met the criteria. Respondent characteristics include variations in gender, year of birth, employment status, education level, monthly income, domicile, media used for the cash withdrawal feature, and experience using this feature. Most of the respondents were students, with varying monthly incomes, and spread across various cities/districts in Yogyakarta.

Table 1. Respondent Data

Description		Amount	Percentage
Gender	Female	110	65,48%
	Male	58	34,52%
Total		168	100%
Year of Birth	1998	16	9.52%
	1999	17	10.12%
	2000	30	17.86%
	2001	21	12.50%
	2002	25	14.88%
	2003	27	16.07%
	2004	22	13.10%
	2005	9	5.36%
	2006	1	0.60%
Total		168	100%
Employment Status	Student	102	60.71%
	Entrepreneur	11	6.55%
	Civil servant/Military/Police	7	4.17%
	Private Employee	40	23.81%
	Others	8	4.76%
Total		168	100%
	Elementary School/Equivalent	0	0%

Description		Amount	Percentage
Last Education	Junior High School/ Equivalent	0	0%
	Senior High School/ Equivalent	92	54.76%
	Diploma (D1/D2/D3)	23	13.69%
	Bachelor's Degree (S1/S2/S3)	53	31.55%
Total		168	100%
Monthly Income	< Rp1.500.000	76	45.24%
	Rp1.500.001 – Rp3.000.000	46	27,38%
	Rp3.000.001 – Rp6.000.000	38	22.62%
	Rp6.000.001 – Rp10.000.000	8	4.76%
	>Rp10.000.000	0	0.00%
Total		168	100%
Domicile	Yogyakarta City	27	16.07%
	Sleman District	36	21.43%
	Bantul District	14	8.33%
	Gunung Kidul District	51	30.36%
	Kulon Progo District	40	23.81%
Total		168	100%
Media Used for Cardless Cash Withdrawal Feature	ATM of Bank Syariah Indonesia	106	63.10%
	Indomaret	35	20.83%
	Alfamart	21	12.50%
	Alfamidi	6	3.57%
Total		168	100%
Experience Using Cardless Cash Withdrawal Feature	< 6 months	55	32.74%
	6 months - 1 year	69	41.07%
	1 year - 2 years	26	15.48%
	> 2 years	18	10.71%
Total		168	100%

E. Conclusions & Policy Recommendation

The phenomenon of digital banking technology adoption is increasing, especially among the younger generation. The use of banking technology such as mobile banking is accelerated by the need for fast and efficient access to financial services without physical limitations. The cardless cash withdrawal feature from BSI is also one of the innovations that responds to this trend. However, there are still few studies that specifically examine the adoption of this service, so this study fills the gap in the literature regarding the perception and decision to use the service, several similar studies that discuss this phenomenon include research conducted by Ali, Parveen, Yaacob, & Zaini (2021) entitled "Cardless Banking System in Malaysia: Extended TAM." and also research conducted by Tobias-Mamina & Maziriri (2020) entitled "Modeling Consumer Willingness to Use Cardless Banking Services: Integration of TAM and TPB".

This study focuses on generation Z customers who use mobile banking services from Bank Syariah Indonesia (BSI) with the cardless cash withdrawal feature. The fact that generation Z is an active user of digital banking technology provides a strong basis that they are the main target in the study of technology adoption, especially related to modern financial services based on research data collected by Populix. In this study, 168 respondents met the criteria as a valid sample. Respondents were BSI generation Z customers in the Special Region of Yogyakarta who had used the cardless cash withdrawal feature through the BSI mobile banking application. The sample was taken using a purposive sampling method, with a total of 170 initial respondents, but 2 respondents did not meet the age criteria.

Based on the findings of this study, it can be concluded that the acceptance level of digital banking technology, particularly the cardless cash withdrawal feature via BSI mobile banking, shows positive results. Factors such as subjective norms, self-efficacy, perceived convenience, perceived usefulness, perceived ease of use, and usage intention have proven to influence customer acceptance of this feature. This indicates that the public, especially Generation Z in the Special Region of Yogyakarta, has positively embraced the presence of digital banking features from Bank Syariah Indonesia. The study also reveals that perceived ease of use is a significant key factor in encouraging customers' intention to adopt this technology. However, there are some limitations in the study, such as the unbalanced proportion of respondent characteristics and the lack of additional dimensions such as religious and cultural aspects that are relevant in the context of Islamic banking. The following are suggestions or input in this research:

- For Bank Syariah Indonesia, the adoption of digital technology in the form of a cardless cash withdrawal feature has a big opportunity, especially considering that Indonesia is the country with the majority of users. smartphone and the rapid growth of internet users. This phenomenon has encouraged people to adopt new lifestyles that rely on technology. Therefore, Islamic banks are expected to be able to improve service quality, strengthen relationships with customers, and remain competitive in the banking market by utilizing digital technology.

- For future researchers, it is recommended to consider adding cultural dimensions and Islamic values in research to understand their impact on motivation or barriers in adopting the use of cardless cash withdrawals, especially in the context of Sharia banks. This research may include analysis of attitudes, social norms and religious values that may influence Generation Z's decisions in this regard.

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