Determinant Factors for M-Banking Use in Generation Z

Widya Alifia[1], Farah Margaretha Leon[1*], Yosephina Endang Purba[1], Kristian Chandra[1], and Febria Nalurita[1]

[1] Department of Management, Faculty of Economics and Business, Universitas Trisakti, Jakarta, Indonesia
farahmargaretha@trisakti.ac.id

Abstract. This study aims to examine and analyze the factors that influence the adoption of M-banking in Generation Z. Data was obtained through an online questionnaire to M-banking users with an age range of 18-24 years in Jabodetabek. The method used in sampling was the non-probability sampling method, with a total sample of 250 respondents. The analytical method used in this research is the Structural Equation Model (SEM). The results showed a positive influence of Perceived Ability, Perceived Benevolence, Perceived Integrity, and Perceived Ease and Usefulness on the Use of M-Banking Applications. Banks are expected to have the ability and expertise to provide m-banking application services that are trusted, easy to understand, and can assist users in using the m-banking application to manage Generation Z's finances. Through the adoption of the m-banking application, it is hoped that it will help Generation Z in controlling their financial income and expenditure, thus managing their finances better.

Keywords: Generation Z, M-Banking, Perceived Ability, Perceived Benevolence, Perceived Ease and Usefulness, Perceived Integrity.

1   Introduction

One of Indonesia's economic growth is influenced by the development of the banking sector. The era of *digital* transformation that is increasingly developing demands that the financial industry, especially in the banking sector, must follow this flow. Digitalization is needed so that conventional banks can compete with *digital banking,* which is multiplying today. *M-banking* gradually replaces traditional transactions because the application helps customers to do transactions fast, can be done anytime, anywhere, and reduces the impracticality of manual processes [1]. Through the *m-banking* application, customers can make various transactions such as mutation checks, transfers, bill payments, *e-wallet top-ups, cashless* payments, and others more easily.

Digital transformation in the banking sector is relatively rapid. In 2021, the Financial Services Authority (OJK) noted an increase in *m-banking* and *internet banking* by up to 300% caused by the effects of the *COVID-19* pandemic and the massive development of *digital* banking product services. Internet-based banking has more functions and convenience in humans than traditional banking services. However, in the use of *m-banking* applications, the risk *of human error* is inevitable. There are still many customers who think that the use of *m-banking* has a high risk, causing doubts in customers [2].

According to [3], previous research found reasons why there are still those who still need to choose to use *m-banking,* including local network problems, lack of reading ability, and lack of trust in applications. This research focuses on the trust of young people, especially Generation Z, in using *m-banking* applications, such as *perceived ability, benevolence,* and *perce*ption.

2   Literature Review

The use of m-banking applications is a behavior to use banking services in the form of applications provided by banks to make transactions through mobile phones [4]. According to [5], the use of [4][4][4][4]*m-banking* applications can be interpreted as actual conditions for the use of *m-banking* services by bank customers. Over the past decade, the growth in the use of mobile devices and their applications has increased along with the increase in products, services, and features on mobile devices, *including m-banking* applications. Using *m-banking* in banking is one of the important strategic channels for customers [6]. M-banking applications in their use have an unavoidable perception of risk, so there is a need for trust from *m-banking* application providers to their users [7].

Research by [8] conducted in Bangladesh stated that there is an influence of trust on the use of *m-banking* as measured by *perceived ability, perceived benevolence,* and *perceived integrity*. Research conducted by [9] in China confirms that users can increase confidence in *ability, benevolence,* and *integrity.* The research states a significant positive influence of use on *ability, benevolence,* and *integrity.*

Perceived ability is an individual perception that *an m-banking* application service provider company has the capability, capacity, and ability to understand the needs of its users in managing personal finances [10]. According to [11], *Perceived ability* is an ability that refers to skills, competencies, and characteristics. According to[12][12], Perceived *Ability* refers to consumer perceptions of the extraordinary ability and knowledge of *m-banking* service providers to customers in providing the expected service. Personal financial planning is the process of planning expenses, payments, and investment planning to maximize personal financial condition.

Perceived benevolence is a situation in which a trustor believes that the trustee is paying attention to the interests of the trustor [13]. *Perceived benevolence* refers to the extent to which *m-banking* application service providers are willing and empathetic to their users, such as doing good faith to help solve problems in users and doing good to users in addition to pursuing corporate profits [12]. *Perceived benevolence* also means that service providers are not only concerned with their benefits but must also pay attention to the interests of their users [14].

Perceived integrity raises the user's impression that *the m-banking* application company is fair and honest and complies with the terms and conditions of the usual transactions [12]. *Perceived integrity* in banking refers to the bank's honesty in dealing with its customers, being willing to commit, behaving ethically, and the bank's ability to fulfill promises to provide secure virtual banking services. Perceived *integrity* rules in *m-banking* include providing reliable and accurate information, maintaining customer obligations, and protecting the confidentiality of customer personal information [15].

Perceived usefulness is an individual's belief in technology that is believed to be beneficial for those who use it, while *perceived ease of use* is a personal belief that technology is easy to understand [16]. In using *m-banking*, *perceived usefulness* can be defined as *m-banking* applications that can be accessed anywhere and can be used with any mobile phone, while *perceived ease of use* is an *easy-to-use m-banking* application in both interfaces, systems, and procedures [17]. Research conducted by [18] in the United Arab Emirates with a sample of 215 respondents stated that there is a significant favorable influence of *perceived ease and usefulness* on the use of *m-banking* applications; according to him, perceived *ease and usefulness* is an important factor that determines the use of *m-banking* applications.

Trust in banking services and the security of *m-banking* transactions illustrate one of the most influencing causes among *online banking* users [8] [10]. Previous research by [8] examined the belief in using *m-banking* applications in Bangladesh. The results stated that trust, including *perceived ability, perceived benevolence,* and *perceived integrity,* has a positive impact on the use of *m-banking* applications. Research conducted by [18] examined that there are other factors related to the use of *m-*

banking applications, such as *perceived ease and usefulness*. According to him, these two factors are important for the success of *m-banking*.
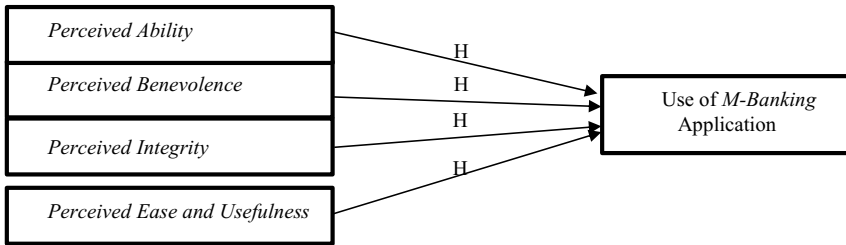

Fig. 1. Frame of conceptual framework chart.

Research conducted by [8] states that there is a positive impact of *perceived ability* on the use of *m-banking* applications. According to [19], their research also stated that there is a significant positive influence of *perceived ability* on the use of *m-banking* applications. This research is in line with [12] that there is a positive and significant influence of *perceived ability* on the use of *m-banking* applications. Based on this, the first hypothesis is formulated as follows:

H$_1$: There is an influence *of perceived ability* on the use of *m-banking* applications

Research conducted by [8] states a positive impact of *perceived benevolence* on the use of *m-banking* applications. This research is in line with [12], who stated that there is a positive and significant influence of *perceived benevolence* on the use of *m-banking* applications. According to [9], there was a significant positive influence of use on *perceived benevolence*. Based on this, the second hypothesis is formulated as follows:

H$_2$: There is an influence *of perceived benevolence* on the use of *m-banking* applications

Research conducted by [8] states that there is a positive impact of *perceived integrity* on the use of *m-banking* applications. According to [10], in his research, there is a positive and significant influence of *perceived integrity* on the use of *m-banking* applications. This research is in line with research conducted by Van Deventer [20], which states that there is a significant positive influence of *perceived integrity* on the behavior of using *m-banking* applications. Based on this, the third hypothesis is formulated as follows:

H$_3$: There is an influence *of perceived integrity* on the use of *m-banking* applications

Research conducted by [18] and [21] states a significant positive influence of *perceived ease and usefulness* on the use of *m-banking* applications. Research conducted by [12] states a positive and significant influence of *perceived usefulness* and *perceived ease of use* on *m-banking* applications. This research is in line with [22] and [23], who stated that there was a significant positive influence of perceived usefulness on the decision to use m-banking applications. Based on this, the fourth hypothesis is formulated as follows:

H$_4$: There is an influence *of perceived ease and usefulness* on the use of *m-banking* applications

3   Research Methods

1.   Variables and Variable Measurements

The variables in this study aimed to measure whether there is an influence of independent variables on dependent variables. The measurement scale in this study was measured using a Likert scale where scale 1 strongly disagrees and scale 5 strongly agrees.

Table 1. Variables and measurements.

Variable Type	Variable Name	Indicator	Source
Dependent Variables	Use of *M-Banking Application*	1. I am using *the m-banking* app 2. Most likely, I will use *the m-banking* app in the future 3. I believe that it is beneficial for me to use *m-banking* applications	Khan, M. R., Rana, S., & Hosen, M. I. ([8]
Independent Variables	*Perceived Ability*	1. I think *m-banking* companies can understand my needs in managing my finances. 2. I think *m-banking* companies have the expertise to understand my needs in managing my finances. 3. I think *the m-banking* company has good knowledge of the whole procedure	[8]
	Perceived Benevolence	1. I think *the m-banking* company puts my interests first 2. If I need help, I believe that *the m-banking* company will do its best to help me 3. I think *the m-banking* company is interested in my well-being, not just its well-being	[8]
	Perceived Integrity	1. I think *the m-banking* company is honest 2. I think *m-banking* companies will keep their commitments 3. I think *m-banking* companies provide unbiased information about banking transactions	[8]
	Perceived Ease and Usefulness	1. The app makes banking fast 2. The app makes banking efficient 3. The app is user-friendly 4. The app is easy to learn with users 5. The app is easy to navigate	[18]

1.   Sampling Methods

The data in this study was obtained by distributing questionnaires to respondents online through *Google Forms*. The sampling technique in this study used *a nonprobability sampling* technique where not all individuals could be selected as samples. The number of samples uses the Hair formula so that the minimum number of samples is 17 x 10, which is 170. The criteria for the respondents that can be used as a sample are:

1. Generation Z aged 18-22 years
2. Domicile in Jabodetabek
3. Using *M-banking* apps

From the distribution of the questionnaire, 297 samples were collected. However, only 250 samples could be used because 14 samples did not meet the criteria, and 33 samples tended only to answer one scale, so they could not be used.

Table 2. Demographics of respondents.

Demography	Number of Respondents	Percentage (%)
Gender		
Man	62	24,8%

Demography	Number of Respondents	Percentage (%)
Woman	188	75,2%
Total	250	100%
Age		
18-20	50	20,0%
20-22	144	57,6%
22-24	56	22,4%
Total	250	100%
Domicile		
Jakarta	92	36,8%
Bogor	30	12,0%
Depok	21	8,4%
Tangerang	76	30,4%
Bekasi	31	12,4%
Total	250	100%
Employment Status		
Student	217	86,8%
Self-employed	5	2,0%
Private Employees	24	9,6%
Others	4	1,6%
Total	250	100%
Marital Status		
Unmarried	236	94,4%
Married	14	5,6%
Total	250	100%
Monthly Expenses		
< Rp 1.000.000	93	37,2%
Rp 1.000.000 – Rp 2.000.000	88	35,2%
Rp 2.000.000 – Rp 3.000.000	36	14,4%
> Rp 3.000.000	33	13,2%
Total	250	100%

Source: Data processed using SPSS

Based on Table 2 concluded that the study respondents were dominated by women, with as many as 188 respondents (75.2%). Age was dominated by 20-22, as many as 144 respondents (57.6%). Domiciles are mainly in Jakarta, with as many as 92 respondents (36.8%). Employment status was dominated by students as many as 217 respondents (86.8%) with unmarried marital status as many as 236 respondents (94.4%). Monthly expenses are dominated by a range of < Rp 1,000,000 for as many as 93 respondents (37.2%).

4   Results and Discussion

1.   Descriptive Statistics

Descriptive statistical analysis provides a general overview of the characteristics of each research variable by looking at the mean value and standard deviation. The mean value shows the average respondent's assessment for each variable under study, and the standard deviation indicates the diversity of respondents' answers [24]. If the standard deviation is away from zero, then the respondent's answer is more diverse; on the other hand, if the standard deviation is close to zero, then the respondent's answer is less diverse.

.

Table 3. Descriptive statistical analysis

Variable	Mean	Standard Deviation
Use of *M-Banking* Application	4,777	0,4533
Perceived Ability	4,377	0,6753
Perceived Benevolence	4,252	0,7515
Perceived Integrity	4,344	0,6383
Perceived Ease and Usefulness	4,622	0,5576

Source: Data processed using SPSS

Based on Table 3, the m-banking application has a mean value of 4.777. These results indicate that respondents feel that using the m-banking application can be helpful for consumers, and thus, consumers will continue to use it in the future. The standard deviation of 0.4533 indicates that the answers of the respondents varied because they were away from the number 0.

The perceived ability has a mean value of 4.377. These results indicate that respondents feel that m-banking companies have the ability and expertise to understand consumer needs in managing their consumers' finances. In addition, respondents also feel that m-banking companies have good knowledge of the entire m-banking application procedure. The standard deviation value of 0.6753 indicates that the answers of the respondents varied because they were away from the number 0.

Perceived benevolence has a mean value of 4.252. These results indicate that respondents feel that m-banking companies can prioritize the interests of their consumers and believe that m-banking companies will do their best if consumers need help. Respondents also feel that m-banking companies are not only interested in the welfare of their companies but also interested in the welfare of their consumers. The standard deviation value of 0.7515 indicates that the answers of the respondents collected are increasingly diverse because they are away from the number 0.

Perceived integrity has a mean value of 4.344. These results indicate that respondents feel that m-banking companies are honest and maintain a commitment to their customers. Respondents also feel that m-banking companies provide unbiased information in conducting banking transactions. The standard deviation value of 0.6383 indicates that the answers of the collected respondents varied because they were away from the number 0.

Perceived ease and usefulness have a mean value of 4.622. These results indicate that respondents feel that the m-banking application can make banking transactions fast and efficient. Respondents also feel that the m-banking application is user-friendly so that it is easy to learn and easy to navigate by users. The standard deviation value *of 0.5576 indicates that the respondents' answers varied because they were away from the number 0.*

2.   Hypothesis Test

Hypothesis testing in this study uses *the Structural Equation Model* (SEM) method with the following decision-making basis:

1.   If *the p-value* $\leq$ 0.05, then Ho is rejected (Ha is accepted), meaning that there is a significant influence between the two variables tested

2.   If *the p-value* $\geq$ 0.05, then Ho is accepted (Ha is rejected), meaning that there is no significant influence between the two variables tested.

Table 4. Hypothesis test.

Hypothesis	Estimate	p-value	Decision
H$_1$: There is *an influence of perceived ability* on	0,287	0,014	Ho rejected

the use of *m-banking* applications			(significant positive)
H₂: There is an influence *of perceived benevolence* on the use of *m-banking* applications	0,211	0,038	Ho rejected (significant positive)
H₃: There is an influence *of perceived integrity* on the use of *m-banking* applications	0,325	0,008	Ho rejected (significant positive)
H₄: There is an influence *of perceived ease and usefulness* on the use of *m-banking* applications	0,300	0,029	Ho rejected (significant positive)

Source: Data processed using AMOS

Based on Table 4, it can be seen that the first hypothesis has a *p-value* of $0.014 \leq 0.05$. It can be concluded that there is a positive influence of *perceived ability* on the use of *m-banking* applications. This research is in line with research [8], [19], [12].

The second hypothesis has a *p-value* of $0.038 \leq 0.05$, so it can be concluded that there is an influence of *perceived benevolence* on the use of *m-banking* applications. This research is in line with research conducted by [8], [9], [12].

The third hypothesis has a *p-value of* $0.008 \leq 0.05$, so it can be concluded that there is an influence of *perceived integrity* on the use of *m-banking* applications. This research is in line with the research conducted by [8], [20], [12].

The fourth hypothesis has a *p-value* of ≤ 0.05, so it can be concluded that there is an influence of *perceived ease and usefulness* on the use of *m-banking* applications. This research is in line with the research conducted by [18], [23], [12].

5   Conclusion

Banking is expected to improve *perceived ability* where companies have the ability and expertise in providing m-banking application services that can help their users use *m-banking* applications as a means to manage their finances. Increasing *perceived benevolence by being* willing to help users when users experience difficulties in transacting so that banks are expected to not only attach importance to their profits but also be able to prioritize the interests of their users by providing the best service. Improving *Perceived Integrity* by providing honest and trusted services to its users means that *m-banking* companies are trustworthy in carrying out their duties. That way, users will feel safe and comfortable using *m-banking* applications, especially in managing personal finances. Improving *Perceived Ease and Usefulness* by providing accessible and understandable m-banking application services to help banking transactions become fast and efficient.

Generation Z, especially students, is expected to be able to use the m-banking application to help manage student finances. By doing good financial management, students can plan their finances for the future, one of which can make investments that are assisted by using *the m-banking application*. The *m-banking* application can also help students control their finances so as not to be wasteful by monitoring the flow of financial income and expenses through account mutations in the application that can be accessed anytime and anywhere.

6   References

[1]   Y. E. P. Uun Fukuludin, Farah Margaretha Leon, "Factors Affecting Capital Structure of Small-Medium Enterprises Listed in Indonesia Stock Exchange," *Business and Entrepreneurial Review*, vol. 21, no. 2, pp. 243–264, 2021, doi: 10.25105/ber.v21i2.10355.

[2]   L. Hakim and A. Anwar, "PEMBIAYAAN MURABAHAH PADA PERBANKAN SYARIAH DALAM PERSPEKTIF HUKUM DI INDONESIA," *Jurnal Ekonomi Syariah dan Filantropi Islam*, vol. 1, no. 2, 2017, doi: 10.22236/alurban_vol1/is2pp212-223.

[3]   P. I. A. P. F. M. Leon, "Effect of Bank and Macro-Economic Performance on Bank Capital Supporters in Indonesia," *Business and Enterpreneurial Review*, vol. 19, no. 2, pp. 137–145, 2019.

[4]   F. Styarini and S. Riptiono, "Analisis Pengaruh Customer Trust Terhadap Keputusan Menggunakan Mobile Banking Melalui Perceived Risk dan Perceived Usefulness Sebagai Variabel Intervening," *Jurnal Ilmiah Mahasiswa Manajemen, Bisnis dan Akuntansi (JIMMBA)*, vol. 2, no. 4, pp. 670–680, 2020, doi: 10.32639/jimmba.v2i4.590.

[5]   I. Tirtana and P. S. Sari, "Analisis pengaruh persepsi kebermanfaatan, persepsi kemudahan dan kepercayaan terhadap penggunaan mobile banking," *Prosiding Seminar Nasional dan Call for Paper Program Studi Akuntansi-FEB UMS*, vol. 25, pp. 671–688, 2014.

[6]   C. Tam and T. Oliveira, "Does culture influence m-banking use and individual performance?," *Information and Management*, vol. 56, no. 3, pp. 356–363, 2019, doi: 10.1016/j.im.2018.07.009.

[7]   A. Prakosa, "Analisis Pengaruh Persepsi Teknologi Dan Persepsi Risiko Terhadap Kepercayaan Pengguna M-Banking," *Jurnal Manajemen*, vol. 9, no. 2, 2019, doi: 10.26460/jm.v9i2.1030.

[8]   M. R. Khan, S. Rana, and M. I. Hosen, "Impact of Trustworthiness on the Usage of M-banking Apps: A Study on Bangladeshi Consumers," *Business Perspectives and Research*, 2021, doi: 10.1177/22785337211001969.

[9]   C. B. Zhang and Y. Li, "How social media usage influences B2B customer loyalty: roles of trust and purchase risk," *Journal of Business and Industrial Marketing*, vol. 34, no. 7, pp. 1420–1433, 2019, doi: 10.1108/JBIM-07-2018-0211.

[10]   M. R. P. S. F. M. Leon, "The Influence of Demographics Factor on Pension Planning and Financial Literacy of Private Employee," *Business and Entrepreneurial Review*, vol. 21, no. 1, pp. 131–152, 2021.

[11]   H. Svare, A. H. Gausdal, and G. Möllering, "The function of ability, benevolence, and integrity-based trust in innovation networks," *Ind Innov*, vol. 27, no. 6, pp. 585–604, 2020, doi: 10.1080/13662716.2019.1632695.

[12]   M. R. Kabir, "Factors Influencing the Usage of Mobile Banking : Incident from a Developing Country," *World Review of Business Research*, vol. 3, no. 3, pp. 96–114, 2013.

[13]   J. L. Peifer and D. T. Newman, "Making the business case for corporate social responsibility and perceived trustworthiness: A cross-stakeholder analysis," *Business and Society Review*, vol. 125, no. 2, pp. 161–181, 2020, doi: 10.1111/basr.12210.

[14]   A. A. Rabaa'i and S. A. ALMaati, "Exploring the Determinants of Users' Continuance Intention to Use Mobile Banking Services in Kuwait: Extending the Expectation-Confirmation Model," *Asia Pacific Journal of Information Systems*, vol. 31, no. 2, pp. 141–184, 2021, doi: 10.14329/apjis.2021.31.2.141.

[15]   M. Van Deventer, N. De Klerk, and A. Bevan-Dye, "Influence of perceived integrity and perceived system quality on Generation y students' perceived trust in mobile banking in South Africa," *Banks and Bank Systems*, vol. 12, no. 1, pp. 128–134, 2017, doi: 10.21511/bbs.12(1-1).2017.05.

[16]   H. Saputra and E. Rekarti, "The Effect of Perceived Usefulness, Perceived Ease of Use, and Security on Customer Intention to Use Mobile Banking at PT. Bank Negara Indonesia (BNI) Tbk. Jakarta," *Int J Innov Sci Res Technol*, vol. 6, no. 8, pp. 44–53, 2021.

[17]   Q. A. Reyan, "Problems & Prospects Of Mobile Banking in Bangladesh," 2014. doi: http://dx.doi.org/10.2139/ssrn.2674347.

[18]   S. Majumdar and V. Pujari, "Exploring usage of mobile banking apps in the UAE: a categorical regression analysis," *Journal of Financial Services Marketing*, no. 0123456789, 2021, doi: 10.1057/s41264-021-00112-1.

[19]   S. A. Kader, T. Islam, and M. A. Ali, "An Empirical Investigation on Adoption of Mobile Banking in the Northern Part of Bangladesh," *SARVE BHAVANTU SUKHINAN, At St. Xaviors College, Patna, Volume: 1*, pp. 1–15, 2017.

[20]   M. Van Deventer, N. De Klerk, and A. Bevan-Dye, "Antecedents of attitudes towards and usage behavior of mobile banking amongst Generation y students," *Banks and Bank Systems*, vol. 12, no. 2, pp. 78–90, 2017, doi: 10.21511/bbs.12(2).2017.08.

[21]   M. F. and F. Margaretha, "Factors that Determine Dividend Policy on Banking in the Indonesia Stock Exchange," *Business and Enterpreneurial Review*, vol. 13, no. 2, pp. 53–72, 2018.

[22]   D. Y. Ramli, "The Perception of Trustworthiness that Influence Customer's Intention to Use," *American International Journal of Business Management (AIJBM) ISSN*, vol. 3, no. 10, pp. 72–79, 2020.

[23]   R. Mahmudah and R. E. Puspita, "THE INTENTION OF USING MOBILE BANKING DURING PANDEMIC," *Jurnal Masharif al-Syariah: Jurnal Ekonomi dan Perbankan Syariah*, vol. 6, no. 2, pp. 456–477, 2021, doi: http://dx.doi.org/10.30651/jms.v6i2.7121.

[24]   R. and U. S. Bougie, *RESEARCH METHODS FOR BUSINESS : Skill Building Approach*, 8th ed. Jakarta, 2019.