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Comparative analysis of perceived security level in deciding theuse of e-banking in Y and Z generations

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Abstract
This study aimed to compare perceptions of the security level in making decisions on the use of e-banking in the Y and Z generations. Sampling was carried out using a purposive sampling method. The respondents in this study were e-banking consumers in the Y and Z generations. Data were analyzed using the Mann-Whitney U Test through SPSS software version 20.00. The research results show no significant difference in the perceived security in usage decisions of E-Banking Y and Z generations.

Keywords: Perceived Security Level; E-Banking; The Mann-Whitney U Test; Y Generation; Z Generation

INTRODUCTION

In the current digital 5.0 era, mobile banking is ingrained in daily life. Mobile bankingis thought to help humans move more effectively and efficiently (Shafly, 2020). However, the disadvantages of mobile banking to customers include numerous frauds conducted via digital banking, leaks or theft of users' data, when top-up balances are held up, pauses when running transfers, and so on (Vellamy et al., 2023). According to the OJK, cyber security threats have surged by up to 86.70% due to this digital transition. Therefore, a perceived level of security is needed to give its users a sense of security and comfort.

The perceived security level (Flavia'n C & M. Guinali'u, 2006); Nangin et al., 2020; Nia et al., 2022) has proven as one of the essential factors influencing the decision-making of e-banking usage. The perceived security level can build trust and create comfort in digital activities. The perceived security level has also been proven to complete customer satisfaction andgenerate an intention to repurchase or reuse products or services (Wilson et al., 2021). Thus, theperceived security level implies fintech adoption (Nangin et al., 2020).

In 2022, the Y or millennial generation will be 26 to 41 years old. They were born between 1981 and 1996. While Generation Z is the generationthat follows the Y generation, people in 2022 are expected to be between the ages of 10 and

24. Between 1997 and 2012, Generation Z was born. Generally, every generation has different characters and perspectives in various aspects of life. For example, for business people, the majority of whom are of the Y generation, the perceived level of security is a factor to consider when deciding whether or not to use e-banking (Wijaya & Ekayasa, 2022).

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In contrast to the characteristics of Generation Z in terms of technology acceptance, generation Z is particularly sensitive to electronic word of mouth (e-WOM) and is only willing to utilize technology to follow trends. Generation Z only uses electronic payments for short periods. Therefore, the security of electronic payments has no bearing on their desire to do commercial transactions online in the future (Ardiansah et al., 2022). Thus, this research proposes to compare whether there are differences in perceived security levels in usage decisions of E-Banking in the X and Y generation.

The perceived security level is the trust of users in the confidentiality of their personal information in both civil and monetary terms (Flavia'n C & M. Guinali'u, 2006). Thus, personal data cannot be viewed, stored, or manipulated by any party unrelated to the individual. Therefore, the perceived level of security is subjective. Furthermore, according to (Lim et al., 2010), security is the most essential and prominent factor in the distribution of mobile banking services; a high level of security will automatically increase customer confidence to start and continue using mobile banking. The higher the perceived security level the bank provides to its customers, the more likely it is that the user will transact using the services and facilities provided in mobile banking.

There are several indicators of perceived security level (Laudon & Traver, 2014):

1. Integrity

Integrity denotes complexity. Websites accessed via the internet must provide accurate and dependable information and may not be altered without the permission of the liable party and the authority's owner.

2. Nonrepudiation

Nonrepudiation is the avoidance of denial. Specifically, it means one of the parties does not breach an agreement made after the transaction, such as refusing certain orders or refusing to pay arrears.

3. Authentication

The term authenticity refers to genuineness. The e-banking system can immediately identify and provide accurate information about access restrictions for other individuals.

4. Trustworthiness

Confidentiality is synonymous with secrecy. It refers to an e-banking system that can ensure that only authorized parties, such as the customer, have access to specific data.

5. Privacy

Privacy is an effort to keep consumer personal information safe from unauthorized access.

6. Availability

Availability implies ensuring that available information system services are linked to existing functions and data. In other words, e-banking's network does not frequently experience downtime, typically caused by network disruptions.

The Y Generation came after the X Generation. The Y Generation, the Millennial generation, was born between 1981 and 1996. One of the distinguishing characteristics of the Y Generation is their technological prowess. This generation has grown up with technology and is used to constantly interacting with others via
technology. The Y Gen anticipates finding quick answers to their questions on the internet.

Furthermore, when the Y generation shop or use technology for entertainment or work, they expect apps, smartphones, and websites to provide an exceptional user experience. When technologies, products and services are appropriate or fall short of their expectations, they quickly express their feelings on social media, influencing business success and the design of devices and apps. Moreover, Osman et al., (2017) explain that Generation Y perceives e-banking security based on their perceived regulatory-related issues, protected transactions, and service quality. Eventually, the Y generation has distinct decision-making characteristics, such as maximizing profits quickly (Rikantasari, 2020).

The Z Generation came after the Y Generation. The Z Generation are people born between 1997 and 2012. Since the Z generation's higher level of adaptive technology, new technologies appear to be a part of their daily lives. Representatives from Generation Z are interested in learning about and employing them (56%) (Dolot, 2018). The Z generation's decision-making process starts and ends with self-reflection. They rely on personal advisors and online research to inform their choices in between—Generation Z's decision-making influencers shift over time. Personal advisors, online research, or new emerging influencers could be the source.

Therefore, this research hypothesizes that:

H0: There is no significant difference between Y and Z Generations in usingE-Banking based on the perceived security level.

Hypothesis 1: There are significant differences between Y and Z Generation in using E-Banking based on the perceived security level.

The conceptual framework for this research can be seen in Figure 1.

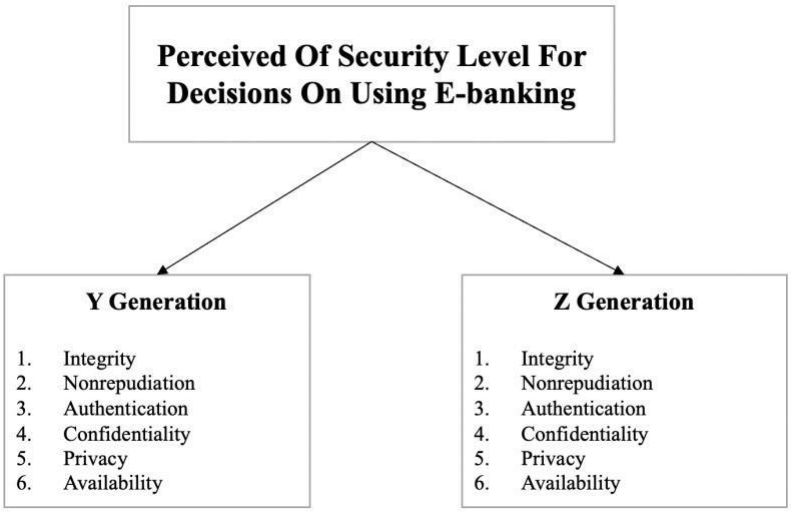

Figure 1. Conceptual Framework.

METHOD

Purposive sampling was used in the sampling process. Respondents must conform to the following criteria: 1) be in the Y or Z generation; 2) have a personal mobile banking

application; and 3) have used mobile banking for at least three transactions. Also, a questionnaire was used to collect primary data. Google Forms was used to distribute questionnaires. A five-point scale was used to measure the Likert Scale. The test compares two sets of data, i.e. Y and Z generations data on perceived security levels. Furthermore, data were analyzed using the Mann-Whitney U test and SPSS software version 20.00.

Furthermore, the list of statements used to measure the variable perceived level of security is measured by the questionnaire items in Table 2.

Table 2. Question Items Perceived Variable Of Security Level

No.	Questionnaire Item Statements
integrity	
1	Mobile Banking ensures that no information is changed without the approval of the responsible party.
2	The user is solely responsible for granting permission to change or add information.
Nonrepudiation	
3	Mobile Banking protects every user from the risk of fraud and financial loss.
4	Mobile Banking ensures that there will be no denial of the agreement after the transaction between the two parties.
Authentication	
5	Mobile Banking always ensures the information provided by users is accurate.
6	Mobile Banking can immediately detect if someone other than the account owner has access or is hacked
Confidentiality	
7	Mobile Banking can keep my information private and not share it with anyone who isn't interested?
8	Mobile Banking can safeguard and ensure the security of each user's balance.
privacy	
9	When I provide my personal information for verification during the Mobile Banking service, I feel secure.
10	Mobile Banking safeguards my bank card information and all online payments.
Availability	
11	Mobile Banking provides security guarantees in the form of the related bank's registration at OJK.
12	Mobile Banking provides complete information related to transfers, balances and other information requested by the user.

RESULTS AND DISCUSSION

According to the findings of a study conducted on Y-generation and Z-generation e-banking user respondents, the majority of respondents in this study were men (59%), with women (41%). In terms of age, the largest group in this study is 15-25 years old (50%), the rest are 26-35 years old (41%), and the rest are 36-45 years old (9%). As a result, students account for 43% of respondents' occupations, followed by private employees at around 27% and self-employed at 25.4%. Furthermore, the majority of revenue is in the range of IDR 500,000 to IDR 1,500,000 (41%), followed by the second largest, IDR 3,600,000 (34%), and earnings ranging from IDR 1,600,000 to IDR 2,500,000 (18.2%). Furthermore, 68% of customers have

used mobile banking for over a year, and 20% have used it for six months to a year. At the same time, the remaining three months-6 months amounted to 9 and 3%, respectively. Table 2 displays the detailed descriptive analytics.

Table 2. Descriptive Analytic Results

Gender	**Count of Gender**
Man	59%
Woman	41%
age	**Count of Ages**
≥ 15-25 years	50%
≥ 26-35 years	41%
≥ 36-45 years	9%
Occupation	**Count of Occupations**
Miscellaneous	2.3%
Housewife	2.3%
Private employees	27%
Student	43%
Self-employed	25.4%
Income (IDR ,000)	**Count of Income/ Salary Per Month**
> IDR 3,600	34%
≥ IDR 1,600 to IDR 2,500	18.2%
≥ IDR 2,600 to IDR 3,500	6.8%
≥ IDR 500 to IDR 1,500	41%
Month	**Time to Use Mobile Banking**
< 3 months	3%
> 1 year	68%
≥ 3 months - 6 months	9%
≥ 6 months - 1 year	20%

Source: Research Results, 2022 (Data processed)

The different test method is carried out if the data has been tested for normality first.The normality test is carried out to see whether the data obtained pursues the normality's assumptions. The data is suitable with the normality's premises if the data obtained has a Sig value. >0.05. Thus, the data is not normally distributed, or the data isheterogeneous. The following results are obtained based on the normality test results.

Table 3. Tests of Normality

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Generation	Statistic	df	Sig.	Statistic	df	Sig.
Perceived_of_Security_Level	Gen Y	.213	22	.010	.754	22	.000
	Gen Z	.145	22	.200*	.915	22	.061

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Source: Research Results, 2022 (Data processed)

Table 3 shows that the normality test results are represented by the Sig. on Shapiro-Wilk, namely the value of Sig. Y generation of 0.000 <0.05 and the importance of Sig. Z generation of 0.061 > 0.05. As for the value of Sig. The y generation is not by the assumption of normality because <0.05 means the data is normally distributed or homogeneous. At the same time, the Z generation is following the assumption of normality because it has a Sig. > 0.05, namely, the data is not normally distributed, or the data is heterogeneous. Since the data is usually distributed or does not follow the normality rules, the test uses the Mann-Whitney U Test analysis method.

Based on the results of the Mann-Whitney U Test, the descriptive statistics results are shown in Table 4.

Table 4. Descriptive analytics

Ranks

	Generation	N	Mean Rank	Sum of Ranks
Perceived_of_Security_Level	Gen Y	22	21.39	470.50
	Gen Z	22	23.61	519.50
	Total	44		

Source: Research Results, 2022 (Data processed)

Table 4. shows that the respondents used in this study were 22 respondents representing the Y generation and 22 respondents representing the Z generation. The average value of the Y generation was 21.39, and the Z generation was 23.61. This shows that the average value of the Z generation is more significant than the Y generation. Likewise, the sumof the ranks of the Z generation is 519.50, which is far greater than the Y generation, which is 470.50. The results of hypothesis testing using the Mann-Whitney U test are shown in Table 5.

Table 5. Statistical Test Mann-Whitney U

Test Statistics[a]

	Perceived_of_Security_Level
Mann-Whitney U	217.500
Wilcoxon W	470.500
Z	-.581
Asymp. Sig. (2-tailed)	.561

a. Grouping Variable: Generation

Source: Research Results, 2022 (Data processed)

The basis for making the Mann-Whitney U Test decision is as follows:

1. If the Asymp Sig. <0.05, then Hypothesis 1 is accepted
2. If the Asymp Sig. > 0.05, then Hypothesis 1 is rejected.

Based on the statistical test output, it is known that the value of the Asymp. Sig. (2-tailed) is 0.561. Thus, it can be concluded that the hypothesis is rejected; that is, there is no significant difference in the perspective of the level of security between the Y and Z generation

in making decisions about using E-Banking. The security level perspective is considered something that must be prioritized by every fintech application developer, especially banking applications. A robust security system should be implemented while providing mobile payment services to customers to manage the potential risk, security, trust, and quality of information (Almaiah et al., 2022). This is in line with the study's result of Baraba & Mahmudi (2023) that perceived security has a substantial beneficial effect on attitudes towards using digital banking. The Y and Z generation in Indonesia thinks thatevery B2C E-Commerce, e-banking or other fintech company must be able to create a system that is safe and able to protect its customers from possible cases of data theft in every transaction on its application page (Wilson et al., 2021).

CONCLUSION

In the current digital 5.0 era, mobile banking is ingrained in daily life. Mobile banking is thought to help humans move more effectively and efficiently (Shafly, 2020). The perceived security level (Flavia'n C & M. Guinali'u, 2006; Nangin et al., 2020; Nia et al., 2022) has proven as one of the essential factors influencing the decision-making of e-banking usage. Every generation has different characters and perspectives in various aspects of life. For example, for business people, the majority of whom are of the Y generation, the perceived level of security is a factor to consider when deciding whether or not to use e-banking (Wijaya & Ekayasa, 2022).

The result of this study is no significant difference between the Y and Z generations in deciding to use E-Banking based on the perceived security level. This study's limitation is the research was carried out by examining the perceived security level only in Y and Z generations. For further investigation, the results would differ if the Y and Z generations were compared with the X or baby boomers.

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