

Research Article

Factors Affecting Millennials and Gen Z Preferences in Using Cashless Payment Systems in DKI Jakarta

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Abstract.

This research aims to determine the effect of perceived usefulness, perceived ease of use, perceived security, income, education level and generation on Millennials and Gen Z preferences in using cashless payment systems and to find out which factors have the most influence. This research is a quantitative research with analytical technique using linear multiple regression. The research uses primary data obtained through the distribution of questionnaires to a sample of 100 respondents. The sampling technique used is purposive sampling with the sample criteria being cashless payment users aged 15–40 years. The research shows that perceived usefulness, perceived ease of use, income, and generation have a positive and significant effect on Millennials and Gen Z preferences in using a cashless payment system. Whereas, perceived security and education level have no effect on Millennials and Gen Z preferences in using a cashless payment system. Perceived usefulness is the factor that most influences Millennials and Gen Z preferences in using a cashless payment system. To increase perceived usefulness and perceived ease of use, providers can improve the service quality of the cashless payment system so that users can access it more easily. To increase the perception of security, Bank Indonesia and the Financial Services Authority (Otoritas Jasa Keuangan) made stricter regulations related to the protection of users' personal data. To increase the use of the cashless payment system, the providers carry out promotions more often to attract the public's attention and also carry out socialization to increase public understanding of the cashless payment system.

Keywords: preference, payment systems, cashless, millennials, gen Z

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1. Introduction

The development of digital technology in Indonesia has resulted in a change in the pattern of the payment system. At present people prefer to use a non-cash payment system rather than a cash payment system. Cash or cashless payments are digital-based cashless payments. This cashless payment can make it easier for people to make transactions because it is considered more practical and efficient. The use of cashless payment systems in Indonesia has always experienced a rapid increase from year to year.

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Changes in the pattern of the payment system in Indonesia are also supported by the very rapid development of financial technology (fintech). Currently, there are 352 fintech companies, 11 financial institutions, and 7 technology partners who are members of Indonesian fintech [1]. This fintech company issues cashless payment types in the form of e-wallets and e-money. According to a survey conducted by DailySocial, OVO is the most widely used e-wallet. Then followed by GoPay, ShopeePay, Dana and LinkAja [2].

Currently, Indonesia is experiencing a Demographic Bonus where the majority of Indonesia's population is of productive age. Millennials and Gen Z, who are two generations of productive age, make up around 53.81 percent of the entire Indonesian population [3]. The Millennial Generation is the generation born between 1981 – 1996 while Gen Z is the generation born between 1997 – 2012 [4]. Millennials and Gen Z have a need for digital services that can support their dynamic lifestyles. These two generations are generations that cannot be separated from digital technology [5]. Therefore, Millennials and Gen Z tend to make cashless transactions.

Judging from the results of the 2020 DKI Jakarta population census which is distinguished by age, Millennials and Gen Z have the largest proportion, namely 26.66 percent (2.82 million people) for Millennials and 25.36 percent (2.68 million people). For Gen Z [6]. Due to the large number of people from these two generations, the use of cashless payment systems in DKI Jakarta is increasing. DKI Jakarta is the first province in Indonesia to implement cashless payments and was appointed by Bank Indonesia as a pilot model for other provinces in Indonesia [7]. To encourage cashless transactions, the Government of DKI Jakarta has begun to develop a cashless payment system in several public facilities such as digitizing Transjakarta in March 2020 [8] and digitizing markets in DKI Jakarta such as Pasar Grass, Pasar Santa, Pasar Koja, and others.

Based on the data described, the use of cashless payments in Indonesia is always increasing from year to year. But even so, cash payments are still in great demand by the public. According to [9], cash withdrawals in Indonesia in 2022 will increase by 16.6 percent (year-on-year). There is still a lot of use of cash among the public because there are still many people who do not believe in the cashless payment security system and still lack knowledge about cashless payment systems. In DKI Jakarta, even though the local government has encouraged the use of cashless payments in several policies, such as at toll gates, public transportation, recreation areas, and shopping areas, there are still many people who often make daily transactions with cash. This is because people are still comfortable using cash.

Research conducted by [10] states that perceived usefulness and perceived ease of use have a positive effect on the interest in using e-wallets in Semarang's Millennial Generation. In addition to perceived usefulness and perceived ease of use, there are other perceptions that can affect preference, namely perceived security. Research conducted by [11] stated that perceptions of security have a partial effect on interest in using e-wallets, which means that the higher the level of security, the higher public interest in using e-wallets. Personal factors that can influence consumer preferences include income and education level. Research conducted by [12] shows that education level and income have a positive and significant effect on people's preferences in using a cashless payment system. In this case, it means that the higher the level of education and income, the higher the preference for using a cashless payment system. Due to previous research, this study wants to re-analyze the factors that can influence the preferences of Millennials and Gen Z in using a cashless payment system.

2. Theory, Literature Review, and Hypothesis

2.1. Consumer Behavior

Consumer behavior describes how individuals and groups consider, choose, use, consume and how goods, services or experiences fulfill their needs [13]. According to [14], consumer behavior is based on the theory of consumer behavior which explains how consumers allocate their income among the various goods and services available to optimize their welfare and satisfaction. To better understand consumer behavior, [14] divides it into three steps, namely:

i. Consumer Preferences:

The first step is to find an approach that can be used to explain the factors that influence other people's decisions to use goods and services.

ii. Budget Limitations

Due to the limited purchasing power of consumers due to their limited income, consumers must also consider the price in this second step.

iii. Consumer Choices

Consumers choose to buy the combination of goods that maximizes their satisfaction. Price will determine this combination. Understanding consumer preferences or how much of a product to buy based on price will help to understand consumer demand.

However, consumers do not always make a choice in buying something deliberately, for example, when they buy something on impulse without thinking about its use and

budget. Sometimes consumers are also unsure of their preferences or are influenced by other people's recommendations. In addition, the classical economists Adam Smith and Alfred Marshall also developed a theory of consumer behavior based on microeconomic theory. According to Adam Smith's microeconomic theory, the decision to buy is the result of conscious and rational economic calculations. Meanwhile, according to Alfred Marshall, consumers who get maximum satisfaction will continue to make purchases in the long term. According to [15] there are several assumptions that underlie this microeconomic theory, namely:

- i. Consumers will always try to maximize their satisfaction with financial ability as a limit.
- ii. Consumers have knowledge about alternative choices.
- iii. Consumers always act rationally in choosing their choices.

Based on the assumptions above, it can be concluded that in choosing consumers always act rationally and will weigh the usefulness or benefits of these choices. [16] states that consumer behavior in choosing can be determined by several factors, namely:

- i. Psychological factors with indicators of perception, motivation, knowledge and attitudes.
- ii. Personal factors with indicators of income, age, education level, occupation and lifestyle.
- iii. Social factors with family indicators, social groups and social status.
- vi. Cultural factors with indicators of sub-culture and social class.

Based on the factors above, there are factors that can be used to examine people's preferences in using a cashless payment system, namely psychological factors with perception indicators and personal factors with income and education level indicators.

2.2. Perceived Usefulness

Perceived usefulness is the extent to which an individual believes that using technology can improve their performance [17]. Perceived usefulness is one of the main constructs in the Technology Acceptance Model (TAM) introduced by [18]. According to [18], perceived usefulness is a measure in which users of technology are believed to provide benefits to their users. Research conducted by [19] and [12] states that perceived usefulness has a positive and significant influence on consumer interest in using cashless payments because consumers feel they can increase their productivity when making cashless

transactions. In addition, consumers indicate that using cashless can help them save time and costs. This means that people's perceptions of the benefits derived from using cashless payment have a positive influence on their acceptance of cashless payment systems. Then the research hypothesis is:

H1: Perceived usefulness has a positive effect on Millennial and Gen Z preferences in using a cashless payment system

2.3. Perceived Ease of Use

Perceived ease of use is a measure of a person's belief that using a technology does not require much effort but is still easy to use [20]. Perceived ease of use is also one of the main constructs in the Technology Acceptance Model (TAM) introduced by [18]. According to [18], perceived ease of use can be interpreted as the level of an individual who believes that using a technology is easy and does not require great effort when using it. Based on research conducted by [21] and [19] shows that perceived ease of use has a positive and significant influence on the behavior of cashless users. It can be assumed that the greater the convenience offered, the greater a person's interest in using cashless payments. Consumers like cashless payment systems because they are easy to use and easy to understand. From the results of these two studies, it can be concluded that if people feel that using a cashless payment system provides convenience, this perceived ease of use will become a factor that can influence people's perceptions of using a cashless payment system. Then the research hypothesis is:

H2: Perceived ease of use has a positive effect on Millennial and Gen Z preferences in using a cashless payment system

2.4. Perceived Security

Perceived security is a measure of the trust that individuals have that their personal information will not be seen, stored and manipulated by other parties [22]. [23] stated that security perception is a measure that shows the level of individual confidence in the security of a technology. It can be said that cashless payment systems must be able to provide security guarantees to its users. This guarantee can be in the form of the safety of user data and a guarantee that there will be no threat to the user when using the system. Research conducted by [12] and [21] shows that perceived security has a significant effect on people's references in using a cashless payment system. This

means that security is an important factor in influencing the public to use or not cashless payments. Then the research hypothesis is:

H3: Perceived security has a positive effect on Millennial and Gen Z preferences in using a cashless payment system

2.5. Income

Income is a material source that is received by society as a result of the work they have done [24]. The income received by society can be used to meet their needs in the form of goods and services. Income is one of the factors that can influence consumer behavior because the consumption of each individual can be determined by the level of income. If income increases, consumption will increase and vice versa if income decreases, consumption will also decrease. Based on research conducted by [12] shows that income levels have a positive and significant influence on people's preferences in using cashless payments. This means that people with different income levels will have different preferences regarding the use of a cashless payment system. Another study by [25] and [26] also stated that income has a significant effect on interest in using a cashless payment system. Then the research hypothesis is:

H4: Income has a positive effect on Millennial and Gen Z preferences in using a cashless payment system

2.6. Education Level

Education can be interpreted as a planned effort to influence individuals or groups of people so that they can do what is expected of educational actors [27]. According to [28], education is the transfer of knowledge, skills and experience to the younger generation as an effort from the older generation to prepare a sustainable life function. Research by [26] stated that people with a high educational background are more likely to use cashless payments. Research conducted by [29] shows a positive and significant effect of education level on people's preferences in using a cashless payment system. Then the research hypothesis is:

H5: Education level has a positive effect on Millennial and Gen Z preferences in using a cashless payment system

2.7. Generation

Generation is an age group that is often used by researchers to describe major issues such as economics, socio-culture and politics because they have the same age and history [30]. Generational grouping aims to be used as a social identity so that everyone can compare one generation with another [31]. According to the Paw Research Center, generations can be divided into four, namely Baby Boomers (1946 – 1964), Generation X (1965 – 1980), Generation Y (1981 – 1996) and Generation Z (1997 – 2012) [30]. Generation as measured by age has an influence on how a person adapts to digital technology in payment systems, namely cashless payments. Each generation has a difference in using a cashless payment system. Then the research hypothesis is:

H6: Generation has an effect on Millennial and Gen Z preferences in using a cashless payment system

Furthermore, a framework can be made as in Figure 1 which shows the effect of perceived usefulness, perceived ease of use, perceived security, income, education level and generation on Millennials and Gen Z preferences in using cashless payment systems in DKI Jakarta.

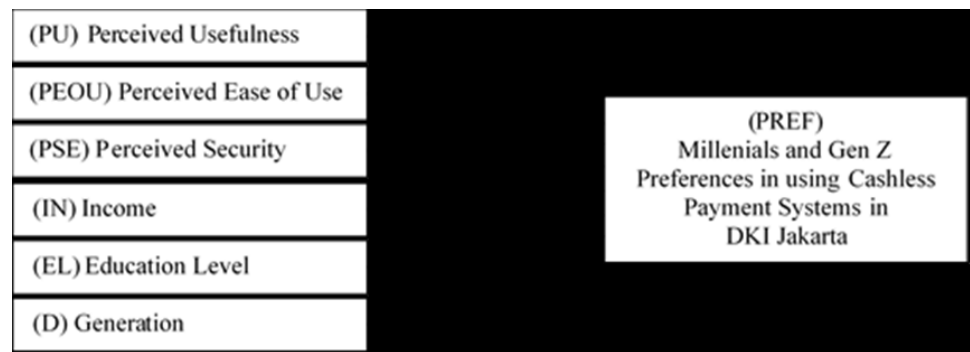


Figure 1: Research Framework.

3. Research Methods

3.1. Data Collection and Sample

The population for this research is residents of DKI Jakarta who use cashless payment systems. The sampling technique that will be used in this study is purposive sampling. This sampling technique is based on certain factors that meet the required criteria [32]. The criteria for this research are as follows: (1) Domiciled in DKI Jakarta; (2) Aged 15 – 40 years; (3) Have used cashless payments for more than 1 year. The number of research

samples was obtained using the Taro Yamane formula and the number of samples obtained for this study was 100 respondents. After that, to determine the respondents selected as a sample, they will be randomly selected with the same proportion from each area in DKI Jakarta.

To get the samples, questionnaires are distributed online to respondents using Google Form. The questionnaires were given directly via social media such as WhatsApp, Instagram and Twitter to be able to reach a predetermined number of samples. After receiving answers from respondents, answers that meet predetermined criteria will be selected to be used as samples in this research. The measurement instrument used in this research is Likert Scale from 1 for “strongly disagree” to 5 for “strongly agree” on dependent variable namely Millennials and Gen Z preference in using cashless payment systems and on independent variables namely perceived usefulness, perceived ease of use, and perceived security.

3.2. Data Analysis Techniques

The data analysis technique used in this research is multiple linear regression. Multiple linear regression is used to estimate the relationship between two or more independent variables and one dependent variable [33]. The dummy variable will be used in this research to represent the generation variable. The use of a dummy variable in the generation variable is because there are differences in preferences between Millennial and Gen Z. Because Gen Z is a younger generation, this generation is more familiar with many new technologies and is very quick to adapt to these technologies, therefore, Gen Z is given a score 1 while the Millennial was given a score of 0. In this study, data transformation was also carried out on the income and education level variables due to excessive data fluctuations. Then the regression equation is as follows:

$$PREF_i = \alpha + \beta_1 PU_i + \beta_2 PEOU_i + \beta_3 PSE_i + \beta_4 \ln IN_i + \beta_5 \ln EL_i + \beta_6 D_1 + e$$

Information :

PREF = Preference for Millennials and Gen Z in using a cashless payment system

α = constant value

$\beta(1,2,...)$ = Regression coefficient value

PU = Perceived Usefulness

PEOU = Perceived Convenience

PSE = Perception of Security

IN = Income

EL = Education Level

D₁ = Dummy Variables namely Millennial and Gen Z

E = Errors

Research methods are designed to describe the nature of the data. Methods should be well elaborated and improved, including models, approaches to analysis, and steps taken. Equations should be numbered as pictured. This section usually has the following sub-sections: Sampling (description of the target population, research context, and unit of analysis; sample; and profile of respondents); data collection; and size (or, alternatively, measurement). The research method should include the following: A brief description of the prevalence of this research method; the reasons for choosing a particular method are well explained; the accuracy of the research design is appropriate; the research sample is suitable; the data collection process is carried out correctly; and the relevance of data analysis methods is demonstrated.

4. Results and Discussion

4.1. Classic Assumption Test

The Classical assumption test used to determine the relation between variables. Classic assumption test that used in this research are Normality Test, Multicollinearity Test, and Heteroscedasticity Test. The result are as follows:

TABLE 1: Classic Assumption Test Results.

Variable	Sig	Tolerance	VIF
Perceived Usefulness (PU)	0.173	0.594	1.683
Perceived Ease of Use (PEOU)	0.287	0.512	1.954
Perceived Security (PSE)	0.190	0.671	1.491
Income (InIN)	0.784	0,651	1.536
Education Level (InEL)	0.366	0.811	1.233
Generation (D)	0.196	0.748	1.337
Unstandardized Residual	0.099	-	-

Based on the results above, the significance value of the unstandardized residual is $0.099 > 0.05$, meaning that the data in this study are normally distributed. The significance value of all variables is greater than 0.05, meaning that the research data is free from heteroscedasticity. The variables in this study have a Tolerance value of > 0.1 and $VIF < 10$, meaning that the research data is free from multicollinearity.

Coefficient of Determination (R-square)

TABLE 2: Coefficient of Determination Results.

Model	R	Adjusted R Square
1	0.821	0.653

Based on the table above, the R value is 0.821 which shows that there is a strong correlation between the independent variable and the dependent variable. The coefficient of determination (R²) is 0.653 or 65.3 percent, this value shows the influence of perceived usefulness, perceived ease of use, perceived security, income, education level, and generation together which have a significant effect on Millennial and Gen Z preferences in using the cashless payments system while the remaining 34.7 percent are influenced by other factors that not included in the study.

4.2. Hypothesis Test

Partial Test (t Test)

TABLE 3: Partial Test (t Test) Results.

Variable	t value	t table	Sig
Perceived Usefulness (PU)	7.889	1.985	0.000
Perceived Ease of Use (PEOU)	2.700		0.008
Perceived Security (PSE)	0.547		0.586
Income (InIN)	2.052		0.043
Education Level (InEL)	-0.306		0.761
Generation (D)	2.182		0.032

4.2.1. The Effect of Perceived Usefulness on Millennial and Gen Z Preferences in Using Cashless Payment Systems in DKI Jakarta

Based on the research results, the t value for perceived usefulness variable is 7.889 and the t table is 1.985, with sig value of 0.000 < 0.05. This result indicates that Ha is accepted and Ho is rejected. Based on the findings, it appears that perceived usefulness has a positive and significant effect on Millennial and Gen Z preferences in using a cashless payment system in DKI Jakarta. The results of this study are in line with the results of research conducted by [19] which states that perceived usefulness has a positive and significant effect on consumer interest in using cashless payments. The results of this study indicate that the more people feel the benefits they get when

using a cashless payment system, the more they will be encouraged to use this cashless payment system.

4.2.2. The Effect of Perceived Ease of Use on Millennial and Gen Z Preferences in Using Cashless Payment Systems in DKI Jakarta

Based on the research results, t value for perceived ease of use variable is 2.700 and the t table is 1.985, with sig value of $0.008 < 0.05$. This result indicates that H_a is accepted and H_o is rejected. Based on the findings, it appears that perceived ease of use has a positive and significant effect on Millennial and Gen Z preferences in using a cashless payment system in DKI Jakarta. The results of this study are in line with the results of research conducted by [21], which states that perceived convenience has a positive and significant effect on consumer interest in using cashless payments. The results of this study indicate that the easier use of cashless payment systems will lead to an increase in the use of payment systems.

4.2.3. The Effect of Perceived Security on Millennial and Gen Z Preferences in Using Cashless Payment Systems in DKI Jakarta

Based on the research results, t value for perceived ease of use variable is 0.547 and the t table is 1.985, with sig value of $0.586 > 0.05$. This result indicates that H_o is accepted and H_a is rejected. Based on the findings, it appears that perceived security does not affect Millennial and Gen Z preferences in using a cashless payment system in DKI Jakarta. The results of this study are in line with the results of research conducted by [19], which state that perceptions of security do not affect consumer interest in using cashless payments. The results of this study indicate that security is not a problem for the community so it does not affect preferences in using a cashless payment system.

4.2.4. The Effect of Income on Millennial and Gen Z Preferences in Using Cashless Payment Systems in DKI Jakarta

Based on the research results, t value for perceived ease of use variable is 2.054 and the t table is 1.985, with sig value of $0.043 < 0.05$. This result indicates that H_a is accepted and H_o is rejected. Based on the findings, it appears that income has a positive and significant effect on Millennial and Gen Z preferences in using a cashless payment system in DKI Jakarta. The results of this study are in line with the results of research conducted by [26], which states that income has a positive and significant effect on

consumer interest in using cashless payments. The results of this study indicate that people with high incomes prefer to make transactions using debit cards or credit cards and also online banking.

4.2.5. The Effect of Education Level on Millennial and Gen Z Preferences in Using Cashless Payment Systems in DKI Jakarta

Based on the research results, t value for education level variable is -0.306 and the t table is 1.985, with sig value of $0.761 > 0.05$. This result indicates that H_0 is accepted and H_a is rejected. Based on the findings, it appears that education level does not affect Millennial and Gen Z preferences in using a cashless payment system in DKI Jakarta. The results of this study are in line with the results of research conducted by [34], which states that education level does not correlate with preferences in using e-payments. The results of this study indicate that people can use cashless payments without having to have a high level of education because cashless payment service providers have designed the payment applications more user-friendly for the general public to use.

4.2.6. The Effect of Generation on Millennial and Gen Z Preferences in Using Cashless Payment Systems in DKI Jakarta

Based on the research results, t value for perceived ease of use variable is 2.182 and the t table is 1.985, with sig value of $0.032 < 0.05$. This result indicates that H_a is accepted and H_0 is rejected. Based on the findings, it appears that the average preference for the younger generation, namely Gen Z, is higher than Millennials. This means that the younger generation is more proficient in cashless payments because basically the younger generation can master technology more quickly.

4.3. Significant Simultaneous Test (F Test)

Based on the research results, F value is 32.017 and the F table is 2.20, with sig value of $0.000 < 0.05$. This result indicates that H_a is accepted and H_0 is rejected. Based on the findings, it appears that perceived usefulness, perceived ease of use, perceived security, income, education level and generation together have a significant effect on Millennial and Gen Z preferences in using a cashless payment systems in DKI Jakarta.

5. Finding and Conclusion

Based on the data analysis and discussion, perceived usefulness, perceived ease of use, perceived security, income, education level and generation together have a significant effect on Millennial and Gen Z preferences in using a cashless payment systems in DKI Jakarta. As for partially, perceived usefulness, perceived ease of use, income, and generation have a positive and significant effect on Millennial and Gen Z Generation preferences in using a cashless payment system in DKI Jakarta. Perceived security and education level have no effect on Millennials and Gen Z preference in using a cashless payment system in DKI Jakarta. Perceived usefulness is the factor that has the most influences on Millennial and Gen Z preferences in using a cashless payment system in DKI Jakarta.

6. Implications, Limitations, and Suggestions

Some of the implications that are considered relevant to this research are for the service providers can increase the speed of the transaction process such as when opening the application or when making a transaction so that people who use it can be more productive. They also need to improve the quality of their services to make it easier for the public to use. Apart from that, providers can also show the steps for making cashless transactions so that people can easily understand how to use it and an explanation of the services offered. With that, people's preference for using a cashless payment system will increase. Cashless payment providers also need to improve their security systems. For Bank Indonesia and OJK as the institutions that oversee the operation of the cashless payment system must be able to guarantee the protection of people's personal data by issuing legal-based regulations regarding this matter. With that, people will have more confidence in using cashless payments.

This research is subject to several limitations that offer opportunities for future research. First, the variables studied in this research are only limited to perceived usefulness, perceived ease of use, perceived security, income, education level, and generation. Therefore, further research can add other variables that might influence consumer preferences in using a cashless payment system such as risk perception factors, trust, promotions and others. Second, The proportion for the number of samples from each region in DKI Jakarta is still considered equal. For further research, the proportion of the sample can be adjusted according to the number of residents so that the proportions from each region are not the same.

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