



## Factors Affecting The Choice Of Payment Method In Modern Retail Shops

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**Abstract:** Digitalization affects almost all areas of life, including payment methods. Now, there are many different payment methods. However, on the other hand, Indonesia's financial inclusion level still needs to catch up compared to neighboring countries. This study aims to determine the factors influencing the choice of payment method at minimarkets in Bekasi City by using transaction value, income, education, awareness ease of use, and awareness of risk as independent variables. Research data collection was carried out by distributing questionnaires to 400 respondents. The sampling method used a convenient regional random sample selection technique. Data collection found that electronic wallets are the most used payment method. Using the PLS-SEM method, the results found that transaction value, income, education, awareness ease of use, and awareness of risk have positive and significant impacts in increasing the likelihood of consumer's behavior in choosing an electronic payment method.

**Keywords:** Cashless Society; Payment Methods; Minimarket.

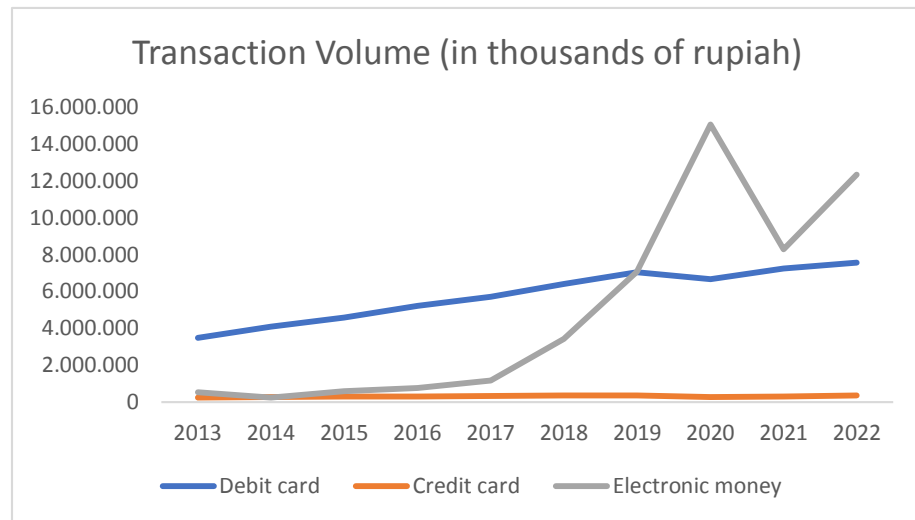
**Abstrak:** Digitalisasi memengaruhi hampir seluruh bidang kehidupan, termasuk metode pembayaran. Kini metode pembayaran semakin beragam jenisnya. Namun di sisi lain, tingkat inklusi keuangan di Indonesia masih jauh tertinggal dibandingkan negara-negara tetangga. Penelitian ini bertujuan untuk mengetahui faktor yang memengaruhi pemilihan metode pembayaran di minimarket Kota Bekasi dengan menggunakan variabel nilai transaksi, penghasilan, tingkat pendidikan, kesadaran kemudahan penggunaan, dan kesadaran risiko sebagai variabel independen. Pengumpulan data penelitian dilakukan dengan menyebarkan kuesioner kepada 400 responden. Metode pengambilan sampel menggunakan teknik pemilihan sampel acak wilayah secara *convenient*. Hasil pengumpulan data menunjukkan bahwa dompet elektronik merupakan metode pembayaran yang paling banyak digunakan oleh responden. Dengan menggunakan metode PLS-SEM, hasil penelitian menunjukkan bahwa nilai transaksi, penghasilan, tingkat pendidikan, kesadaran kemudahan penggunaan, dan kesadaran risiko secara positif dan signifikan meningkatkan kemungkinan perilaku konsumen untuk memilih metode pembayaran nontunai.

**Kata Kunci:** *Cashless Society*; Metode Pembayaran; Minimarket.

## INTRODUCTION

Technological developments and digitalization have occurred in almost all fields, including the financial sector. Various types of payment methods continue to grow. Bank Indonesia found that over the last ten years, the volume of use of debit cards, credit cards, and electronic money has tended to increase, as shown in **Figure 1**.





**Figure 1.** Transaction Volume of Debit Cards, Credit Cards, and Electronic Money in Indonesia (in thousands of rupiah)

Source: Bank Indonesia, 2023

However, on the other hand, Indonesia's financial inclusion level still needs to catch up compared to neighboring countries. Based on data from Bank Indonesia (2019) shown in **Figure 2**, quoted from the Global Financial Index, in 2018, only 49 percent of Indonesia's adult population (aged over 15) had access to banking. This number is much lower than the average for countries in the Asia Pacific region (71 percent).



Sumber: Global Financial Index, 2018

**Figure 2.** Account Ownership Share of Adult Residents in Indonesia

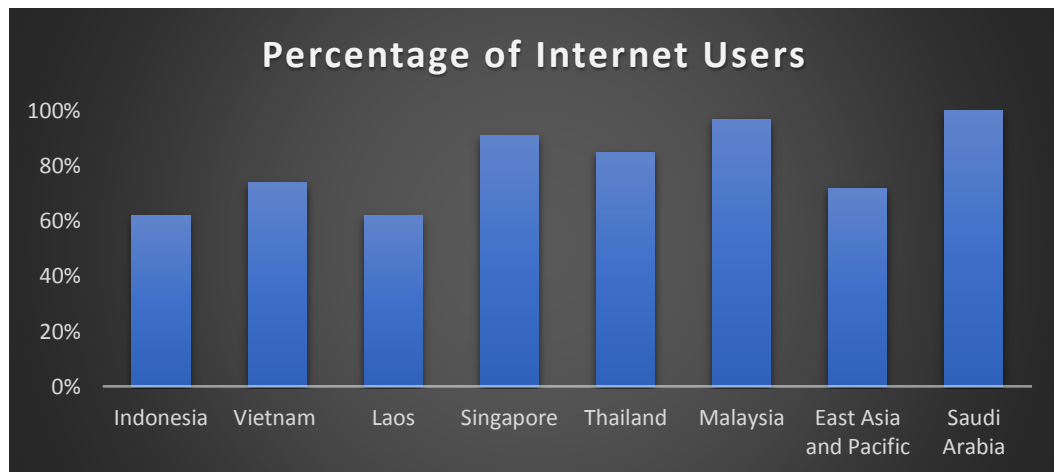
Source: Bank Indonesia, 2019

In addition, although it shows an increasing trend, the percentage of internet users in Indonesia is lower than in the East Asia and Pacific region, which has reached 72 percent (World Bank, 2023), as shown in **Figure 3**.

Based on the data above, electronic transaction types and volumes are increasing. However, on the other hand, the percentage of account ownership and internet users in Indonesia is still low. So, research about consumer's tendency to choose payment methods and the factors that influence it needs to be done.



Bekasi City was chosen as the object of research because, in the national urban system, Bekasi is included in the Jabodetabekpunjur Urban National Strategic Area and is designated as a National Activity Center (Regional Infrastructure Development Agency of Ministry PUPR, 2022). Thus, Bekasi already has a good information, communication, and banking infrastructure network. Therefore, society in Bekasi has an equal choice of whether to use cash or electronic payment methods in their transactions.



**Figure 3.** Comparison of the Percentage of Internet Users in Several Countries in the Southeast Asia Region, Saudi Arabia, and the East Asia and Pacific Region

Source: World Bank, 2023

Research conducted by (Politronacci et al., 2018), (Swiecka & Grima, 2019), and the European Central Bank (2020), using a sample of developed countries, found that transactions using cash are still dominant. (Politronacci et al., 2018) found that transaction characteristics (transaction value, payment constraints, and share of shop purchases for day-to-day items) have a significant effect on consumer's payment methods. (Swiecka et al., 2019) found that ease of payment, security, speed, and cost of use are the most influential factors affecting the choice of payment method. Meanwhile, the European Central Bank (2020) found that personal preferences, ownership of electronic payment instruments, electronic payment facilities at transaction points, and the amount of money available in wallets are the most influential factors affecting the choice of payment method.

As for research in Indonesia, (Rismana, 2018) found that the rapid development of marketplaces in Indonesia was not followed by the rapid development of electronic payment methods for shopping online. (Rismana, 2018) found that Indonesians tend to prefer payment methods in cash and bank transfers when shopping online, where the variables of experience, benefits, recommendations, gender, occupation, and income have a significant effect on customer preferences in selecting payment methods in marketplaces.

This study examines whether transaction value, sociodemographic characteristics, awareness ease of use, and awareness of risk affect consumer preference in choosing a payment method. The transaction value variable was tested because, according to (Politronacci et al., 2018), in various literature, the transaction value is often referred to as one of the most influential factors in choosing a payment method. Variable sociodemographic characteristics were tested because there was a research gap where (Sahabat et al., 2017) found that sociodemographic characteristics influence the choice of



payment method, while (Politronacci et al., 2018) found that sociodemographic characteristics do not affect the choice of payment method. At the same time, the variables of awareness ease of use and awareness of risk were tested because these two things are the main characteristics of a payment method where there is ease of use and risk when consumers choose a particular payment method. In addition, it also refers to the survey by (Swiecka & Grima, 2019), which found that payment features in the form of ease of use and level of security are the two factors that most influence the choice of payment method.

The novelty in this study is the location of the transaction in the form of a modern retail store-minimarket as the object of research. Minimarkets offer a wide selection of daily needs products, so they have high consumer heterogeneity. Besides, transaction values tend to be more varied when compared to modern retail stores that specifically offer specific products. In addition, Indonesian's interest in shopping at minimarkets is relatively high. Alfamart, as one of the market leaders in the minimarket industry in Indonesia, serve more than four million customers daily during 2022 (Alfamart Annual Report, 2023).

## THEORITICAL REVIEW

**Consumer behavior.** (Kotler & Keller, 2022) stated that consumer behavior studies how individuals, groups, and organizations select, buy, use, and dispose of goods, services, ideas, or experiences to satisfy their needs and wants. A consumer's buying behavior is influenced by (1) cultural factors consisting of culture, subculture, and social class, (2) social factors consisting of reference groups, cliques, family and roles and status, and (3) personal factors consisting of age and stage in the life cycle, occupation and economic circumstances, personality and self-concept, and lifestyle and values (Kotler & Keller, 2022).

Along with the development of technology and digitalization in banking and finance, consumers have various alternative payment methods, such as cash, credit cards, debit cards, and electronic money. Based on the theory of consumer behavior, cultural, social, and personal factors influence how consumers pay.

This study examines the factors that influence the choice of payment method by using transaction value, sociodemographic characteristics (personal factors), awareness ease of use, and awareness of risk as independent variables.

**Transaction value.** A transaction is a sale and purchase agreement (in trade) between two parties (Kamus Besar Bahasa Indonesia, 2023). Transaction values in various literature are often referred to as one of the most influential factors in choosing a payment method (Politronacci et al., 2018). Research conducted by (Politronacci et al., 2018) found that the transaction value has a significant influence on the choice of payment method. The higher the transaction value, the less likely the transaction is to be paid in cash. It happens because holding large amounts of cash is impractical and high risk.

**Sociodemographic characteristics.** Based on a literature study, several sociodemographic characteristics were examined as factors influencing the choice of payment method, namely age, gender, education, income, occupation, and place of residence.



**Table 1.** Research Results Related to the Effect of Sociodemographic Characteristics on the Choice of Payment Method

No	Types of Sociodemographic Characteristics	Research Result
1	Gender	There is no difference in preference for using cash between males and females (Sahabat et al., 2017; European Central Bank, 2020) Gender has a significant effect on the choice of payment method in shopping online. Males tend to choose Cash on Delivery rather than Transfer Bank compared to females when shopping online (Rismana, 2018).
2	Age	Older people use cash payments more frequently and electronic payments less frequently than younger people (Sahabat et al., 2017; Politronacci et al., 2018; European Central Bank, 2020). Age does not affect consumer preferences in choosing an electronic payment method when shopping online (Rismana, 2018).
3	Education	The higher the educational level, the better his financial knowledge. So, the level of using electronic payment methods is increasing. Sahabat et al., 2017; European Central Bank, 2020). Education does not affect consumer preferences in choosing an electronic payment method when shopping online. (Sahabat et al., 2017)
4	Income	The higher the income, the more likely that person use electronic payment methods (Sahabat et al., 2017; Politronacci et al., 2018)
5	Occupation	Surveys found that cash usage is higher among manual workers, retired, and homemakers and lower among job seekers, students, employees, and self-employed professionals (Politronacci et al., 2018). Employment status and formal job have a positive and significant influence on the choice of electronic payment methods in the form of credit cards, debit cards, and credit transfers. (Sahabat et al., 2017)
6	Place of resident	Electronic payment methods are used more frequently in urban areas compared with rural areas. (Bank Sentral Eropa, 2020)

**Table 1** shows that there were differences in the results of the research on gender, age, education, and occupation variables. However, there were no different research results for income and place of resident variables.

**Awareness ease of use.** Awareness ease of use is aware when users feel the payment system is easy to understand and easy to use (Nguyen & Nguyen, 2020). Both cash and electronic payment methods have their respective advantages.

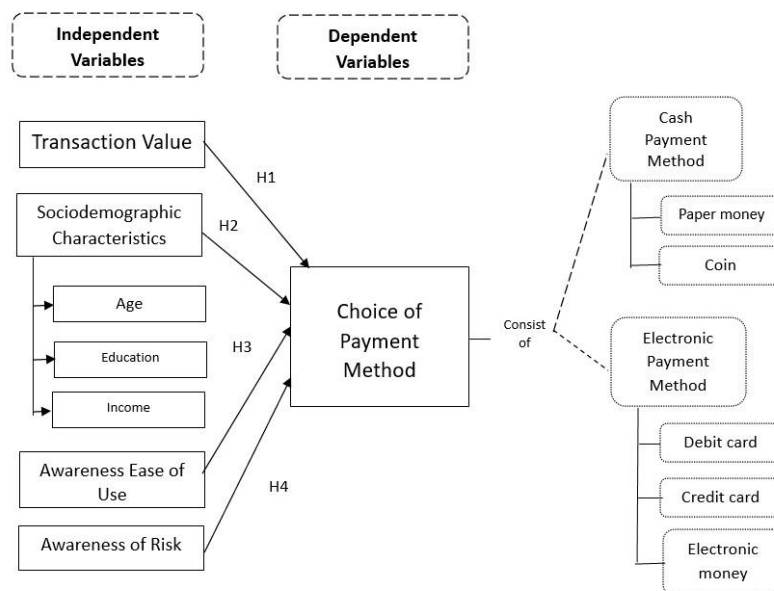
The convenience of cash transactions is that transactions can be done anywhere without being tied to electronic devices and internet networks. (Swiecka & Grima, 2019) found that cash is still the main payment instrument in Poland due to its ease of use and low transaction costs.

Meanwhile, the convenience of electronic transactions is that consumers do not need to carry large amounts of cash and wait for change. (Nguyen & Nguyen, 2020) stated that a system considered easy to use should have a simple interface, clear steps, appropriate content and layout, understandable functions and notifications.



**Awareness of risk.** Risk is an unpleasant (harmful, dangerous) result of an action (Kamus Besar Bahasa Indonesia, 2023). Some common barriers consumers face in electronic payments are lack of internet security, personal information security, and hacker’s actions. In addition, disruption to the internet network or system is also a risk from using electronic transactions. These various types of risks can cause consumers to experience financial losses. (Nguyen & Nguyen, 2020) found that risk awareness in electronic payment methods has the most substantial negative effect on consumer payment decisions when shopping online.

**Research framework.** Based on the variables used in this study, the research model is shown in **Figure 4**.



**Figure 4.** Research Model  
 Source: Processed by the authors

**Hypothesis.** The higher the transaction value, the more likely consumers will choose electronic payment methods. It happens because consumers do not need to carry large amounts of cash and do not need to worry if their cash is insufficient by using electronic payment methods. A European Central Bank (2020) survey found that 90 percent of purchases with a transaction value under five Euros are paid in cash.

**H1:** Transaction value increases the likelihood of consumer behavior in choosing an electronic payment method.

Younger consumers are more up-to-date on the latest technology than older consumers. Thus, young consumers tend to choose electronic payment methods more often. Meanwhile, older consumers tend to use the cash payment method more often. European Central Bank (2020) and (Politronacci et al., 2018) found that older consumers use cash payments more frequently and electronic payments less often than younger consumers.

**H2a:** Age increases the likelihood of consumer behavior in choosing an electronic payment method.

Consumers with higher levels of education tend to choose electronic payment methods more often because they tend to keep abreast of the latest technological developments. Meanwhile, consumers with lower levels of education tend to choose the cash payment method more often because they tend not to keep up with the latest technological developments, so they prefer conventional things. European Central Bank (2020) found that the higher the educational level, the better his financial knowledge, so the level of using electronic payment methods is increasing.

**H2b:** Education increases the likelihood of consumer behavior in choosing an electronic payment method.

Consumers with higher incomes tend to choose payment methods more often because they tend to transact more frequently and adopt modern lifestyles. Meanwhile, consumers with lower incomes tend to choose cash payment methods more often because they tend to make transactions less often, so they only have a few electronic payment method accounts. (Politronacci et al., 2018) found that the higher the income, the more likely the person to choose electronic payment methods.

**H2c:** Income increases the likelihood of consumer behavior in choosing an electronic payment method.

The easier and simpler consumers perceive an electronic payment method, the higher the opportunity for consumers to make electronic transactions. Research conducted by (Nguyen & Nguyen, 2020) found that the ease of use of electronic payment methods has a significant and positive effect on customer payment decisions when shopping online.

**H3:** Awareness ease of use increases the likelihood of consumer behavior in choosing an electronic payment method.

The higher the level of risk in using an electronic payment method, the higher the opportunity for consumers to choose a cash payment method. Research by (Nguyen & Nguyen, 2020) found that risk awareness in using the cash payment method has the most substantial negative impact on customer payment decisions when shopping online.

**H4:** Awareness of risk decreases the likelihood of consumer behavior in choosing electronic payment methods.

## **METHODS**

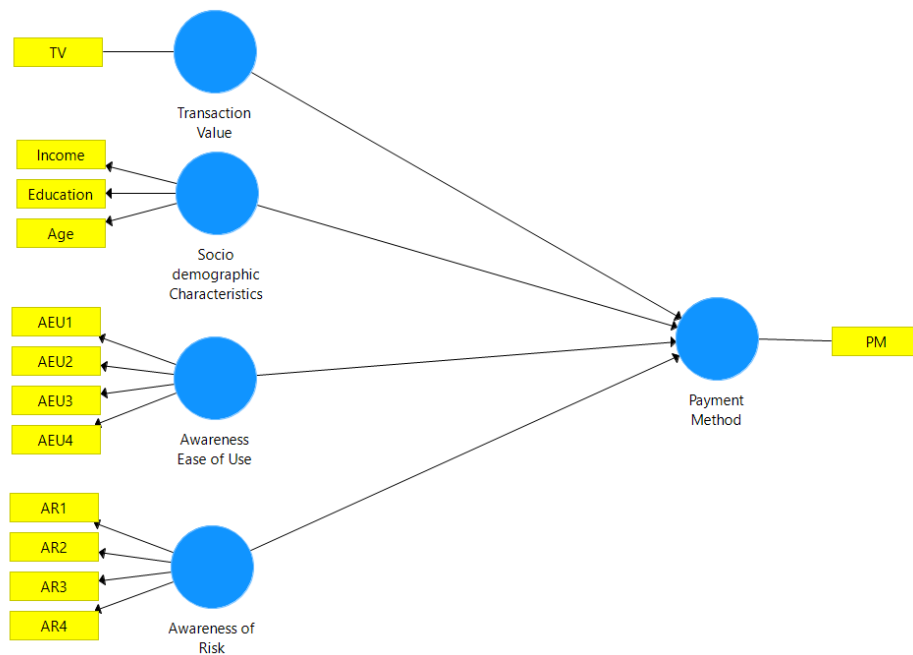
This research is a type of quantitative research. Quantitative research is systematic scientific research on parts and phenomena and their relationships (Lestari, 2020). The population used as research subjects were residents of Bekasi City aged over 15 years old who had transacted at minimarkets. Bekasi residents aged over 15 years old amount to 1.853.181 people (Department of Population and Civil Registration Bekasi City, 2020).



The respondent sample was calculated using the Slovin formula with a margin error of five percent. The calculation of the Slovin formula produces a sample size of 400 respondents. The sampling method for respondents used a convenient regional random sample selection technique. Research data was collected by distributing questionnaires online and offline within four months, from November 2022 to February 2023.

This study used Partial Least Square - Structural Equation Modeling (PLS-SEM). PLS-SEM is primarily used to develop theories in exploratory research (Hair et al., 2017). It explains the variance in the dependent variables when examining the model (Hair et al., 2017).

Path models are diagrams used to visually display the hypotheses and variable relationships examined when SEM is applied (Hair et al., 2017). The path models in this study are shown in **Figure 5**.



**Figure 5.** Path Models  
 Source: Processed by SmartPLS 3.0

In the path model, as shown in **Figure 5**, there are two variables, namely latent or construct variables and indicators. Latent or construct variables are variables that cannot be measured directly. In this path model, the latent variables are Awareness Ease of Use, Awareness of Risk, and Payment Method. While indicators are variables used to measure latent or construct variables, represented by yellow rectangles.

**Table 2.** Operationalization of Latent Variables

No	Latent Variables	Definition	Scale	References
1	Transaction Value	The value of one transaction in rupiah units.	Interval	(Politronacci et al., 2018)
2	Sociodemographic Characteristic	Characteristics of the respondent	Ordinal	(Swiecka & Grima, 2019); (Rismana,





				2018)
3	Awareness Ease of Use	Customers feel and realize they only need a little effort when making transactions using the electronic payment method.	Ordinal, where data is obtained from questionnaires using a Likert scale.	(Nguyen & Nguyen, 2020)
4	Awareness of Risk	Unpleasant result of using the electronic payment method.	Ordinal, where data is obtained from questionnaires using a Likert scale.	(Nguyen & Nguyen, 2020); (Rismana (2018).
5	Payment Method	Payment method used by respondents.	The nominal value is 0 if the respondent chose a cash payment method and 1 if the respondent chose an electronic payment method.	

The operationalization of the indicators is as follows: (1) TV means the value of one transaction in rupiah units, (2) Income means the total net income in the form of money consumers earn in one month, (3) Education means the last level of formal education where the respondent has graduated, (4) Age means the length of time a person has lived since birth, (5) AEU1 means that electronic payment methods are easy to use, (6) AEU2 means that electronic payment methods are easy to understand and learn, (7) AEU3 means transactions using electronic payment methods take little time, (8) AEU4 means the payment procedure using electronic payment methods is simple and uncomplicated, (9) AR1 means the risk of failure using electronic payment methods is small, (10) AR2 means personal information and funds stored in electronic payment methods are secure, (11) AR3 means respondent never lost money when transacting using electronic payment methods, (12) AR4 means respondent trust and believe that he/she will not experience problems when using electronic payment methods (such as system or internet network problems), (13) PM means the payment method used by respondents is cash or electronic (debit card, credit card, electronic money).

## RESULTS

**Descriptive Statistical Analysis.** Descriptive statistical analysis aims to describe the data that has been collected as it is without intending to make general conclusions or generalizations (Sugiyono, 2018). Descriptive statistical analysis for the transaction value variable is shown in **Table 3**.

**Table 3.** Frequency of Transaction Value

Transaction Value	Number of Respondents
Less than IDR 50.000	88
IDR 50.001 to IDR 100.000	124
IDR100.001 to IDR 150.000	69
IDR 150.001 to IDR 200.000	39
IDR 200.001 to IDR 250.000	19



IDR 250.001 to IDR 300.000	17
IDR 300.001 to IDR 500.000	34
IDR 500.000 to IDR 1.000.000	7
More than IDR 1.000.000	3
Total	400

Source: Data collection, processed by the authors

**Table 3** shows that the value of consumer transactions in modern retail stores-minimarkets varies. The table shows that most respondents transacted with a nominal value of less than IDR 150.000.

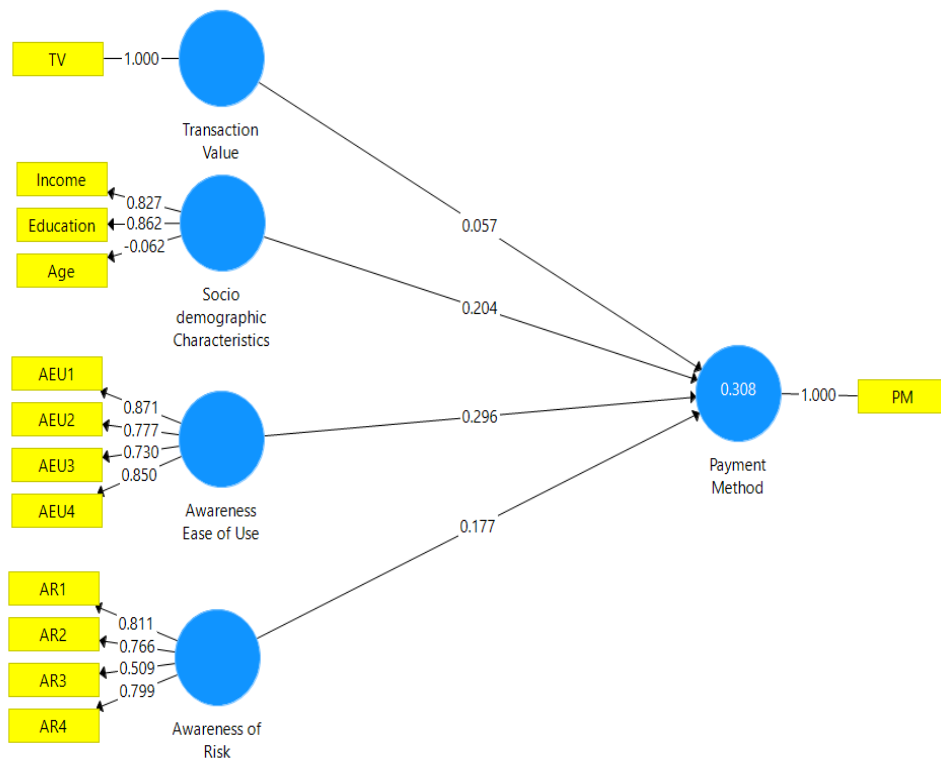
**Table 4.** Descriptive Statistic for Transaction Value

Minimum Value	IDR 12.500
Median Value	IDR 100.000
Maximum Value	IDR 3.750.000
Average Value	IDR 164.718
Standard Deviation	Rp 250.071

Source: Data collection, processed by the authors

**Table 4** shows that the minimum transaction value is IDR 12.500. It means that sometimes consumers only buy one to three pieces of an item in the minimarket.

**Path Model Analysis.** Based on data processing using SmartPLS 3.0, the results of the path model analysis are as follows:



**Figure 6.** Result of Path Model Analysis

Source: Processed by SmartPLS 3.0



**Figure 6** shows the value of the relationship between constructs or path coefficients and the relationship between indicators and each construct. An indicator validity test is carried out to determine whether all indicators are valid in the path model analysis test, as shown in **Table 5**.

**Table 5.** Result of Indicator Validity Test

Indicator	Construct Validity	Discriminant Validity	Level of Significance	Explanation
TV	1	1		Valid
Income	0.827	0.827	0.000	Valid
Education	0.862	0.862	0.000	Valid
Age	-0.062	-0.062	0.730	Invalid
AEU1	0.871	0.871	0.000	Valid
AEU2	0.777	0.777	0.000	Valid
AEU3	0.730	0.730	0.000	Valid
AEU4	0.850	0.850	0.000	Valid
AR1	0.811	0.811	0.000	Valid
AR2	0.766	0.766	0.000	Valid
AR3	0.509	0.509	0.000	Valid
AR4	0.799	0.799	0.000	Valid

Source: Processed by SmartPLS 3.0

(Hair et al., 2017) stated that if an indicator has a construct validity value of more than 0.700, then the indicator is valid. **Table 5** shows that indicators “age” and “AR3” have values less than 0.700, which is invalid based on construct validity.

**Table 6.** Result of Discriminant Validity Test

	Sociodemographic Characteristic	Awareness Ease of Use	Awareness of Risk	Payment Method	Transaction Value
AEU1	0.295	0.871	0.599	0.474	0.094
AEU2	0.274	0.777	0.489	0.360	0.050
AEU3	0.236	0.730	0.507	0.315	0.130
AEU4	0.256	0.850	0.527	0.397	0.059
AR1	0.230	0.495	0.811	0.337	0.068
AR2	0.297	0.562	0.766	0.383	0.071
AR3	0.229	0.485	0.509	0.183	0.037
AR4	0.282	0.424	0.799	0.361	0.001
PM	0.378	0.485	0.447	1.000	0.147
TV	0.242	0.101	0.060	0.147	1.000
Income	0.827	0.212	0.257	0.281	0.231
Education	0.862	0.202	0.241	0.280	0.207
Age	-0.062	-0.270	-0.195	-0.160	0.035

Source: Processed by SmartPLS 3.0

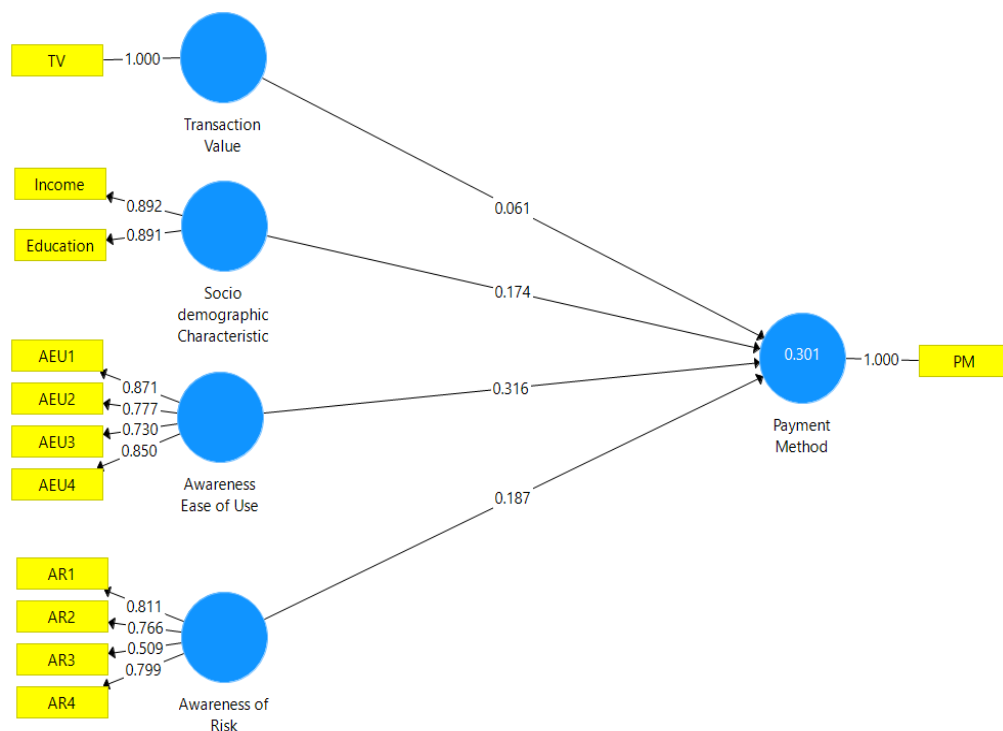
**Table 6** shows the result of the discriminant validity test. An indicator has a valid discriminant validity if its outer loading on the associated construct (represented by the grey cell) is greater than its cross-loadings or correlation on other constructs (Hair et al., 2017). **Table 6** shows that “Age” has the highest correlation with the “Transaction Value” construct, not with its associated construct “Characteristic Sociodemographic”. So, “Age”



is invalid based on discriminant validity. Meanwhile, “AR3” has the highest correlation with its associated construct “Awareness of Risk”, so “AR3 is valid.

If an indicator has a significance value less than 0.050, then the indicator is valid (Hair et al., 2017). In **Table 5**, "Age" has a significance value greater than 0.050, so the "Age" is invalid. Meanwhile, "AR3" is valid because it has a significance value of less than 0.050.

Based on the results of these three tests, "KR3" is not valid in terms of construct validity but valid in terms of discriminant validity and significance level tests. So, "AR3" is still included in the analysis. Meanwhile, the "Age" is not valid in terms of construct validity, discriminant validity, and significance level test, so the "Age" indicator is not included in the analysis. After eliminating the indicator "Age", the results of the path model analysis are shown in **Figure 7**.



**Figure 7.** Result of Path Model Analysis After Eliminating Indicator “Age”

Source: Processed by SmartPLS 3.0

**Figure 7** shows that after eliminating the indicator “Age”, the loading value from “Income” and “Education” with its associated construct “Characteristic Sociodemographic” changed. **Figure 7** also shows that all coefficient paths or values between constructs changed.

**Measurement or Outer Model.** Measurement or outer model represents the relationship between the indicator and latent variable. The relationship between the indicator and its reflective construct is called loading value or outer loading. Outer loading represents the absolute contribution of the indicator to the definition of its latent variable. The loadings vary from -1 to 1. The larger the loadings, the stronger and more reliable the measurement model.

**Figure 7** shows that the loading value between “TV” and “Transaction Value” as well as the loading value between “PM” and “Payment Method” is 1. It happens because



the “Transaction Value” and “Payment Method” construct have only one indicator. So, the one indicator explains all constructs from “Transaction Value and “Payment Method”.

**Structural or Inner Model.** Structural or inner model represents the relationship between constructs, called path coefficient. Path coefficients vary between -1 and 1. A path coefficient close to 1 indicates a strong positive relationship and a value close to -1 indicates a strong negative relationship. **Figure 7** shows that “Awareness Ease of Use” has the strongest relationship to “Payment Method”

**Evaluation of Reflective Measurement Models.** Cronbach’s alpha estimates the reliability based on the intercorrelations of the observed indicator variables. Cronbach’s alpha assumes all indicators have equal outer loadings on the construct. Another measure is composite reliability, which considers the different outer loadings of the indicator variables. The value of Cronbach’s alpha and composite reliability varies between 0 and 1, with higher values indicating higher levels of reliability. The values of 0.600 to 0.700 are acceptable in exploratory research (Hair et al., 2017).

**Table 7.** Result of Internal Consistency Reliability Test

Variables	Cronbach's Alpha	Composite Reliability	Explanation
Sociodemographic Characteristics	0.714	0.885	Valid
Awareness Ease of Use	0.823	0.883	Valid
Awareness of Risk	0.707	0.818	Valid
Payment Method	1.000	1.000	Valid
Transaction Value	1.000	1.000	Valid

Source: Processed by SmartPLS 3.0

**Table 7** shows that all variables have valid reliability values. It means that the measurement instruments used to measure all construct variables are consistent or yield the same results across multiple applications to the same sample (APA Dictionary, 2023).

Convergent validity is the extent to which a measure correlates positively with alternative measures of the same construct. One measure to establish convergent validity on the construct level is the Average Variance Extracted (AVE). This criterion is defined as the grand mean value of the squared loadings of the indicators associated with the construct (Hair et al., 2017).

**Table 8.** Result of AVE Test

Variables	AVE Value	Explanation
Sociodemographic Characteristics	0.794	Valid
Awareness Ease of Use	0.654	Valid
Awareness of Risk	0.536	Valid
Payment Method	1.000	Valid
Transaction Value	1.000	Valid

Source: Processed by SmartPLS 3.0

**Table 8** shows that all variables have an AVE value of more than 0.500. It means that on average construct “Sociodemographic Characteristics”, “Awareness Ease of Use” and “Awareness of Risk” explain more than half of the variance of its indicators. Meanwhile, construct “Payment Method” and “Transaction Value” explain all variances



of its indicator because those two variables only have one indicator. So, it can be concluded that all the variables have a valid convergent validity. It means that if alternative measures measure all the constructs, it will have a positive outcome or a strong relationship with the previous measures.

Discriminant validity is the extent to which a construct is truly distinct from other constructs by empirical standards. Thus, establishing discriminant validity implies that a construct is unique and captures phenomena not represented by other constructs in the model (Hair et al., 2017). One of the methods to assess the discriminant validity is the cross-loadings. An indicator has a valid discriminant validity if its outer loading on the associated construct (represented by the grey cell) is greater than any of its cross-loadings or correlation on other constructs.

**Table 9.** Result of Cross-Loading Test

	Sociodemographic Characteristic	Awareness Ease of Use	Awareness of Risk	Payment Method	Transaction Value	Explanation
AEU1	0.201	0.871	0.599	0.474	0.094	Valid
AEU2	0.185	0.777	0.489	0.360	0.050	Valid
AEU3	0.172	0.730	0.507	0.315	0.130	Valid
AEU4	0.192	0.850	0.527	0.397	0.059	Valid
AR1	0.175	0.495	0.811	0.337	0.068	Valid
AR2	0.234	0.562	0.766	0.383	0.071	Valid
AR3	0.170	0.485	0.509	0.183	0.037	Valid
AR4	0.236	0.424	0.799	0.361	0.001	Valid
PM	0.314	0.485	0.447	1.000	0.147	Valid
TV	0.246	0.101	0.060	0.147	1.000	Valid
Education	0.891	0.202	0.241	0.280	0.207	Valid
Income	0.892	0.212	0.257	0.281	0.231	Valid

Source: Processed by SmartPLS 3.0

**Table 9** shows that all indicators have the highest correlation or cross-loading with its associated construct. So, all the constructs have a valid discriminant validity. It means that all the construct is truly distinct from other constructs by empirical standards.

**Evaluation of Structural Model.** Collinearity means high correlations between constructs. Collinearity can prove problematic from a methodological and interpretational standpoint (Hair et al., 2017). Variance Inflation Factor (VIF) can assess the level of collinearity. A VIF value of 5 and higher, respectively, indicates a potential collinearity problem (Hair et al., 2017).

**Table 10.** Result of VIF Test

Variables	VIF	Explanation
Sociodemographic Characteristics	0.201	Valid or no collinearity problem
Awareness Ease of Use	0.185	Valid or no collinearity problem
Awareness of Risk	0.172	Valid or no collinearity problem
Transaction Value	0.192	Valid or no collinearity problem

Source: Processed by SmartPLS 3.0



**Table 10** shows that all the independent variables have VIF values less than 5. It means that there are no collinearity problems among variables that affect the “Payment Method” variable.

The path model coefficients are assessed by testing the significance level of all structural model relationships using t-value, p-value, and bootstrap confidence intervals. The coefficient is statistically significant at a particular probability error if an empirical t-value is larger than the critical value. When assuming a significance level of 5 percent, the p-value must be smaller than 0.050 to conclude that the relationship under consideration is significant at 5 percent.

**Table 11.** Result of t-values and p-values Test

Variables	t-values	p-values	Explanation
Sociodemographic Characteristics	3.294	0.001	Significance
Awareness Ease of Use	4.460	0.000	Significance
Awareness of Risk	3.140	0.002	Significance
Transaction Value	2.279	0.023	Significance

Source: Processed by SmartPLS 3.0

**Table 11** shows that all variables have t-values more than 1.960 and p-values less than 0.050. So, variables “Sociodemographic Characteristics”, “Awareness Ease of Use”, “Awareness of Risk” and “Transaction Value” significantly affect “Payment Method”. It also means that all variables significantly contribute to forming the variable “Payment Method”.

The coefficient of determination measures the model’s predictive power. The coefficient represents the exogenous latent variables combined effects on the endogenous latent variable. As with multiple regression, the adjusted coefficient of determination ( $R_{adj}^2$ ) can be used as the criterion to avoid bias toward complex models. This criterion is modified according to the number of exogenous constructs relative to the sample size.

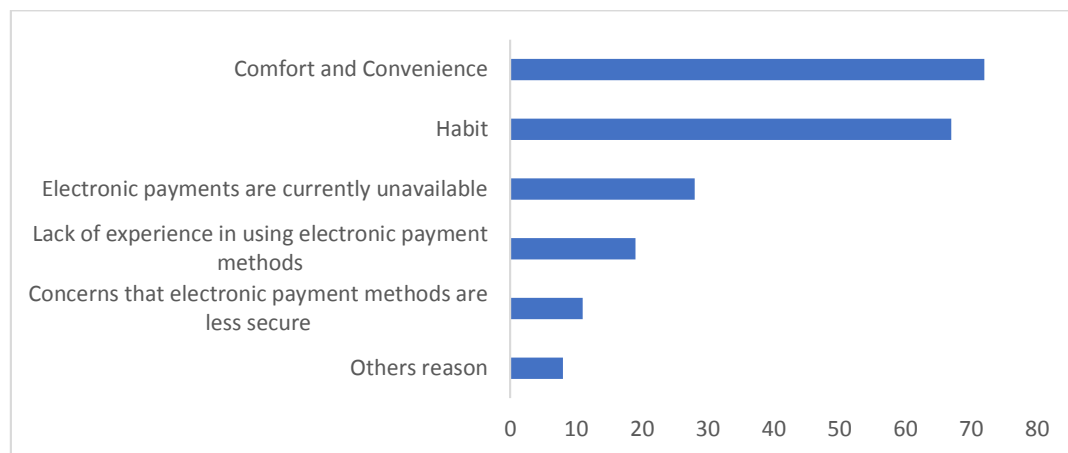
Based on the data processing using Smart PLS 3.0, the value of  $R_{adj}^2$  is 0.294. It means that the number of variances in the “Payment Method” construct explained by all the exogenous constructs is 29.400 percent, whereas 70.600 percent is explained by other variables not included in this research.

## DISCUSSION

**Analysis of the Choice of Payment Method in Modern Retail Stores - Minimarkets in Bekasi City.** Modern retail stores in the form of minimarkets provide a variety of alternative payment methods. Consumers can use cash, debit cards, credit cards, or electronic money in card-based (e-money) or application-based (e-wallet) such as GoPay, OVO, or Dana. Data collection found that 88 respondents, or 22 percent of the total respondents, transacted using cash, and 312 respondents, or 78 percent of the total respondents, transacted using electronic payment methods.

Even though electronic payment methods are available, several consumers still choose cash payment. The advantages of the cash payment method are that it has been widely used as a means of payment, is trustworthy, easy to use, and has anonymous transactions (Sahabat et al., 2017).





**Figure 8.** Reasons for Using Cash Payment Method

Source: Data collection, processed by the authors

Findings from the data collection, as shown in **Figure 8**, show that (1) comfort and convenience and (2) habit sequentially are the main influencing factors for using the cash payment method.

For some consumers, cash is a convenient and easy payment method. It is in line with the fact that the society has long used cash as a payment method. The conveniences of using the cash payment method are that consumers do not need to prepare electronic payment methods, do not need to learn the transaction mechanism using electronic payment methods, and do not feel worried that transactions will fail or be rejected.

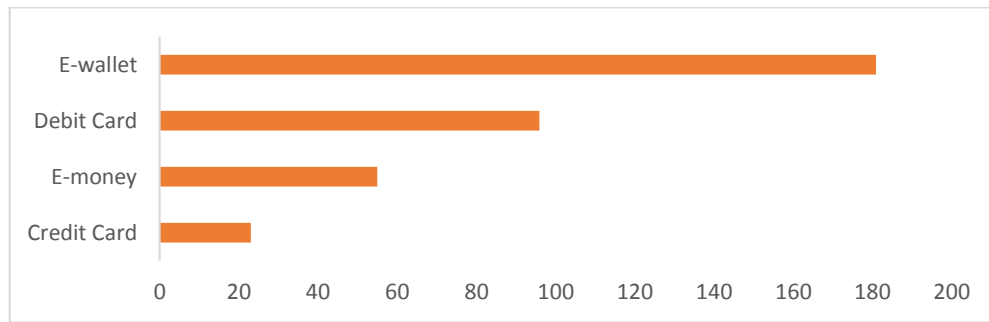
If consumers want to use debit or credit cards, they must first be registered as commercial bank customers. Ownership of a credit card even has more complex terms and conditions, such as provisions for a minimum monthly income and a willingness to pay higher interest if cardholders are late paying bills.

Meanwhile, to use an e-wallet, consumers must first download the application and verify the registration. In order to make transactions using e-wallet, consumers must ensure that their phone has a stable internet connection. In addition, to use a debit card and electronic money, consumers must ensure that the balance on the electronic payment instrument is sufficient.

On the other hand, data collection showed that 78 percent of total respondents use electronic payment methods. The high level of consumer preference for using electronic payment methods is influenced by the ease of access to banking infrastructure and the large number of minimarkets (Sahabat et al., 2017). As one of the big cities in Indonesia, Bekasi has a good infrastructure of banking, information, and communication. In addition, the COVID-19 pandemic accelerated the Indonesian transition towards a cashless society by two years (Visa, 2022). So, these two things encourage a high consumer preference for electronic payment methods.

Data collection, as shown in **Figure 9**, shows that the electronic payment method most respondents use is e-wallet, followed by debit cards.





**Figure 9.** Types of Electronic Payment Methods Chosen

Source: Data collection, processed by the authors

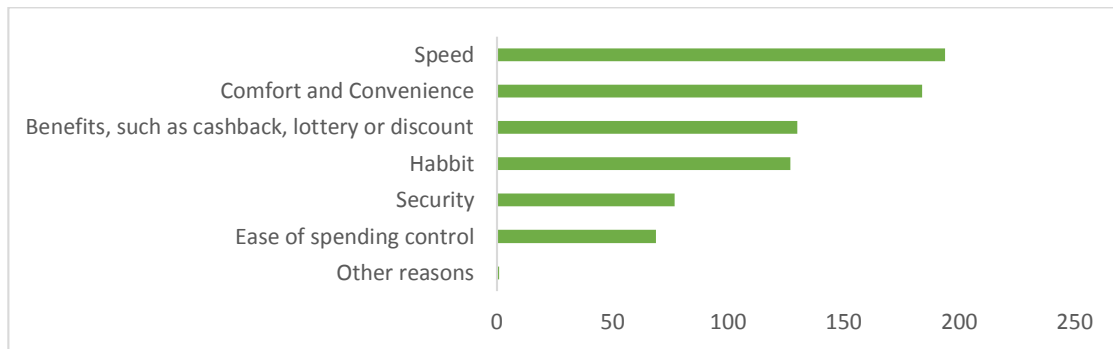
The findings in **Figure 9** align with data from Bank Indonesia (2023), which showed that electronic money is an electronic payment method with the highest transaction volume or the most widely used by Indonesian people since 2020 (as seen in **Figure 1**). Visa's Annual Report on Consumer Payment Attitude Studies (2022) even found that Indonesia has the highest e-wallet preferences and users in Southeast Asia.

The high usage of e-wallets as a payment method is supported by the increasing number of cellphone users. In 2021, the number of cellphone users in urban areas of West Java reached 70.660 percent, an increase of 3.030 percent compared to the previous year (Badan Pusat Statistik, 2023)

**Figure 9** shows that the usage of e-money and credit cards is less than that of e-wallets and debit cards. Indonesians usually use e-money for transportation, such as paying for commuter lines, toll roads, or parking. Besides, from a security perspective, e-money can easily be used by other parties without authorization if the card is lost.

The low number of credit card users is in line with data from Bank Indonesia in **Figure 1**, which shows that credit cards are the type of payment method with the lowest transaction volume and show static development from year to year. It happens because credit card ownership has more complex terms and conditions than other electronic payment methods. These terms and conditions include a minimum monthly income limit requirement and a willingness to pay greater interest if late in paying bills.

Findings from the data collection, as shown in **Figure 10**, show that speed is the main influencing factor for using electronic payment methods. Electronic payment methods can be faster because consumers do not need to calculate the amount of money that must be paid and wait for change. The second most common reason is comfort and convenience. The comfort and convenience of using electronic payment methods is that consumers do not need to carry cash. Consumers only need to enter a password as a transaction verification method. Meanwhile, the third most common reason is that consumers get attractive benefits such as discounts, lottery, or cashback.



**Figure 10.** Reasons for Using Electronic Payment Method

Source: Data collection, processed by the authors

### **The Influence of Transaction Value on the Choice of Payment Method.**

Transaction value has a positive and significant effect in increasing the likelihood of consumer behavior in choosing electronic payment methods. The positive value indicates that the higher the transaction value, the more likely consumers will choose the electronic payment methods. These findings align with (Politronacci et al., 2018), who found that cash is mainly used for small-value transactions, where the use of cash decreases as the value of the transaction increases.

When transacting with a small value, consumers tend to pay using cash. The payment process at the cashier for transactions of small value tends to take place more quickly because the number of items is relatively less. It differs from the payment process for large-value transactions, which can take longer due to the relatively large number of items. So, consumers tend to use electronic payment methods to pay for large-value transactions to speed up the payment process.

Another reason consumers use cash when transacting with small values is that consumers are sometimes charged additional fees when paying using electronic payment methods.

On the other hand, the higher the transaction value, the higher the likelihood that the transaction will be paid using electronic payment methods. Carrying large amounts of cash is impractical and high risk. The risks include losing money, which can occur due to forgetting to save it, falling, theft, or counterfeiting money. Besides, transactions at minimarkets are sometimes accidental or unplanned, so sometimes consumers do not have enough cash with them, so they decide to make payments using electronic payment methods.

Sometimes, when transacting in a place that provides various alternative payment methods, consumers are more likely to use electronic payment methods. It happens because consumers prioritize using money in their wallets when there is no choice but to pay in cash, such as when they have to pay for parking needs or buy food or drinks at stalls or street vendors.

(Sahabat et al., 2017) stated that cash payment is impractical for large-value transactions because it has a high damage risk in long circulation. In addition, consumers should also consider the costs of cash withdrawal from a bank or an ATM and a loss of income from interest due to holding cash (Sahabat et al., 2017).

**The Influence of Sociodemographic Characteristics on the Choice of Payment Method.** Sociodemographic characteristics in income and education have a positive and significant effect on increasing the likelihood of consumer behavior in choosing electronic

payment methods. The positive value shows that the higher the consumer's income and education, the more likely they will choose electronic payment methods.

These findings using the education variable are in line with (Sahabat et al., 2017) and the European Central Bank (2020). The higher the consumer's level of education, the better their financial knowledge, so the more likely they will choose electronic payment methods. The higher the consumer's education, the better their awareness and adaptability to technology (Sahabat et al., 2017). Consumers with higher education tend to have an open attitude and willingness to accept various forms of positive change, so they also accept and follow technological developments, including electronic payment methods.

These findings using the income variable are in line with (Sahabat et al., 2017). The higher the consumer's income, the more diverse types of spending they have and the more complex their financial management. Financial management and control can be carried out more effectively and efficiently using electronic payment methods such as debit cards, credit cards, e-wallets, or e-money.

Research conducted by (Sahabat et al., 2017) using a sample of 936 households in big cities in Indonesia shows that income is the most significant factor influencing the choice of electronic payment methods. It happens because households with higher incomes will have more demands. Consequently, households are more likely to have more transactions to meet these needs, ultimately increasing the use of electronic payment methods (Sahabat et al., 2017).

These findings contrast with (Politronacci et al., 2018), who found that French sociodemographic characteristics in the form of gender, age, income, and occupation have little impact on the choice of payment method. (Politronacci et al., 2018) found that transaction characteristics such as transaction value, payment constraints, and share of shop purchases for day-to-day items have a more significant role in determining the payment method chosen. The research showed that in France, ownership and use of electronic payment methods are not significantly influenced by differences in gender, age, income, and occupation (Politronacci et al., 2018).

(Rismana, 2018) also showed that education does not have a significant influence on choosing payment methods in transactions on e-commerce. It happens because, in this digital era, jobs that do not require higher educational qualifications, such as online motorcycle taxis, taxi drivers, or couriers, use technology to support their work. Hence, they are familiar with technology, including transactions on e-marketplaces.

**The Influence of Awareness Ease of Use on the Choice of Payment Method.** Data collection shows that most respondents answered "Agree" and "Strongly Agree" to the statement that electronic payment methods are easy to use. It happens because the significant role of technology in everyday life makes people increasingly accustomed to technology.

The t-test results show that awareness ease of use has a positive and significant effect in increasing the likelihood of consumer behavior in choosing electronic payment methods. The positive value shows that the higher a person's awareness ease of use, the greater the likelihood that the consumers will choose electronic payment methods. **Figure 7** shows that the Awareness Ease of Use has the most significant influence on the payment method selection compared to other variables.

This finding is consistent with (Firdauzi's, 2017) studies. Based on the survey, (Swiecka & Grima, 2019) also found that convenience is the main factor influencing a person's decision to use electronic payment methods.



The ease of using electronic payment methods is that transactions can be done more quickly, practically, safely, and efficiently. Consumers do not need to count cash and wait for change. Consumers only need to enter a password for verification and security purposes. Moreover, when consumers queue at the cashier to complete the payment process, electronic payment methods can speed up the transaction settlement process.

(Nguyen & Nguyen, 2020) stated that a system is considered easy to use if it has a simple interface, clear steps, appropriate content and layout, and understandable functions and notifications. The rapid development and high dependence on technology have made modern society more accustomed to technology. So it is easier for them to adapt to technological developments, including electronic payment methods.

The result contrasts (Setiani, 2018), who found that perceived ease has no significant effect on the behavior of Purbalingga's society in using electronic payment methods. Data collection found that most respondents felt it was challenging to use electronic payment methods. The society of Purbalingga feels more convenient and comfortable using cash payment rather than electronic payment methods.

**The Influence of Awareness of Risk on the Choice of Payment Method.** Both cash and electronic payment methods have their risks. The risks of the cash payment method are loss and counterfeiting of money. Meanwhile, the risk of using electronic payment methods is transaction failure, which could occur due to network or system disruption.

The t-test results show that awareness of risk has a positive and significant effect in increasing the likelihood of consumer behavior in choosing electronic payment methods. The higher the person's risk of awareness, the better the person's financial literacy or understanding, so the more likely the person will choose electronic payment methods.

The positive and significant results show that even though consumers are aware of the various risks of using electronic payment methods, consumers still choose them. It happens because consumers believe that using electronic payment methods is safe. The results of data collection show that the majority of respondents answered "Agree" and "Strongly Agree" to the statement stating that consumers feel that the risk of failure in transactions using electronic payment methods is small. Security is a factor that significantly influences the preference for using electronic payment methods (Sahabat et al., 2017). (Swiecka & Grima, 2019) also found that security is the most essential feature of a payment method.

Moreover, cashiers said that the nominal of minimarket transactions is often less than IDR 300.000. In addition, as part of Jabodetabek, Bekasi already has a good information technology, communication, and banking infrastructure network. Both of these minimize the risks of using electronic payment methods, such as transaction failure or loss of money.

These findings contrast the study by (Nguyen & Nguyen, 2020) with a research focus on online shopping transactions. (Nguyen & Nguyen, 2020) found that awareness of risk in using electronic payment methods has the most substantial negative impact on payment decisions. When shopping online, consumers face more significant risks because they do not see the goods directly and do not interact directly with the seller. So, to minimize the risk, consumers in Vietnam prefer to use cash payment methods such as Cash On Delivery in online transactions.



## CONCLUSION

This research aims to determine the influence of transaction value, sociodemographic characteristics, awareness ease of use, and awareness of risk on the choice of payment method in minimarkets in Bekasi City. This research found that: (1) E-wallet was the most chosen payment method when transacting in the minimarkets in Bekasi. (2) The transaction value has a positive and significant effect on the choice of payment method. (3) Sociodemographic characteristics in income and education have a positive and significant effect on the choice of payment method. (4) Based on the path model analysis test, age is not valid regarding discriminant validity, construct validity, and significance level, so the age variable is not included in the analysis. (5) Awareness ease of use has a positive and significant effect on the choice of payment method. (6) Awareness of risk has a positive and significant effect on the choice of payment method.

This research is expected to contribute to the government, Bank Indonesia, minimarket businesses, and electronic payment service providers so that they can work together and synergize through their respective roles so that electronic payment methods can be used more widely by the whole society in order to support the cashless society program.

For future research, there are several suggestions to improve the findings related to the payment method selection: (1) Researchers can add or use other independent variables such as gender, occupation, awareness of usefulness, trust, usefulness, experience, or other factors that might influence the choice of payment method. (2) Researchers can use research objects in other places, such as shopping centers, tourism areas, or fuel-filling places. (3) Researchers can research in districts, cities, or other regions in Indonesia. Each region has different regional and societal characteristics.

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