



# Determining Factors in Producer and Consumer Decisions to Use Digital Transaction

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**Abstract.** Systems Technological developments have changed individual behavior in carrying out economic activities. This behavior change occurs in the use of technology in carrying out transactions. The use of digital transactions is very popular among economic actors. This research aims to determine the determining factors for producers' and consumers' decisions in using digital payment systems. The data collection method uses a questionnaire. The research sample was 100 respondents from business actors and the public who use digital transactions. The research analysis technique uses MICMACTOR analysis. The research results show that the determining factors in choosing to use a digital transaction system include ease and status of transactions, fast display of transaction proof, smooth transactions, network connections, and transaction balances are known quickly. Furthermore, the intensity of digital transactions is mostly used, starting from SMS banking, internet banking, mobile banking, and e-wallet. It is hoped that the recommendations from this research will require a digital transaction risk study carried out by all economic actors as an important contribution to improving the national economy.

**Keywords:** Consumer, Decision, Digital Transaction Systems, Producer

## 1 Introduction

The transformation of digital transactions is currently growing very rapidly. The use of digital in transactions knows no generational boundaries from baby boomers to Generation Z. Various types of digital transaction tools are used by the public such as the Digital banking system, e-wallet, paylater, shopeepay, P2P, and others. The results of the cashless adoption e-allet study (Ramli & Hamzah, 2021) show that the use of E-wallets in Indonesia is 16%, Malaysia 18%, India 19%, and other countries 47%. These results show that E-wallet users are still low compared to other countries. E-wallet is also one of the cashless instruments used in transactions. The ease of using e-wallets for transaction actors creates a paradigm shift in thinking in deciding to choose a more practical, effective, and economical tool.

The use of cashless adoption such as E-wallets between consumers in several countries such as Indonesia and Malaysia has very different views. Barriers to using

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E-wallets are caused by risks to users (Ming, et al., 2020). The results of the study on the use of e-wallets conducted by Aji et al. (2020) proved with SEM-PLS modeling on 259 respondents in Indonesia and 207 respondents in Malaysia. Several variables are used such as government support variables mediating the perception of the usefulness of e-wallet to use e-wallet, and mediating some of the risk perception and intention of using e-wallet. The results show, this indicates that the use of e-wallets in two countries because there is government support and intervention during the risk of COVID-19. However, the difference lies in consumer characteristics, lifestyle (Andik, et al., 2018) especially differences in consumer perceptions, attitudes, and behavior (Kotler & Keller, 2012).

Research conducted in several countries by Edo et al., (2023) found that the decision criteria related to technology adoption felt by fintech users in 430 respondents were analyzed using logistic regression. The results show that customers are concerned about their safety in using fintech which can increase risks. The recommendations of the research results are aimed at financial institutions and policymakers, to pay more attention to behavioral attitudes in adopting fintech and promotional strategies in attracting customers as fintech users.

The research findings by Aji et al. (2021) are very interesting to study further, where it is revealed that the insignificant effect of government support on the intention to use e-wallets is fully explained or mediated by the perception of usefulness. This means that Indonesian consumers are willing to use e-wallets when government support is felt in the form of usefulness when there is a risk. Government support without the perception of benefits does not trigger consumers to use e-wallets. After the new normal conditions (after COVID-19), the development and intention of cashless transactions, whether there is an increase or decrease in terms of lifestyle, knowledge of using cashless, benefits of use, risk, and transaction value determine the choice of cashless transaction tools for consumption or other investments.

The impact of COVID-19 risk has an impact on changing transactions from conventional to digital. WHO recommends using Digital Money during the coronavirus (Brown, 2020). The use of technology in transactions as a necessity when the risk of COVID arises will give rise to attitudes and intentions to do (Chawla & Joshi, 2020). Davis' theory stated that the adoption of technology as an intention base, for users who want to accept (Davis, 1989). However, the adoption of technology has an impact on the demand for workers in the banking sector (Alisjahbana et al., 2020). On the other hand, before COVID-19 occurred, several experts had researched internet banking. Research conducted by Kassim & Ramayah (2015) created a research model where risk perception, ease of use, and usefulness influenced the brush towards the intention to use Internet banking. Other experts such as Kumar et al. (2018), conducted research on factors influencing the intention of management students to use mobile banking. Research findings prove that perceptions of usefulness, perceptions of ease of use, social influence, and trust tendencies influence behavioral intentions to use mobile banking or other financial technology.

Some expert views on technology adoption include technology, organization, and environment (Tornatz et al., 1990). Technology adoption in the context of the

organization is seen from perceived benefits, internet norms, and system access (Oliveira & Martins, 2011). Technology adoption provides benefits/usefulness and potential income in the future (Zainal, 2019). Technology adoption by Davis (1989), Chawla & Joshi (2020), and Bobde, (2019) focuses on intention base, intention, and usefulness. Thus, technology adoption as a process and innovation can trigger the speed of acceptance, increase the value of benefits, and can be accepted by members of the social system in society.

Several research results before COVID-19 and during COVID-19 produced different findings about the use of cashless or financial technology. Various research results provide evidence that digital transactions are used because of the risk of COVID-19 (Brown, 2020) so that physical distancing or social distancing is carried out. As a result, direct transactions cannot be carried out (Alisjahbana et al., 2020), except through digitalization or online. Therefore, digital transactions have continued to grow and develop until now, because of the ease obtained for their users (Bobde, 2019). In addition, several research results recommend that after COVID-19, research studies are needed related to electronic wallets more popularly known as financial technology including digital banks, e-wallets, paylater, shoppeepay, e-money, and other cashless. For this reason, this study aims to analyze the benefit factors as determinants of demand and supply decisions for the use of digital transactions in Indonesia, especially the Millennial generation. The contribution of this study is to provide an overview of how the implementation of demand and supply of digital transactions in society can increase the value of economic growth after the COVID-19 pandemic.

## 2 Methodology

This study uses a mixed methods approach. Initial data collection uses a survey method from various official data sources. Then the data collection process uses questionnaires and focus group discussions (FGD). The number of participants in the FGD was 50 people from the Milineal generation group. The results of the FGD answers were used to determine the choice of matrix values. Participants in the FGD have characteristics, namely understanding digital transactions, making digital transactions repeatedly, and having knowledge of transactions. Data analysis techniques use the MICMACTOR Analysis technique as an Interpretive Structural Model (Sushil, 2012; Aryaningsih et al., 2023). Several stages of this analysis include: 1) Identify and define the main factors. The main factors of digital transaction elements can be identified including ease of use, transaction status (ease and status of transactions), fast display of transaction proof, smooth transactions, network connections, and transaction balances known quickly. Types of intensity choices of tools used in transactions (the intensity of digital transactions are SMS banking, internet banking, mobile banking, and e-wallet); 2) Define the contextual relationship between digital transaction elements; 3) Create interaction matrix direction values, indirection matrix, and interaction stability; 4) Interpret direct and indirect

relationships between main factors; 5) Modeling direct and indirect relationships of Influence and Dependence variables; 6) Make decisions about the relationship between benefit value and Supply and Demand of Digital Transaction.

### 3 Result and Discussion

#### 3.1. Result

**Identification and Definition of the Main Factors of Digital Transaction.** The main factors that can be identified in digital transactions include six (11) elements. The six elements consist of ease for users (User Easy), transaction status (status of transactions), Fast display of transaction proof, smooth transactions, network connections, and transaction balances known quickly. The five elements consist of the intensity of demand and supply of digital transaction usage including M-banking, SMS banking, internet banking, e-money, and e-wallet).

#### **Contextual definition of the relationship between digital transaction elements.**

Some elements used in this study have referred to previous studies that have been described in the background of the problem. Elements as the main factors in interpretive structural modeling are ease of use for users, transaction status, fast of transaction display received, smooth transaction, network connection, and transaction balance is known quickly. The intensity of demand and supply decisions for the use of digital transactions consists of M-banking, SMS banking, internet banking, e-money, and e-wallet. Ease of transaction is the priority of using tools in transactions. Transaction status is a change in transaction and payment authorization in a transaction. The speed of transaction display received is the clarity in detail that a purchase of goods or services has occurred. A smooth transaction is a successful transaction process without any difficulties. Transaction network connection is a purchase, return, and online cash transaction using a specific account code. The transaction balance is known quickly means that the balance of funds available and used through digital transactions is known quickly. Mobile banking is a transaction process through a bank with a cellphone application. SMS Banking is a banking transaction service via a customer's mobile phone through a short message service format. Internet banking is a service in conducting banking transactions via the Internet network. E-money is digital money as a means of payment, where the value of the money is stored in electronic media. An E-wallet is a financial product in the form of an application as an electronic wallet that can be used as a digital payment tool.

**Creating iteration matrix direction Influences, matrix indirection Influences, and stability iteration values.** The matrix values are compiled from the results of group discussion decisions. Based on the decision results, the matrix values can be compiled as in Table 1.

**Table 1.** Row and column matrix values in the initial stage of MICMACTOR analysis

No	Variable (elements)	1 UE	2 TS	3 FD	4 ST	5 NCn	6 TB	7 M- Bank	8 SMS Bank	9 Int Bank	10 Emo	11 Ewl
1	User Easy (UE)	0	3	2	2	3	2	3	0	2	1	2
2	Transaction status (TS)	3	0	2	3	2	3	2	1	0	2	2
3	Fast Display (FD)	2	3	0	3	2	2	1	0	2	2	3
4	Smooth transactions (ST)	3	3	2	0	2	3	0	1	2	2	3
5	Networking connection (NCn)	2	1	2	2	0	2	3	2	2	0	2
6	Transaction balances (TB)	3	3	2	2	0	0	1	2	2	2	2
7	M-Banking (M-Bank)	3	3	2	2	2	3	0	1	3	2	2
8	SMS-Banking (SMS-Bank)	0	2	2	2	3	2	2	0	2	2	1
9	Internet Banking (Int-Bank)	1	2	3	2	2	2	3	0	0	2	3
10	E-money (Emo)	2	0	2	2	2	1	2	2	3	0	2
11	E-wallet (Ewl)	1	3	2	2	3	2	0	2	3	0	0

After the matrix value is arranged and inputted in the MICMACTOR process, the Direct Influence matrix value can be produced. The sum of all row and column matrices will be added up and produce a filtrate value of 81.82% which consists of 5 numbers of interactions, 22 zeros, 11 ones, 60 twos, 28 threes, 0 number of potential, and 99 in total. The next stage is to find out the results of the calculations and additions of each row and column matrix which can be displayed in Table 2.

**Table 2.** Total of row and column matrix values

No.	Variable	Total number of Row	Total number of Column
1	User easy	20	20
2	Transaction status	20	23
3	Fast display	20	21
4	Smooth transactions	21	22
5	Networking connection	18	21
6	Transaction balances	19	22
7	M-banking	23	17
8	SMS-banking	18	11
9	Internet banking	20	21
10	E-money	18	15
11	E-Wallet	18	22
	<b>Total</b>	<b>215</b>	<b>215</b>

After adding the values of the row and column matrices, the next step is to iterate the stability test of the strength of influence and dependence between the elements of the main factors that have been formulated. The results of the stability of the strength of influence and dependence consist of iteration 1 having 81% influence and 100% dependence, iteration 2 having 100% influence and 95% dependence, and iteration 3, 4, and 5 having 100% influence and 100% dependence. The results of stability iteration (1) and (2) have the possibility of experiencing a change in position. Changes in the strength of influences and dependence have the opportunity because the stability

value in iteration (1) is not the same between the influence of 81% and dependence in iteration (2) of 95%. This stability value will have an impact on the modeling structure in the next graph.

### 3.2. Discussion

#### Interpreting direct and indirect relationships between the main factors elements.

The relationship between the main factor elements can be produced by several graphic models of the strength of the direct relationship, the strength of the indirect relationship. The strength of the direct relationship of the decision to use mobile banking is due to the strength of the influence of the usefulness of smooth transactions through user convenience. The strength of the direct relationship of the decision to use SMS banking is due to the influence of the usefulness of Networking Connections transactions. The strength of the direct relationship of the decision to use an E-wallet because it has the usefulness of Networking Connections transactions, fast transaction displays, and transaction status. The strength of the direct relationship of e-money through internet banking and e-wallet. This means that the decision to demand and supply e-money and Internet banking is not a choice of use because the priority of its benefits/usefulness has not been seen. In addition, the main factor element related to "the transaction balance is known quickly" has not appeared to be a decision of the choice of demand and supply in digital transactions. The form of the direct influence strength graphic model is shown in Figure 1.

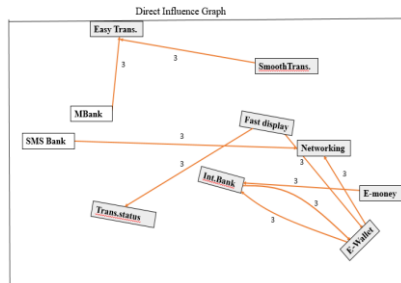
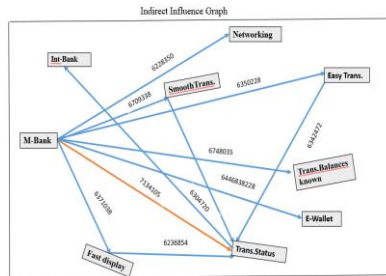


Figure 1. Direct influences graph of key elements

Based on Figure 1 shows the highest influence power on the decision to request the use of mobile banking, e-wallet, SMS banking. The value of the benefits of use in the graphic model above is shown by user convenience, smooth transactions, connection networks, transaction status, fast transaction display. However, the choice of using e-money and internet banking is still related to the choice of using e-wallet. The indirect relationship between the main factor elements can be generated by a graphical model of the strength of the indirect relationship. The highest strength of the indirect relationship in the decision to use mobile banking is due to the influence of the usefulness of the transaction status through internet banking. The strength of the indirect relationship in the relatively strong category in the indirect relationship of the

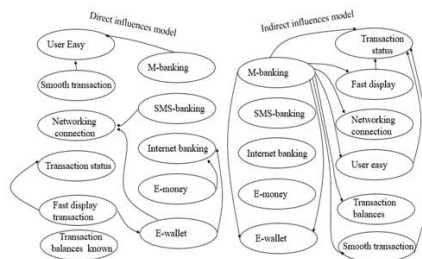
use of mobile banking is due to the influence of the fast transaction display, transaction status, the usefulness of Networking Connections transactions, The strength of the indirect relationship in the decision to use mobile banking and E-wallet is considered. because it has the usefulness of Networking Connections transactions, fast transaction display and transaction status. The strength of the indirect relationship in the use of mobile banking is associated with user convenience, transaction balances can be known quickly, and smooth transactions through transaction status. The graphical modeling of the indirect relationship is shown in Figure 2.



**Figure 2.** Indirect influences graph of key elements

Figure 2 shows the modeling of the indirect relationship strength lies in the decision to request mobile banking with the strength of the use of one transaction status. Furthermore, the modeling of the indirect relationship of the decision to request mobile banking with the speed of transactions, the balance can be known quickly is classified as a relatively strong category of utility. Likewise, mobile banking is associated with the decision to use e-wallets and internet banking. The decision to choose to use these digital tools is an option among them. The decision to choose mobile banking from the supply side has an indirect relationship with the benefits/usefulness of facilitating transactions, transaction connection networks, and convenience for its users.

**Constructing a direct and indirect relationship modeling of the main factor elements as influences and dependencies.** Based on the description of the MICMACTOR process stages that have been carried out, the interpretive structural model modeling can be described in Figure 3.



**Figure 3.** The relationship between the utility value elements of the decision to select a digital transaction tool with a direct influence and an indirect graph model

**Making decisions on the relationship between the value of benefits and the Supply and Demand of Digital Transactions.** Based on the results of the study above, it can be explained that the relationship between the intensity of supply and demand decisions using digital transactions is dominated by the benefits of using Mobile Banking. The decision to use mobile banking, because it has the benefit of being useful to help smooth transactions and convenience for its users. These results are very much in line with TAM Theory (Davis, 1989; Kassim & Ramayah, 2015; Hariguna et al., 2020). The decision to demand and supply E-wallet is the second choice of Customer users. This is because the transaction tool has the benefit of being useful for its users, it can speed up showing transaction status and display proof of transactions, and show a good connection network. Furthermore, the decision to demand and supply internet banking, is due to having a very good connection network. Specifically, the demand and supply of E-Money and SMS banking have not appeared to provide benefits for millennial users as a decision to choose digital transactions, because there is no benefit value for its users from the results of this study. The results of this study are very much in line with the study Ilk et al. (2021), Rabaa'i & Zhou (2021), that demand with high costs and has not provided benefits/usefulness for consumers has not become their choice. However, the high cost supply side provides a high tolerance of benefits. Similar to the research findings by Granados et al. (2012) that online consumer demand is more elastic to price. Transparent information about the benefits/usefulness of online transactions, consumers can compare with offers from other promotions. Similar to the findings of Alabdan (2019), security is an obstacle to the use of mobile banking. If users do not get security, then the consumer's decision to use mobile banking becomes small. Research conducted by Aryaningsih & Irianto, (2021) that the use of technology on the supply side of producers can increase the value of benefits, but on the other hand the needs of market demand cannot be met by producers. Thus, in digital market conditions there will be an imbalance between demand and supply due to changes in value/price pressures due to competition for information technology, costs and benefits received by both consumers and producers. In this regard, further and in-depth studies are needed on consumer demand and supply in the digital market.

## 4 Conclusion

Based on the results of the study, it can be concluded that the determining factors for producers and consumers' decisions to use digital transactions are dominated by the benefits of using Mobile Banking. The decision to use mobile banking because it has the benefit of helping smooth transactions and convenience for users. The decision to demand and supply E-wallet is the second choice of Customer users. This is because the transaction tool has the benefit of utility for users to be able to speed up showing transaction status and display proof of transactions, as well as show a good connection network. Furthermore, the decision to demand and supply internet banking, is due to having a very good connection network. Specifically, the demand and supply of E-



Money and SMS banking have not appeared to provide benefits for millennial users as a decision to choose digital transactions, because there is no benefit value for its users from the results of this study. The benefit factor as the highest strength in digital transactions is that the transaction status can be known, convenience for users and smooth transactions. The most popular decisions for users are Mobile banking and E-Wallet.

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