DIGITAL PAYMENT MAXIMIZATION STRATEGY AS REGIONAL ECONOMIC RESILIENCE IN SURABAYA CITY MASS BUSS TRANSPORTATION

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ABSTRACT

The implementation of digital payment policies can be consistently applied and improve the security of digital transactions so as to avoid cyber-crime in the context of digital payments. The urgency of this study is that researchers observe that digital payment transactions on mass bus transportation in Surabaya City eliminate currency exchange. The problem-solving approach of this research uses a regional economic resilience perspective as the main paradigm in observing the phenomenon of digital payments in mass bus transportation in the city of Surabaya. The formulation of this research problem includes: 1) What is the dynamics of mass bus transportation payment transactions in the city of Surabaya? 2) What is the regional economic review on the digital payment for mass bus transportation in Surabaya? 3) What is the strategy to maximize digital payments on mass bus transportation in Surabaya? The stage of research methods to answer problems and achieve research objectives is the use of qualitative methods that are strengthened through the use of primary data and secondary data. The results of the study suggest that initiating payments should be less painful and more enjoyable than cash payments that put a higher mental price on goods. Empirical facts based on interviews show that payment using plastic waste makes it difficult for consumers who will use mass transportation. The economic acceleration has an impact on data collection that is facilitated through applications, the aspect of supervision increases in this context. The implementation of digital payment policies can be consistently applied and improve the security of digital transactions so as to avoid cyber-crime in the context of digital payments.

Keywords: Digital Payment; Regional; Transportation

ABSTRAK

INTRODUCTION

This research begins a discussion about the issue of digital payment globalization that occurs almost all over the world, both developed and developing countries. Digital payment is a payment requirement as a form of accelerating the transaction process and as a stimulus for long-term household consumption. The assumption of digital payment is a system that can increase the portion of consumption that was previously not even planned by consumers. The scope of digital payments accommodates almost all forms of transactions, more than that digital payments are a big concept that is able to answer the anomalous maximization of payment transactions. Often some regions are unable to maximize the function of digital payments fundamentally, anomaly that occurs in some regions shows counterproductive to the fundamental nature of digital payments.

Long-term consumption and entertainment of goods tend to be spent on unplanned parts, as the nature of digital payments is greater stimulation of transactions. Conventional payments or cash make it easier for consumers to control themselves compared to the use of digital payments (Hou et al., 2021). The heterogeneous effect of different types of goods is increasing and is caused by digital payments that are easy and pleasant for consumers. After the Covid-19 pandemic, transaction payments reduce the use of cash and encourage digital payments as efficient and effective transactions.

The use and adoption of digital transactions is not only related to the payment system but to the norman and behavior of people who are slow to adapt (Chakrabarty et al., 2021). Ease of use, optimism, innovation, usability and lack of awareness of the importance of digital payments have a significant direct relationship to the effect of users' perceived readiness to be cashless (Balakrishnan & Shuib, 2021). This research will review more about digital payments in mass bus transportation in Surabaya City.
One way to realize equality in the economic sector is through the implementation of qualified mass transportation. This requires a stronger link between planning, policy decisions and their implications for community needs (Nostikasari &; Casey, 2020).

The conceptualization of functional urban areas emphasizes the need to manage mobility and travel within cities in relation to the construction of urban structures. The challenges in digital payments are the readiness of digital infrastructure, transaction costs and cyber security (Srouji, 2020). Digital payments will be difficult to apply to countries with high levels of socioeconomic inequality. Without reducing the fundamentals of the digital payment function, the government should take the largest role in digital payment regulation and regulation.

The urgency of this study is that researchers observe that digital payment transactions in mass bus transportation in Surabaya City eliminate currency exchange, besides that the beginning of the emergence of mass bus transportation can only be made payments through the exchange of used plastic waste. The regional economic perspective is contradicted in this case which precisely contradicts the policy of economic development. The problem-solving approach of this research uses a regional economic resilience perspective as the main paradigm in observing the phenomenon of digital payments in mass bus transportation in the city of Surabaya. The formulation of this research problem includes: 1) What is the dynamics of mass bus transportation payment transactions in the city of Surabaya? 2) What is the regional economic review on the digital payment for mass bus transportation in Surabaya? 3) What is the strategy to maximize digital payments on mass bus transportation in Surabaya? Furthermore, the objectives of this study are: 1) To analyze the dynamics of mass bus transportation payment transactions in the city of Surabaya; 2) To explore regional economic reviews on digital payment of mass bus transportation in Surabaya; 3) To analyze the strategy of maximizing digital payment for mass bus transportation in Surabaya. The focus of this research is digital payment as a regional economic resilience of mass transportation in Surabaya City which has several contradictions in economic principles as well as the value of benefits for the community.

LITERATURE REVIEW

State of the art and novelty of research using Harzing Publish or Perish and Vosviewer applications with search keywords, namely: digital payment, regional,
transportation. Based on a search using Harzing Publish or Perish, it shows that there are three articles published on Scopus with the same research theme as the researcher. The results of data processing will be presented as follows:

Figure 1. Harzing Publish or Perish Results

The three articles published in Scopus are the state of the art of this research, which will then be described respectively. The first and second articles will be reviewed further, while the third article is a Scopus indexed proceeding that has been discontinued so that the article does not appear on the official website. The first article (Raya & González-Sánchez, 2020) discusses the promotion of efficient and sustainable means of transportation to ensure the mobility of goods and people can run well. The similarity of research lies in the object studied, namely mass transportation, further differences with the research to be carried out are the locus of research and the approach method used.

This research uses the regional economic resilience approach method as a tool used to explain the phenomenon being studied. The second article (Koehler, 2019) has research similarities on the object of mass transportation development that has good capabilities. The difference in research is the analysis of the method used, the previous research uses quantitative methods while the research to be carried out uses qualitative methods. The use of different methods can lead to different conclusions, although it is not uncommon in a study that this is accepted as a concrete result of a study.

The novelty of this research theme will then be explained in the results of data processing using the Vosviewer application with keywords: digital payment, regional, transportation as follows:

Figure 2. Vosviewer Data Processing Results

The novelty of this article is that the phenomenon of digital payments made on mass bus transportation in Surabaya City causes a contradiction in its application. Some of the initial contradictions of the researchers' analysis are that cash payments are not allowed in the use of transportation, which theoretically and the literature suggest that developing countries cannot fully focus on non-cash transactions.

**Digital Payment**

In 2016 the Indian government took an astonishing economic policy decision. This policy created a tremendous economic uproar that swept across all class and age
group generations (Gupta & Arora, 2020). This commotion occurred when converting from cash payments towards the use of m-payments (payments using mobile payment systems) as a way to make transactions positioned around cash transactions. De Girancourt et al., (2020) explained that digital payments refer to payments made using NFC, contactless payments, e-wallets, m-wallets, and SMS-based payments.

In post-demnetization India, the welfare of mobile payment service providers has become very important and very prominent. Customers are growing when post-demonetization creates a corporate spirit to attract consumers from embracing all groups to thus speed up the transaction process. Recent observations show that people in the centers of the National Capital (Delhi, Noida, Ghaziabad, Gurugram) are less enthusiastic about accepting custom-based mobile payment systems for diverse purposes.

The results of Hou et al.’s (2021) research show that at least the potential benefits that can be developed with digital payments include three things, namely: First, digital payments are less painful and more pleasant than cash payments which provide a higher mental price on goods and increase the utility of total purchase transactions. Second, subjective theogrization helps justify transactions and make households consume more. Digital payments allow linking liquid assets to a single digital account that can facilitate for entertainment and long-term expenses. Third, digital payments increase the portion of unplanned consumption. When consumers make cash payments, consumers will set aside their money as soon as the purchase decision is made, in contrast to the concept of digital payments that do not require additional mentality in setting aside the money that consumers will spend. The positive impact of cash payments is that consumers can control their spending better, while in digital payments there is less good self-control.

Research by Chakrabarty et al., (2021) concluded that three important modes of digital payment and did not find the impact of demonetization that changed consumer behavior in financial transactions. Consideration of the empirical fact of mobile transactions is a minimal impact of demonetization, because digital transactions are not only related to payment systems but more broadly on the norms and habits of people who are slow to change. The opposite analysis is shown by Fedorova et al., (2019) digital transactions on Russian railway transport have a significant impact and have a
multiplier effect on the development of other industries. Some other uses of theory that can be applied to digital payments are innovation diffusion theory, valence framework, planned behavior theory, and behavioral reasoning theory (Kaur et al., 2020).

A different context is shown in the Philippines where cash remains the prima donna of its local people. Furthermore, digital payment platforms are widely difficult to publish, despite the assumption that the number of Filipino population is still considered low (Raon et al., 2021). Cohen et al.’s (2020) interpretation shows that cash plays an important role as an indicator of intermediating transactions in the formal and informal sectors, of course, this elimination will cause productive misallocation throughout the economy. The next negative impact is the efforts of individuals who take advantage of the shadow economy by laundering money into the social sector without cash (Srouji, 2020). Bajaj & Damodaran's (2022) concurring analysis of demonetization periods reduced aggregate household output by 20%, aggregate welfare by 16 percent with uneven consequences between urban and rural households.

**Regional Economic Resilience**

Resilience can be categorized into two broad approaches, namely the equilibrium approach and the revolutionary approach which often reconciles the two as if they were one unit (Caro &; Di Caro, 2015). The equilibrium approach assumes good resilience as the equilibrium already exists or points to the movement of new circumstances. While evolutionary resilience is measured in terms of the speed of returning to equilibrium. The application of economic resilience is used to overcome short-term disasters and recent researchers are expanding it to address long-term climate change (Xie et al., 2018).

Resilience is Latin which means "bounce back", it correlates to the ability of the system applied to absorb change, buffer capacity or decrease relative to potential external shocks. The use of resilience is an action taken after a disaster, not before a disaster. Economic resilience will focus on reducing disruptions in the flow of goods and services stemming from reduced capital stock. Continuous adaptive capabilities should be applied to post-crisis situations through conflict management, for example: 1) Increase the likelihood of substitution of inputs in individual business operations; or 2) strengthen the market by providing supplier match information.
Regional economic resilience is the process before disruption occurs in certain areas which refers to sensitivity or tendency to conflict resistance. The nature of economic disruptions affects risks oriented towards recovery and reorganization on the development path and is influenced by structural changes that occur. (Gong et al., 2020). More details will be explained as in figure 1 as follows:

Figure 3. Regional Resilience to Recessions

Resilience is an interesting concept due to the apparent simplicity of the theory. In general, another definition of resilience is the ability to bounce back from some kind of "stress" (Faggian et al., 2018). The second definition of resilience is the concept of ecological resilience which measures the shocks that can be absorbed by a system that is transferred to a new equilibrium or state. Multiple equilibrium system considerations but can also minimize the distance of shifting shocks from an area based on its long-term growth plan (Balland et al., 2015). The third definition of resilience is focusing on the ability of an area to adapt and reorganize in response to disaster shocks that occur (Faggian et al., 2018).

Overall, regional resilience is a complex process based on different stages adapted to the empirical conditions of the conflict area. Some of the factors that influence the acceleration of regional resilience recovery are: 1) Specific nature; 2) Duration and scale of shocks; 3) Experience; 4) Regional economic structure; and 5) Spatial-scale state policies (Martin et al., 2016). There are three fundamental questions that need to be answered for empirical investigation of the concept of resilience, namely: 1) Resilience "to what"?; 2) Resilience "of what"?; 3) Resilience "over what period"?

**RESEARCH METHODS**

This research uses qualitative methods through the use of in-depth interviews, focus group discussions and observations. According to Wijaya (2019), the primary data of the study was obtained through in-depth interviews and observations conducted by researchers. Furthermore, secondary data through literature studies conducted as a comparison of data from the use of primary data. The technique of determining this research informant is snowball sampling based on the expertise of each research informant to be asked for information related to the adequacy of the data needed. Some research informants are as follows:

Table 1. Research Informants
The key informants of this study were users of mass bus transportation in Surabaya City and representatives of the government parties involved. Furthermore, informants supporting this research are public policy lecturers and public policy analysts. The use of this informant is used to bring up the saturation of research data, so it does not rule out the possibility that the interviewee will increase according to the saturation of data.

This research approach uses regional economics as a fundamental foundation to observe the phenomenon of digital payments in mass bus transportation in the city of Surabaya. Research data analysis techniques are: 1) Data reduction; 2) Display data; 3) Data triangulation; 4) Data verification. More detailed data analysis techniques as follows:

**RESULT AND DISCUSSION**

**Digital Payment Data Interpretation**

Digital Payment that occurs in mass bus transportation in Surabaya City shows that this is actually a conversion from the previous policy. This policy is inseparable from the mainstreaming of the environment by implementing mass bus transportation payments with plastic waste. Such as the interview conducted to Faris Widiyatmoko as Public Policy Analyst as follows:

"Suroboyo bus mass transportation was introduced around 2018 and the payment must use plastic waste. Theoretically, this aims to maintain the adverse effects of plastic pollution on the environment. However, I see that people have difficulty paying because they have to look for plastic waste, which in fact not all people have plastic waste all the time." (The interview will be conducted at Cafe Keborahan on June 18, 2023 at 2:00 p.m.)

Interviews with public policy analysts can be concluded that people actually have difficulty in paying for mass transportation modes. Payment using plastic waste is contrary to the concept explained by Hou et al., (2021), namely that payment should be less painful and more pleasant than cash payments that provide a higher mental price on goods. In addition, payments using plastic waste make it difficult for consumers who will use mass transportation. In 2021, Suroboyo's bus mass transportation payment system was improved and allowed to use digital payments. The results of an interview
conducted with Slamet Eko as a representative of the Surabaya City Transportation Office explained that:

"Indeed, the 2021 rules have changed regarding the payment transaction model used, namely virtual transactions such as Gopay, Ovo, Qris, Dana, Paylater, and other digital platforms. In my opinion, this is done after going through an evaluation, it turns out that consumers find it difficult to find plastic waste, so they tend to use other transportation with easier payments. Although it seems a little slow, the message conveyed through the old rules is actually good, namely not to pollute the environment but if applied to payment transactions, it will actually make it difficult." (The interview was conducted at the Surabaya City Transportation Office on June 20, 2023 at 15.00 WIB)

Based on the results of the interview, it was explained that digital payment rules were implemented in 2021 as a step to accelerate transaction payments. In addition, in order to provide public convenience services regarding payment transactions. Researchers observed that the use of digital payments makes it easier for consumers in addition to speeding up the transaction process. This is in line with the statement given by Andre Susanto as a user of Suroboyo mass bus transportation as follows:

"The use of digital payments is very helpful compared to plastic waste payment policies. In principle, someone who uses mass transportation does not have much time, so if someone wants to take the Suroboyo bus, it will be difficult if they have to find plastic waste first. In terms of transportation facilities, I think it's good, but digital payment certainly makes it very easy for Suroboyo bus mass transportation customers like me." (The interview will be conducted on Suroboyo Bus on June 24, 2023 at 10:00 WIB)

The results of independent interviews conducted by researchers show that payment policies using plastic waste are less effective because they waste a lot of time, while prospective passengers do not have much time. Digital payments conform to the second indicator: subjective categorization helps justify transactions and makes consumption more. Consumption in this context is the economic acceleration that occurs at the time of mass transportation payment for Suroboyo buses. The same opinion was also expressed by Bagus Prihatono as a user of Suroboyo mass bus transportation as follows:
"The digital payment applied to the mass transportation of Suroboyo buses is very appropriate, and of course payments can be made through one platform. If I usually use Gopay so that transactions ranging from household needs to transportation payments all use one platform. I have also started to abandon carrying excessive cash because transactions can already be completed through my mobile phone". (The interview was conducted at Suroboyo Bus Stop, Universitas Airlangga on June 25, 2023 at 16.00 WIB)

Based on the results of the interview, it shows conformity with the third indicator, namely digital payments increase the portion of unplanned consumption. This is because digital payments can contain various transaction payments that are loaded in only one platform. The value of efficiency is very high in this context, making it possible to accelerate transactions and ease transactions through digital payments. Researchers analyzed that the implementation of previous policies using plastic waste was very inefficient even though the goal was very good, namely preventing environmental damage due to plastic waste.

**Interpretation of Regional Economic Resilience Data**

Based on the analysis (Martin et al., 2016) there are empirical investigations that need to be explained, namely: 1) Resilience "to what"?; 2) Resilience "of what"?; 3) Resilience "over what period"? The use of regional economic resilience is a form of empirical analysis of the economic resilience of the region that is the object of this study, namely the city of Surabaya. The results of the interview conducted with informant Andi Mappatunru as Public Policy Lecturer are as follows:

"Digital payments will certainly increase economic stability because there is an acceleration of transactions there. Economic acceleration will correlate with high public mobility and have implications for better economic resilience. In addition, the use of digital payments facilitates payments, thereby increasing the potential for economic acceleration. The thing to note is the security of digital transactions, of course, will have a high risk in digital payments, several concepts about cyber-crime emerge that threaten the integrity of digital payments." (The interview was conducted via Zoom meeting on June 24, 2023 at 15.00 WIB)

The interview shows that digital payment transactions actually accelerate the economy that occurs in the community in addition to increasing public enthusiasm to be
able to enjoy the facilities provided by the local government. In line with this statement, an interview conducted with Slamet Eko as a representative of the Surabaya City Transportation Office explained that:

"Suroboyo bus transportation payments can currently use 5 payment features, namely" 1) Bottle vouchers; 2) Gobis member points; 3) Qris; 4) Electronic money cards; 5) MCH voucher. The second, third, fourth and fifth points are transactions that can be said to be digital. In my opinion, personally this is very good because it carries the concept of accelerating transactions in the amount of electronic money in circulation, this acceleration is very good for the economy and facilitates data collection. In terms of effectiveness and time efficiency is also very good, of course this will maintain better economic resilience as well."

(The interview will be conducted on June 20, 2023 at 3:30 p.m.)

The interview results show that there are 5 payment features that can be used by consumers. In addition, the economic acceleration has an impact on data collection that is facilitated through applications, the aspect of supervision increases in this context. The researcher observed that this point was an acceleration effort that was not carried out in the previous policy. The single use of payments using plastic waste causes difficulties for people and reduces the potential for choosing mass bus transportation modes. Furthermore, the results of the interview will be explained to Golden Christian as a mass bus transportation user who explained as follows:

"Changes in digital payment rules occurred in 2021 as you explained earlier, because after the Covid-19 pandemic, the government may change its strategy to speed up transactions. I as a consumer see this as a good momentum for the transition of economic acceleration policies, because the people themselves feel the tremendous impact of the Covid-19 pandemic." (The interview was conducted at the Jl Ir. Soekarno Merr bus stop on June 25, 2023 at 14.00 WIB)

The interview explained that the right momentum for policy changes after the health disaster, namely Covid-19, is an effort to accelerate the economy and maintain economic stability. Researchers observed that the main economic resilience that occurred in the implementation of digital payment policy was the post-Covid-19 pandemic period. Of course this will increase economic resilience in accordance with
the assumptions of the theory described by (Martin et al., 2016). The same statement was stated by Dimas Lazuardi as a user of mass bus transportation as follows:

"I prefer the use of digital payments, because the platforms used can vary and the use of payments is not only for transportation. If for example the old policy on payments using plastic waste certainly cannot be used for other payments, it is very troublesome in my opinion. The post-crisis economic recovery has also slightly forced the government to do various ways, one of which is the implementation of digital payments." (The interview was conducted at the Diponegoro Bus Stop Surabaya on June 27, 2023 at 14.00 WIB)

The results of the interview can be concluded that the post-Covid-19 pandemic period is the right period for policy changes by imposing digital payment rules. Digital payments are considered by the public as an acceleration of the economy and ideally should be implemented by the government. Thus, it is expected that the implementation of digital payment policies can be consistently applied and improve the security of digital transactions so as to avoid cyber-crime in the context of digital payments.

Research (Abdillah et al., 2021) shows that consumer decisions when transacting are through two integration processes, namely cognitive as a desire to behave and consumer desire for alternative actions. Some important things that should be taken into account are the identification of contracts with customers as a form of monitoring of policies (Anggraini &; Sholichah, 2021). The most important scope in creating economic stability at the macro level is directed to three sub-scopes, namely: 1) Regional economic dynamics; 2) Openness of trade and services; 3) Interest of foreign investors (Suparman, 2021). Some consumers are interested in using the cash on delivery payment system, this is because consumers are more comfortable in ordering so as to minimize the risk of being deceived and speed up ordering (Endarwati &; Desfitrina, 2022). Regional economies often still create a high dependence on central government funds, thus requiring new relevant potential (Chaniago &; Darmawati, 2022). Finally, the most important thing in implementing policies is to always be adaptive in bureaucratic reform for better goal achievement (Putra &; Maulana, 2022).

**CONCLUSION**

Payment should be less painful and more enjoyable than cash payments that put a higher mental price on goods. Empirical facts based on interviews show that payment
using plastic waste makes it difficult for consumers who will use mass transportation. The payment policy using plastic waste is less effective because it wastes a lot of time, while prospective passengers do not have much time. Digital payments conform to the second indicator: subjective categorization helps justify transactions and makes consumption more. Digital payments increase the share of unplanned consumption. This is because digital payments can contain various transaction payments that are loaded in only one platform.

The economic acceleration has an impact on data collection that is facilitated through applications, the aspect of supervision increases in this context. The researcher observed that this point was an acceleration effort that was not carried out in the previous policy. The single use of payments using plastic waste causes difficulties for people and reduces the potential for choosing mass bus transportation modes. The right momentum for policy changes after the health disaster, namely Covid-19, is an effort to accelerate the economy and maintain economic stability. Researchers observed that the main economic resilience that occurred in the implementation of digital payment policy was the post-Covid-19 pandemic period. The implementation of digital payment policies can be consistently applied and improve the security of digital transactions so as to avoid cyber-crime in the context of digital payments.

Researchers are aware of some of the shortcomings of research conducted mainly about the number of informants more to be able to produce more complex answers. Researchers suggest that future research can use more detailed informants and use other methods such as quantitative to obtain results that support monitoring of digital payment policies to strengthen regional economic resilience.

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**TABLE, PICTURE AND GRAPHIC**

**Figure 1.** Harzing Publish or Perish Results
Table 1. Research Informants

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<tr>
<th>No</th>
<th>Name of Informant</th>
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<tr>
<td>1</td>
<td>Slamet Eko</td>
<td>Representative of Surabaya City Transportation Office</td>
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<td>2</td>
<td>Andre Susanto</td>
<td>Mass Bus Transport Users</td>
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<td>3</td>
<td>Bagus Prihatono</td>
<td>Mass Bus Transport Users</td>
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<td>4</td>
<td>Golden Christian</td>
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<td>5</td>
<td>Dimas Lazuardi</td>
<td>Mass Bus Transport Users</td>
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<td>6</td>
<td>Andi Mappatunru</td>
<td>Public Policy Lecturer</td>
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<td>7</td>
<td>Faris Widiyatmoko</td>
<td>Public Policy Analyst</td>
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Figure 2. Vosviewer Data Processing Results

Figure 3. Regional Resilience to Recession
Source: (Gong et al., 2020)