

# The Effect of Mobile Wallet Service Dimensions to Customer Loyalty with Customer Satisfaction as A Mediating Variable on Linkaja Users in Jabodetabek

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**Abstract:** Linkaja, as one of the digital wallets in Indonesia, aims to increase healthy and loyal active user transactions. This study analyzes the impact of mobile wallet service dimensions, namely perceived service quality, perceived ease of use, perceived usefulness, perceived cost, and perceived security, on customer loyalty through customer satisfaction among Linkaja users in Jabodetabek. The research utilizes a quantitative approach and purposive sampling technique, distributing questionnaires via Google Form to 165 respondents who are Linkaja users in Jabodetabek, aged at least 17 years old/already have an ID card, and have conducted transactions on the Linkaja application at least twice in the last six months. Descriptive analysis and regression tests using SPSS were used to analyze the data. The findings indicate that mobile wallet service dimensions significantly affect customer satisfaction and customer loyalty. Additionally, customer satisfaction significantly influences customer loyalty, and mobile wallet service dimensions also significantly impact customer loyalty through customer satisfaction for users of the Linkaja digital wallet application in Jabodetabek. Furthermore, the dimensions of mobile wallet service, namely perceived service quality, perceived usefulness, and perceived security, are found to influence customer satisfaction, while customer loyalty is influenced by the dimensions of perceived service quality, perceived cost, and perceived security.

**Keywords:** *Customer Loyalty; Customer Satisfaction; Linkaja; Mobile Wallet Service Dimensions*

## I. Introduction

Technological developments have had an impact on the payment system used by society. Currently, the use of cash payment instruments that use money has begun to be replaced by non-cash payment instruments (Putra et al., 2020). Indonesia is one of the countries with the fastest acceleration of the digital financial economy. It is estimated that electronic money transactions in Indonesia could reach IDR 495 trillion in 2023 or an increase of 23.9 percent compared to 2022 ([www.indonesia.go.id](http://www.indonesia.go.id), 2023). Intensive use of technology as well as high levels of connectivity and innovation have caused major changes in consumer behavior, this in turn has made the banking sector transform intensively using technology. Fintech, which is a financial service provider with innovation and intensive use of technology, exists in order to follow trends in the current financial services market. The Financial Services Authority (OJK) states that there are 4 types of fintech in Indonesia, namely Securities Crowdfunding (SCF), E-wallet, investment and risk management, and Peer to Peer Landing (P2P) such as pay later ([www.cnbcindonesia.com](http://www.cnbcindonesia.com), 2018).

e-wallet is a breakthrough innovation in the fintech field today. Through digital wallets, payment transactions can be carried out simply by using a cellphone as a means of payment via a mobile application (Ajina et al., 2023). Research conducted by InsightAsia shows the superiority of digital wallets as the payment method most chosen by Indonesian people when compared to other payment methods. Transactions

carried out actively using digital wallets are 74 percent superior to other payment methods such as cash at 49 percent, bank transfers at 24 percent, QRIS at 21 percent, Pay Later at 18 percent, debit cards at 17 percent, and Virtual Account (VA) transfers. by 16 percent (BI Institute, 2023). Through research conducted by Neurosensum Indonesia, it was found that the use of digital wallets after the pandemic increased to 44 percent, after previously the use of digital wallets was only 10 percent (BI Institute, 2023). Rapid technological innovation and the availability of better internet and network connections are also one of the main drivers of the rapid penetration of Indonesian society towards digital wallet payment systems (Siagian et al., 2022). The comfort, convenience and promotion factors also make payments with digital wallets more attractive for users (BI Institute, 2023).

In the 2019 Nielsen Digital Consumer Survey report released in March 2020, 56 percent of respondents used e-wallets for payments every day. Most respondents, namely 81 percent, use e-wallets to pay for food and drinks, while 72 percent use them for transportation transactions. Furthermore, 41 percent of respondents used e-wallets to pay various bills, such as credit cards, water and electricity (databoks.katadata.co.id, 2023). This can also be strengthened by the results of a study conducted by the Mandiri Institute from March to April 2021, which stated that of the 505 MSMEs involved in the study, almost half of the MSMEs used non-cash transactions for payments. OVO is said to be the digital wallet most widely used by MSMEs for non-cash transactions with an adoption rate of 72 percent, followed by GoPay at 66 percent, Linkaja at 64 percent, ShopeePay at 52 percent, and DANA at 27 percent (databoks.katadata.co.id, 2023).

Through a survey conducted by Ipsos Southeast Asia, the most popular digital wallet applications in Indonesian society are ShopeePay, OVO, GoPay, DANA, and Linkaja (BI Institute, 2023). The Tcash digital wallet application migrated to Linkaja on June 30 2019 (Putra et al., 2020). In June 2023, Linkaja has a total of 90 million registered users. Research conducted by MDI Ventures and Mandiri Sekuritas states that since its inception in 2007 until 2017 the T-cash application has succeeded in regulating competition between digital wallet companies, but as time goes by and the development of digital wallets, there are more and more new entrants who are shifting popularity. T-cash (Larasati & Salim, 2021). In 2021, through a study conducted by Momentum Works, it was found that in the independent digital wallet application category, OVO succeeded in becoming the market leader with monthly active users of 20.8 million, followed by Dana with 13.5 million, and Linkaja with 7. 2 million. In the embedded digital wallet category, ShopeePay has succeeded in becoming a market leader with 10 million paid users and 51.5 million monthly active users. Followed by Go-Pay as the second leader with a number of monthly active users of more than 38 million (www.cnbcindonesia.com, 2022). Apart from that, a survey was also conducted by DSInnovate Fintech, the results showed that GoPay and OVO are digital wallets that have the highest level of awareness in Indonesia, reaching 93.9 percent, OVO is also top of mind among Indonesian people. Other digital wallets still follow, namely DANA at 92.3 percent, ShopeePay at 82.7 percent, and Linkaja at 72 percent (databoks.katadata.co.id, 2022).

The quality of the products or services offered by digital wallet development companies is one of the main factors that can influence user loyalty (Kurnia et al., 2023). Linkaja offers various services such as paying fees and bills, paying for public transportation, as well as paying for fuel filling at Pertamina (Linkaja.id, 2023). However, on the other hand, Linkaja experienced technical problems in the application system which caused users to be unable to use the service on August 26 2022 (Tirto, 2022). Digital wallets offer various benefits to users in terms of time, energy, security, economy and convenience (Ajina et al., 2023). In research by Putra et al. (2020) there are several reasons why Indonesian people use the Linkaja digital wallet. The three main reasons are Ease of Transaction (45%), Product discount (42%), and Security (4.5%). The convenience offered by the Linkaja application, such as the ease of topping up your balance, is the main reason for using this service (keuangan.kontan.co.id, 2023). Linkaja also provides many promotions and discounts for customers, but on the other hand, Linkaja has a target to increase transactions from active users who are healthier and more loyal and do not only depend on promotions or cashback (keuangan.kontan.co.id, 2023). The security offered by Linkaja to users includes the assurance that their transactions are under the supervision of Bank Indonesia and the Ministry of Communication and

Information of the Republic of Indonesia (LinkAja.id, 2021). However, the Linkaja digital wallet still lacks security features, for example if the user's cellphone is lost, the Linkaja balance cannot be frozen and can be used easily by other people (Putra et al., 2020).

Based on the problems described previously, the research aims to analyze the relationship between mobile wallet service dimensions, namely perceived service quality, perceived ease of use, perceived usefulness, perceived cost, and perceived security on customer loyalty through customer satisfaction for Linkaja users in Jabodetabek. This research is also based on previous research conducted by Ajina et al. (2023) regarding the influence of mobile wallet service dimensions on customer satisfaction and customer loyalty among digital wallet users in Jordan.

## **II. Theoretical Framework**

### **2.1. Customer Loyalty**

In Ajina et al. (2023) stated that customer loyalty is the tendency of customers to continuously choose certain products and services even though there are other competitors in the market. Customer loyalty is a sustainable product purchasing process that results from customer commitment to the product. If customers have a strong preference for a particular brand compared to competing brands then they behave loyally towards a brand (Payne & Frow, 2015).

### **2.2. Mobile Wallet Service Dimensions**

Service quality represents how much a particular service can increase customer satisfaction and loyalty. mobile wallet service dimensions influence customer satisfaction and customer loyalty of digital wallet service users. Apart from that, customer satisfaction can also mediate the relationship between mobile wallet service and customer loyalty (Ajina, et al, 2023). However, on the other hand Kurnia et al. (2023) found that consumer satisfaction cannot be a mediating variable between the relationship between perceived value, ease of use, trust, perceived security, self-efficacy and sales promotion variables on consumer loyalty. That said, we propose the following hypotheses.

H1: Perceived m-wallet service dimensions have a significant effect to customer satisfaction on Linkaja users in Jabodetabek.

H2: Perceived m-wallet service dimensions have a significant effect to customer loyalty on Linkaja users in Jabodetabek.

H4: Perceived m-wallet service dimensions have a significant effect to customer loyalty through customer satisfaction on Linkaja users in Jabodetabek.

In analyzing the quality of m-wallet services, based on Ajina et al. (2023), the author considers the following dimensions:

#### **2.2.1. Perceived Service Quality**

Service quality is defined as a customer's assessment of overall service excellence (Andaleeb & Hasan, 2017). System quality and service quality will have an impact on user satisfaction Zhong & Chen (2023). According to Armstrong et al. (2019), a company's ability to retain its customers depends on how consistently the company provides value to them. Research conducted by Ajina et al. (2023) found that the perceived service quality dimension of m-wallet has a positive influence on customer statistics and customer loyalty of digital wallet service users. Research conducted by Morkūnas & Grišmanauskaite (2023) also states that perceived quality influences loyalty with brand satisfaction and brand trust as moderating variables. That said, we propose the following hypotheses.

H1.1: Perceived service quality has a significant effect to customer satisfaction on Linkaja users in Jabodetabek.

H2.1: Perceived service quality has a significant effect to customer loyalty on Linkaja users in Jabodetabek.

### **2.2.2. Perceived Ease of Use**

In Uzir et al. (2023) explained that ease of use refers to the extent to which individuals believe or feel ease in using certain technology. Kurnia et al. (2023) conducted research on digital wallet users in Indonesia and found that ease of use has an influence on customer satisfaction and customer loyalty. However, on the other hand, research by Ajina et al. (2023) found that the perceived ease of use dimension had no influence on customer satisfaction and customer loyalty from digital wallet service users. That said, we propose the following hypotheses.

H1.2: Perceived ease of use has a significant effect to customer satisfaction on Linkaja users in Jabodetabek.

H2.2: Perceived ease of use has a significant effect to customer loyalty on Linkaja users in Jabodetabek.

### **2.2.3. Perceived Usefulness**

In Singh & Sinha (2020), perceived usefulness is defined as the user's hope that using a system will improve job performance. In Le (2021) it is explained that usefulness includes satisfaction with service quality. In Wang et al. (2023) stated that if a brand is useful for someone, then they will always use it and recommend it to friends and family. Research conducted by Abdullah et al. (2023) shows that QR code usefulness has a significant and positive effect on perceived flow which in turn influences customer satisfaction. However, research conducted by Ajina et al. (2023) found that the perceived usefulness dimension had no influence on customer satisfaction, but had an influence on customer loyalty of digital wallet service users. That said, we propose the following hypotheses.

H1.3: Perceived usefulness has a significant effect to customer satisfaction on Linkaja users in Jabodetabek.

H2.3: Perceived usefulness has a significant effect to customer loyalty on Linkaja users in Jabodetabek.

### **2.2.4. Perceived Cost**

Perceived cost refers to the extent to which a person thinks it will cost money to use a cellular service (Zhong & Chenm 2023). The main factors driving loyalty are price, ease of use, and customer support (Chaffey & Chadwick, 2019). Research conducted by Zhong & Chen (2023) shows that perceived cost is an important determinant of user satisfaction and loyalty. However, on the other hand, research conducted by Mofokeng (2023) states that there is no influence between perceived cost and customer loyalty. That said, we propose the following hypotheses.

H1.4: Perceived cost has a significant effect to customer satisfaction on Linkaja users in Jabodetabek.

H2.4: Perceived cost has a significant effect to customer loyalty on Linkaja users in Jabodetabek.

### **2.2.5. Perceived Security**

In Siagian et al. (2022) perceived security is defined as the prevention and anticipation of threats that have the potential to pose economic challenges by causing damage to data sources or networks, data collection and manipulation, denial of service, fraud and abuse of authority. Kurnia et al. (2023) who conducted research on digital wallet users in Indonesia found that perceived security had an influence on customer loyalty, but not customer satisfaction. Ajina et al. (2023) found that the perceived security dimension had no effect on customer satisfaction and customer loyalty from digital wallet service users. That said, we propose the following hypotheses.

H1.5: Perceived security has a significant effect to customer satisfaction on Linkaja users in Jabodetabek.

H2.5: Perceived security has a significant effect to customer loyalty on Linkaja users in Jabodetabek.

## **2.3. Customer Satisfaction**

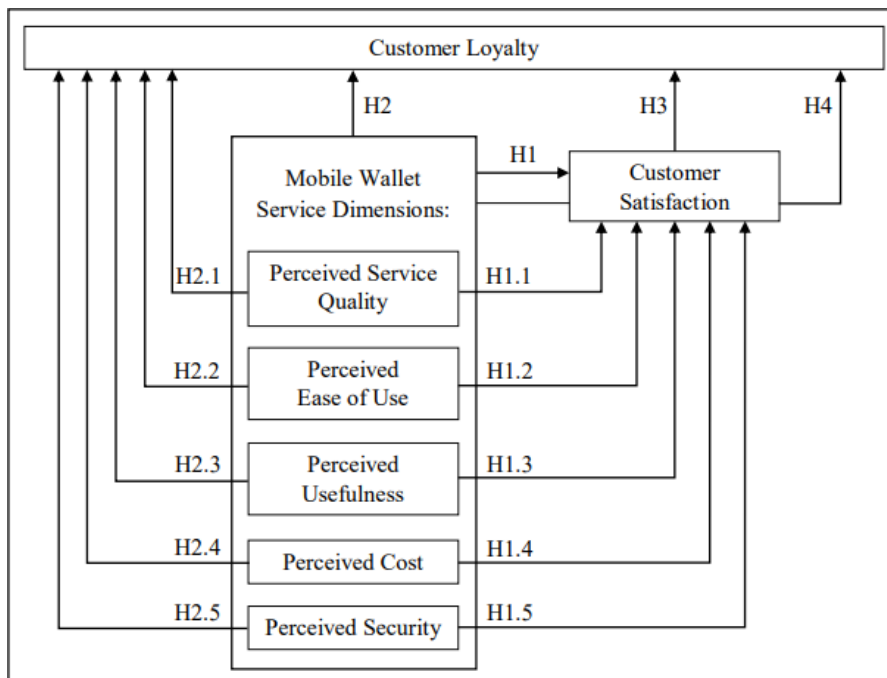
Customer satisfaction is the overall customer evaluation of goods or services from time to time based

on purchasing and consumption experiences (Malhotra, 2016). Research conducted by Kurnia et al. (2023) of digital wallet users in Indonesia found that consumer satisfaction was the variable with the highest influence on consumer loyalty. Research conducted by Ajina et al. (2023) also found that customer satisfaction influences customer loyalty from digital wallet service users. That said, we propose the following hypotheses.

H3: Customer satisfaction has a significant effect to customer loyalty on Linkaja users in Jabodetabek.

### III. Methods

This research uses a quantitative approach by collecting primary data through a survey in the form of a Google Form questionnaire to respondents online on social media. This research was conducted from August to December 2023. Secondary data in this research was obtained from previous research, books, journals and the internet. The research population is 90,000,000 people, which is the number of registered users of the Linkaja digital wallet in Indonesia (keuangan.kontan.co.id, 2023). The minimum sample size according to general rules is at least 5 times the number of question indicators (Hair et al., 2019). Based on this, the number of samples in this study was 5 times 33 question indicators or 165 respondents. The purposive sampling technique was chosen by researchers because there are specific criteria for respondents that have been determined, namely: 1) have a minimum age of 17 years/already have an ID card; 2) have made transactions on the Linkaja digital wallet application at least 2 times in the last 6 months; 3) domiciled in Jabodetabek. A nominal scale is used to analyze respondent characteristic data and a Likert scale is used to measure the level of respondent agreement with statements in the questionnaire regarding research variables. A range of 1-5 was chosen for the Likert scale and can be described as strongly disagree, disagree, neutral, agree, and strongly agree.



**Figure1. Research Model**

(source: Ajina et al. 2023)

### IV. Data Analysis

To carry out analysis of the proposed model and test the hypothesis, we initially combined samples, especially Linkaja users in Jabodetabek, totaling 165 respondents. This is the sample used in the analysis.

#### 4.1. Validation and Reliability Test

A pre-test was carried out on 30 respondents to identify problems that might occur in the questionnaire. Kaiser-Meyer-Olkin (KMO) and Anti-Image Matrix were used to measure the validity of the research instrument. Factor analysis can be used if the KMO value is above 0.500 (Hair et al., 2014) and the Anti-Image Matrix shows more than 0.500 (Sheskin, 2011). Cronbach's Alpha is used to carry out reliability tests. Instruments in research can be accepted as reliable if the Cronbach's Alpha value obtained is  $> 0.600$  (Hair et al., 2019). Descriptive statistical tests were carried out in this research to process data containing the characteristics of respondents. This research also uses simple and multiple linear regression analysis to test the effect of hypothesis testing.

**Table1: Validity and Reliability Test Results**

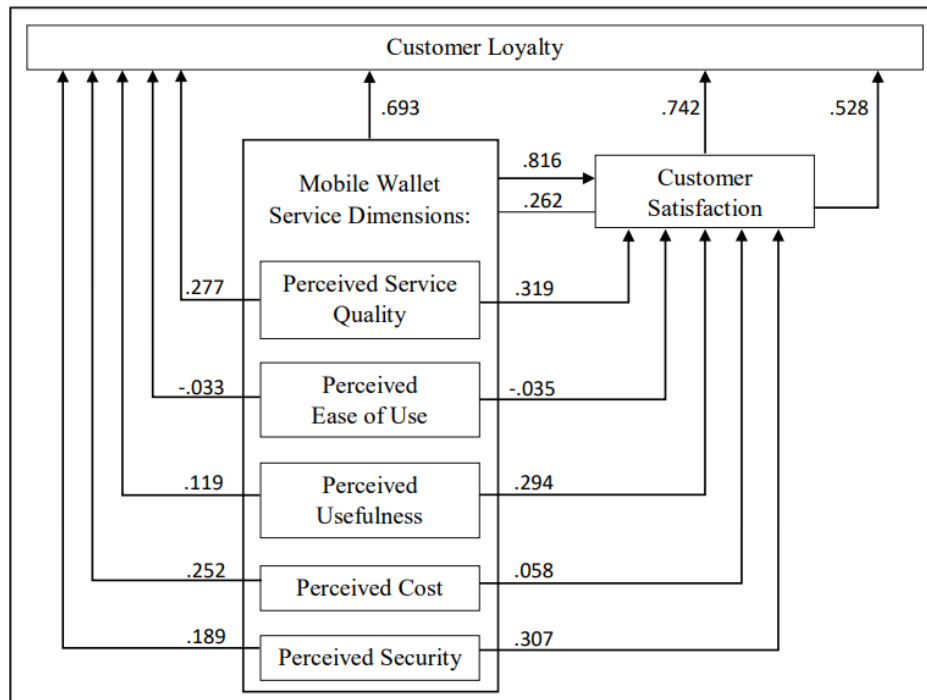
| Indicator  | KMO   | AntiImage Correlation Matrix | Cronbach Alpha | Interpretation |                    |
|--|-------|------------------------------|----------------|----------------|--------------------|
| <b>CustomerLoyalty</b>   |       |                              |                |                |                    |
| In the future, I intend to use the Linkaja digital wallet  | 0.829 | 0.770                        | 0.879          | 0.858          | Valid and Reliable |
| I will consider Linkaja digital wallet as my first choice for payments in the future                                   |       | 0.859                        |                | 0.856          | Valid and Reliable |
| I will advise my friends to use Linkaja digital wallet   |       | 0.850                        |                | 0.843          | Valid and Reliable |
| I will give a positive review about Linkaja digital wallet   |       | 0.880                        |                | 0.851          | Validand Reliable  |
| It will be difficult for me to change my beliefs about payments via Linkaja digital wallet                             |       | 0.797                        |                | 0.848          | Validand Reliable  |
| If a close friend recommends another payment service, my preference will not change towards the Linkaja digital wallet |       | 0.808                        |                | 0.893          | Validand Reliable  |
| <b>PerceivedServiceQuality</b>   |       |                              |                |                |                    |
| Linkaja digital wallet offers professional services  | 0.596 | 0.565                        | 0.753          | 0.618          | Validand Reliable  |
| Linkaja digital wallet offers customized services to users   |       | 0.574                        |                | 0.680          | Validand Reliable  |
| Linkaja digital wallet has a fast connection service   |       | 0.552                        |                | 0.861          | Validand Reliable  |
| Linkaja digital wallet provides various payment options  |       | 0.686                        |                | 0.643          | Validand Reliable  |
| <b>PerceivedEaseof Use</b>   |       |                              |                |                |                    |
| Linkaja digital wallet is easy to use  | 0.800 | 0.813                        | 0.869          | 0.847          | Validand Reliable  |
| Using the Linkaja digital wallet does not require much effort  |       | 0.753                        |                | 0.795          | Validand Reliable  |
| It only takes a few steps to complete my payment with Linkaja digital wallet   |       | 0.801                        |                | 0.807          | Validand Reliable  |
| Payment information on the Linkaja digital wallet can be obtained easily   |       | 0.865                        |                | 0.873          | Validand Reliable  |
| <b>PerceivedUsefulness</b>   |       |                              |                |                |                    |

|   |       |       |       |       |                      |
|---|-------|-------|-------|-------|----------------------|
| Linkaja digital wallet helps me complete payments faster  | 0.784 | 0.753 | 0.869 | 0.808 | Validand<br>Reliable |
| The Linkaja digital wallet is useful for the payments I make  |       | 0.900 |       | 0.870 | Validand<br>Reliable |
| Linkaja digital wallet saves time   |       | 0.718 |       | 0.797 | Validand<br>Reliable |
| Linkaja digital wallet is useful for managing payments  |       | 0.840 |       | 0.851 | Validand<br>Reliable |
| <b>PerceivedCost</b>  |       |       |       |       |                      |
| Linkaja digital wallet fees are reasonable  | 0.796 | 0.798 | 0.846 | 0.798 | Validand<br>Reliable |
| Linkaja digital wallet provides competitive prices for payments   |       | 0.745 |       | 0.783 | Validand<br>Reliable |
| Linkaja digital wallet provides the best value for the amount I spend   |       | 0.802 |       | 0.787 | Validand<br>Reliable |
| In my opinion, using the Linkaja digital wallet is more attractive when the service provider offers bonuses and discounts |       | 0.878 |       | 0.851 | Validand<br>Reliable |
| <b>PerceivedSecurity</b>  |       |       |       |       |                      |
| Linkaja digital wallet is a secure payment tool   | 0.777 | 0.771 | 0.848 | 0.813 | Validand<br>Reliable |
| Linkaja digital wallet is guaranteed by the government  |       | 0.847 |       | 0.837 | Validand<br>Reliable |
| Linkaja digital wallet protects personal information  |       | 0.708 |       | 0.830 | Validand<br>Reliable |
| Linkaja digital wallet ensures protection against fraud   |       | 0.734 |       | 0.780 | Validand<br>Reliable |
| Linkaja digital wallet ensures protection against financial risks   |       | 0.873 |       | 0.822 | Validand<br>Reliable |
| <b>CustomerSatisfaction</b>   |       |       |       |       |                      |
| Linkaja digital wallet met my expectations  | 0.871 | 0.881 | 0.923 | 0.922 | Validand<br>Reliable |
| Linkaja digital wallet is exactly what I need   |       | 0.900 |       | 0.904 | Validand<br>Reliable |
| My choice to use the Linkaja digital wallet is the most sensible choice   |       | 0.912 |       | 0.915 | Validand<br>Reliable |
| I am satisfied with payments via the Linkaja digital wallet   |       | 0.820 |       | 0.898 | Validand<br>Reliable |
| I like using the Linkaja digital wallet   |       | 0.823 |       | 0.900 | Validand<br>Reliable |

|  |  |       |  |       |                      |
|--|--|-------|--|-------|----------------------|
| I am confident that I have done the right thing by choosing Linkaja digital wallet |  | 0.933 |  | 0.917 | Validand<br>Reliable |
|--|--|-------|--|-------|----------------------|

All indicators for all variables used in the research show KMO and Anti-Image values of more than 0.5 and Cronbach's Alpha values of more than 0.6, which means that each indicator is declared valid and reliable.

#### 4.2. Assessment of Inferential Statistics, hypotheses



**Figure 2.: Effect Test Results on the Analysis Model**

Based on the information presented in Figure 2, the correlation coefficient ( $r$ ) which shows the influence between the mobile wallet service variable on customer satisfaction is 0.816, which means there is a strong influence. The influence of mobile wallet service based on dimensions on customer satisfaction is, 1) the perceived service quality dimension has a weak influence on customer satisfaction of 0.319, 2) the perceived usefulness dimension has a weak influence on customer satisfaction of 0.294, 3) the perceived security dimension has an influence weak on customer satisfaction of 0.307, 4) on the other hand, the dimensions of perceived ease of use and perceived cost have no influence on customer satisfaction.

The correlation coefficient ( $r$ ) which shows the influence between the mobile wallet service variables and customer loyalty of 0.693, which means there is a strong influence. The influence of mobile wallet service based on dimensions on customer loyalty is, 1) the perceived service quality dimension has a weak influence on customer loyalty of 0.277, 2) the perceived cost dimension has a weak influence on customer loyalty of 0.252, 3) the perceived security dimension has an influence very weak on customer loyalty of 0.189, 4) on the other hand, the dimensions of perceived ease of use and perceived usefulness have no influence on customer loyalty.

The correlation coefficient ( $r$ ) which shows the strong influence of the customer satisfaction variable on customer loyalty of 0.742. The mobile wallet service variable has a weak influence on customer satisfaction of 0.262, while the influence of mobile wallet service and customer satisfaction on customer loyalty has a moderate influence of 0.528.



**Table 2.: Hypothesis Test Results**

| Hypothesis | Effects between Variables   | Sig. |
|------------|---|------|
| H1         | Mobile Wallet Service to Customer Satisfaction                          | .000 |
| H1.1       | Perceived service quality to Customer Satisfaction                      | .000 |
| H1.2       | Perceived ease of use to Customer Satisfaction                          | .675 |
| H1.3       | Perceived usefulness to Customer Satisfaction                           | .001 |
| H1.4       | Perceived cost to Customer Satisfaction                                 | .446 |
| H1.5       | Perceived security to Customer Satisfaction                             | .000 |
| H2         | Mobile Wallet Service to Customer Loyalty                               | .000 |
| H2.1       | Perceived service quality to Customer Loyalty                           | .008 |
| H2.2       | Perceived ease of use to Customer Loyalty                               | .751 |
| H2.3       | Perceived usefulness to Customer Loyalty                                | .277 |
| H2.4       | Perceived cost to Customer Loyalty                                      | .009 |
| H2.5       | Perceived security to Customer Loyalty                                  | .015 |
| H3         | Customer Satisfaction towards Customer Loyalty                          | .000 |
| H4         | Mobile Wallet Service to Customer Loyalty through Customer Satisfaction | .000 |

The hypothesis in this research is accepted if the significance value is less than 0.05. Based on Table 2, the results show that H1 is accepted, which means mobile wallet service significantly influences customer satisfaction. H1.1, H1.3, and H1.5 are accepted, which means that perceived service quality, perceived usefulness, and perceived security significantly influence customer satisfaction. Meanwhile, H1.2 and H1.4 are rejected, which means that perceived ease of use and perceived cost do not have a significant effect on customer satisfaction for users of the Linkaja digital wallet application in Jabodetabek. The next results show that H2 is accepted, which means mobile wallet service significantly influences customer loyalty. H2.1, H2.4, and H2.5 are accepted, which means that perceived service quality, perceived cost, and perceived security significantly influence customer loyalty. Meanwhile, H2.2 and H2.3 are rejected, which means that perceived ease of use and perceived usefulness do not significantly influence customer loyalty among users of the Linkaja digital wallet application in Jabodetabek. The next results show that H3 is accepted, which means customer satisfaction significantly influences customer loyalty and H4 is accepted, which means mobile wallet service significantly influences customer loyalty through customer satisfaction for users of the Linkaja digital wallet application in Jabodetabek.

#### 4.3. Discussion of results

The research results show that there is a strong influence between the mobile wallet service variable on the customer satisfaction variable. This finding is in line with research by Ajina et al. (2023) who found that mobile wallet service influences customer satisfaction. The dimensions of perceived service quality, perceived usefulness, and perceived security are dimensions that were found to have an influence on customer satisfaction. This finding is in line with research by Li et al. (2021) which states that service quality has an influence on customer satisfaction, as well as research by Abdullah et al. (2023) which shows that QR code usefulness has a significant and positive effect on perceived flow which in turn influences customer satisfaction. Customers are more likely to use a service when they perceive the service to be of high quality overall (Ajina et al., 2023). Le (2021) also explains that fintech services bring benefits to users, such as

increasing task completion, reducing the time required, and reducing excess paperwork. On the other hand, this research found that the dimensions of perceived ease of use and perceived cost have no influence on customer satisfaction. This finding is in line with research by Ajina et al. (2023) who found that the perceived ease of use dimension had no influence on customer satisfaction.

The results of further research show that there is an influence between the mobile wallet service variables and customer loyalty. This finding is in line with research by Ajina et al. (2023) who found that mobile wallet service influences customer loyalty. Armstrong et al. (2019) stated that a company's ability to retain its customers depends on how consistently the company provides value to them. The dimensions of perceived service quality, perceived cost, and perceived security are dimensions that were found to have an influence on customer loyalty. This finding is in line with research by Ajina et al. (2023) who found that the dimensions of perceived service quality and perceived cost in m-wallet have a positive influence on customer loyalty, research by Zhong & Chen (2023) which shows that perceived cost is an important determinant of loyalty, and research by Kurnia et al. (2023) who found that perceived security has an influence on customer loyalty. Morkūnas & Grišmanauskaite (2023) stated that consumer loyalty can be easily obtained if the company focuses on producing high quality products. Chaffey & Chadwick (2019) stated that the main factors driving loyalty are price, ease of use, and customer support. Shimp & Andrews (2013) stated that personal and family security is an aspect of security related to the ownership and consumption of many products. On the other hand, this research shows that perceived ease of use and perceived usefulness have no influence on customer loyalty. This is in line with research by Ajina et al. (2023) found that the perceived ease of use dimension had no influence on customer loyalty.

Furthermore, research shows that there is a strong relationship between the dimensions of the customer satisfaction and customer loyalty variables. This finding is in line with research conducted by Kurnia et al. (2023) on digital wallet users in Indonesia as well as research by Ajina et al. (2023) on users of digital wallet services in Jordan who found that customer satisfaction had an effect on customer loyalty. The research results also show that there is a strong relationship between the mobile wallet service variable and customer satisfaction on customer loyalty. Ajina et al. (2023) state that service quality refers to the level of customer satisfaction which can also represent how much a particular service can increase customer loyalty.

## **V. Conclusion**

Based on data analysis, the research conclusions are as follows:

1. Mobile wallet service dimensions have a significant effect on customer satisfaction and customer loyalty among users of the Linkaja digital wallet application in Jabodetabek.
2. Customer satisfaction has a significant effect on customer loyalty among users of the Linkaja digital wallet application in Jabodetabek.
3. Mobile wallet service dimensions have a significant effect on customer loyalty through customer satisfaction for users of the Linkaja digital wallet application in Jabodetabek.
4. The dimensions of mobile wallet service, namely perceived service quality, perceived usefulness, and perceived security, were found to have an influence on customer satisfaction, but not the dimensions of perceived ease of use and perceived cost.
5. The dimensions of mobile wallet service, namely perceived service quality, perceived cost, and perceived security, were found to have an influence on customer loyalty, but not the dimensions of perceived ease of use and perceived usefulness.

## **VI. Recommendation**

Based on the conclusions above, several recommendations from researchers are:

1. In increasing customer satisfaction, companies must improve the quality of services and benefits offered, as well as guarantee the security of application users.
2. In increasing customer loyalty, companies must improve the quality of services offered, offer competitive costs according to the value provided, and guarantee user security.
3. In increasing customer loyalty, companies must pay attention to customer satisfaction which can then

have an impact on customer loyalty.

4. Future research can expand the scope of research by examining the satisfaction and loyalty of Linkaja users outside the Jabodetabek area due to the widespread distribution of Linkaja users in Indonesia today.

## References

- [1.] Abdullah, B. S., Nawi, N. C., Zainuddin, S. A., Hassan, A. A., Ibrahim, W. S. A. A. W., Mohamed, A. F., & Zin, M. Z. M. (2023). Customer Satisfaction and Sustainable Purchasing Behaviour via QR Code with the Mediating Role of Perceived Flow Among Malaysian Shoppers. *FIIB Business Review*. <https://doi.org/10.1177/23197145231176951>.
- [2.] Ajina, A. S., Joudeh, J. M., Ali, N. N., Zamil, A. M., & Hashem, T. N. (2023). The effect of mobile-wallet service dimensions on customer satisfaction and loyalty: An empirical study. *Cogent Business & Management*, 10(2). <https://doi.org/10.1080/23311975.2023.2229544>.
- [3.] Andaleeb, S. S., & Hasan, K. (2017). *Strategic Marketing Management in Asia: Case Studies and Lessons Across Industries*. Emerald.
- [4.] BI Institute. (2023, March 31). *Dompnet Digital Naik Daun, Membetot Minat Kala Pandemi*. <https://www.bi.go.id/id/bi-institute/BI-Epsilon/Pages/Dompnet-Digital--Naik-Daun,-Membetot-Minat-Kala-Pandemi.aspx>.
- [5.] Bratadharma, A. (2023, June 28). *Mengenal 4 jenis fintech di Indonesia*. Medcom.id. <https://www.medcom.id/ekonomi/keuangan/8koM3RRN-mengenal-4-jenis-fintech-di-inIndonesia>.
- [6.] Chaffey, D., & Ellis-Chadwick, F. (2019). *Digital Marketing: Strategy, implementation and practice* (7th ed.). Pearson.
- [7.] Destya, F. (2023, July 25). *Linkaja catat 90 Juta Pengguna Terdaftar per juni 2023*. kontan.co.id. <https://keuangan.kontan.co.id/news/Linkaja-catat-90-juta-pengguna-terdaftar-per-juni-2023>.
- [8.] Dewi, I. R. (2022, June 28). *Peta Kompetisi Dompnet Digital Indonesia, Siapa Lebih Unggul?*. CNBC Indonesia. <https://www.cnbcindonesia.com/tech/20220628115548-37-350996/peta-kompetisi-dompnet-digital-indonesia-siapa-lebih-unggul>
- [9.] Ferdianto, A. (2023, July 25). *Ekonomi defungkap Persaingan Dompnet digital tak seketat 2 Tahun Belakangan*. kontan.co.id. <https://keuangan.kontan.co.id/news/ekonomi-defungkap-persaingan-dompnet-digital-tak-seketat-2-tahun-belakangan>
- [10.] Gaprilia, G. (2021, July 15). *Penggunaan Pembayaran Digital E-wallet Oleh UMKM Selama Masa Pandemi*. Data Tempo <https://www.datatempo.co/DataEkonomi/view/20210715040240/penggunaan-pembayaran-digital-e-wallet-oleh-umkm-selama-masa-pandemi>.
- [11.] Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2014). *Multivariate Data Analysis*. (7th Ed). Pearson Education.
- [12.] Hair Jr., J., Page, M., & Brunsveld, N. (2019). *Essentials of Business Research Methods*. (4th ed). Routledge. <https://doi.org/10.4324/9780429203374>.
- [13.] Handayani, I. (2022, November 29). *Riset: Dompnet Digital Paling Dipilih Masyarakat Indonesia*. investor.id. <https://investor.id/finance/314524/riset-dompnet-digital-paling-dipilih-masyarakat-Indonesia>.
- [14.] Kurnia, P. R., Pangaribuan, J. H., & Sitio, R. P. (2023). Digital Wallet users in Indonesia: Factors affecting consumer satisfaction and Consumer Loyalty. *Proceedings of the Business Innovation and Engineering Conference (BIEC 2022)*, 3–15. [https://doi.org/10.2991/978-94-6463-144-9\\_2](https://doi.org/10.2991/978-94-6463-144-9_2).
- [15.] Larasati, C. A. K. & Salim R. A. (2021). Analysis of Factors Influencing Continuance Intention of E-wallet Use: A Case Study of Linkaja. *International Research Journal of Advanced Engineering and Science*, 6 (2), pp. 27-33.
- [16.] Le, M. T. H. (2021). Examining factors that boost intention and loyalty to use Fintech post-COVID-19 lockdown as a new normal behavior. *Heliyon*. <https://doi.org/10.1016/j.heliyon.2021.e07821>.
- [17.] LinkAaja. (2021, July 8). *Syarat Dan Ketentuan Layanan LinkAaja*. LinkAaja App Uang Elektronik (E-Money) & Dompnet Digital. <https://www.LinkAaja.id/syarat-ketentuan>.
- [18.] Malhotra, N. K. (2016). *Marketing In and For A Sustainable Society*. Emerald.
- [19.] Mofokeng, T. E. (2023). Antecedents of trust and customer loyalty in online shopping: The moderating

- effects of online shopping experience and e-shopping spending. *Heliyon*, 9(5), article e16182. <https://doi.org/10.1016/j.heliyon.2023.e16182>.
- [20.] Morkūnas, M., & Grišmanauskaitė, M. K. (2023). What really drives loyalty in the fast-moving consumer goods market? *IIM Kozhikode Society & Management Review*, 12(2), 197–212. <https://doi.org/10.1177/22779752231154645>.
- [21.] Nurina. (2021, August 3). *Who are leading digital wallets in Indonesia? - the low down - momentum works*. The Low Down - Momentum Works - On tech & new economy in China, Southeast Asia & beyond. <https://thelowdown.momentum.asia/who-are-leading-digital-wallets-in-indonesia/>.
- [22.] Payne, A., & Frow, P. (2015). *Strategic Customer Management: Integrating Relationship Marketing and CRM*. Cambridge University Press.
- [23.] Putra, H. D., Astuti, E. S., Kusumawati, A., & Abdillah, Y. (2020). Knowing the Reasons of Using E Money Linkaja in Indonesia. *Talent Development & Excellence*, 12(3), 242–25.
- [24.] Rachman, A. (2022, August 26). *Linkaja Tak Bisa Diakses, Manajemen Beri Penjelasan*. Tempo. <https://bisnis.tempo.co/read/1627188/Linkaja-tak-bisa-diakses-manajemen-beri-penjelasan>.
- [25.] Rizaty, M. A. (2023, March 21). *Ini Sederet Fintech Favorit Masyarakat Indonesia*. Data Indonesia. <https://dataindonesia.id/digital/detail/ini-sederet-fintech-favorit-masyarakat-indonesia>.
- [26.] Sheskin, D. J. (2011). *Handbook of parametric and nonparametric statistical* (5th ed.). Taylor and Francis.
- [27.] Shimp, T. A., & Andrews, J. C. (2013). *Advertising, Promotion, and other aspects of Integrated Marketing Communications* (9th ed.). South-Western Cengage Learning.
- [28.] Siagian, H., Tarigan, Z. J., Basana, S. R., & Basuki, R. (2022). The effect of perceived security, perceived ease of use, and perceived usefulness on consumer behavioral intention through trust in Digital Payment Platform. *International Journal of Data and Network Science*, 6(3), 861–874. <https://doi.org/10.5267/j.ijdns.2022.2.010>.
- [29.] Singh, N., & Sinha, N. (2020). How perceived trust mediates merchant's intention to use a mobile wallet technology. *Journal of Retailing and Consumer Services*, 52. <https://doi.org/10.1016/j.jretconser.2019.101894>.
- [30.] Uzir, M. U., Bukari, Z., Al Halbusi, H., Lim, R., Wahab, S. N., Rasul, T., Thurasamy, R., Jerin, I., Chowdhury, M. R., Tarofder, A. K., Yaakop, A. Y., Hamid, A. B., Haque, A., Rauf, A., & Eneizan, B. (2023). Applied Artificial Intelligence: Acceptance-intention-purchase and satisfaction on smartwatch usage in a Ghanaian context. *Heliyon*, 9(8). <https://doi.org/10.1016/j.heliyon.2023.e18666>.
- [31.] Wang, C., Ahmad, S. F., Bani Ahmad Ayassrah, A. Y. A., Awwad, E. M., Irshad, M., Ali, Y. A., Al-Razgan, M., Khan, Y., & Han, H. (2023). An empirical evaluation of technology acceptance model for artificial intelligence in e-commerce. *Heliyon*, 9(8). <https://doi.org/10.1016/j.heliyon.2023.e18349>.
- [32.] Zhong, J., & Chen, T. (2023). Antecedents of mobile payment loyalty: An extended perspective of perceived value and information system success model. *Journal of Retailing and Consumer Services*. <https://doi.org/10.1016/j.jretconser.2023.103267>.
- [33.] <https://www.indonesia.go.id/kategori/indonesia-dalam-angka/6855/transaksi-uang-elektronik-melejit?lang=1>
- [34.] <https://www.cnbcindonesia.com/tech/20180110145800-37-1126/ini-dia-empat-jenis-fintech-di-indonesia>
- [35.] <https://databoks.katadata.co.id/datapublish/2023/06/20/e-wallet-metode-pembayaran-digital-yang-paling-banyak-digunakan-warga-ri-saat-belanja-online>
- [36.] <https://databoks.katadata.co.id/datapublish/2021/06/30/ovo-e-wallet-yang-paling-banyak-digunakan-umkm-di-masa-pandemi>
- [37.] <https://www.cnbcindonesia.com/tech/20220628115548-37-350996/peta-kompetisi-dompet-digital-indonesia-siapa-lebih-unggul>
- [38.] <https://databoks.katadata.co.id/datapublish/2022/01/12/survei-dailysocial-ovo-jadi-dompet-digital-paling-banyak-dipakai-masyarakat>
- [39.] [https://tirto.id/linkaja-tidak-bisa-digunakan-ini-penjelasan-manajemen-gvyp#google\\_vignette](https://tirto.id/linkaja-tidak-bisa-digunakan-ini-penjelasan-manajemen-gvyp#google_vignette)
- [40.] <https://keuangan.kontan.co.id/news/linkaja-jadi-uang-elektronik-pertama-pada-layanan-lrt-jabodebek>