THE EFFECT OF PERCEIVED USEFULNESS, PERCEIVED EASE OF USE AND TRUST ON INTENTION TO USE DANA AS A MOBILE PAYMENT

PENGARUH PERSEPSI KEGUNAAN, PERSEPSI KEMUDAHAN, DAN KEPERCAYAAN TERHADAP NIAT MENGGUNAKAN DANA SEBAGAI ALAT PEMBAYARAN

By:
Cindy L. C. P. Mogot¹
David P. E. Saerang²
Merinda H. C. Pandowo³

¹²³Management Department Faculty of Economic and Business
Sam Ratulangi University Manado

E-mail:
¹mogotcim@gmail.com
²davidsaerang@unsrat.ac.id
³merindapandowo@unsrat.ac.id

Abstract: The development of technology causes rapid changes in the economic world. This includes fintech, where a combination between smartphones, applications, and the internet can be a digital mobile payment tool. This study aims to analyze the perceived usefulness, perceived ease of use and trust can influence the customer's intention to use Dana as their mobile payment. This study uses quantitative method. Questionnaire is used to collect the data. This research derived and examined the model through multiple linear regression model in a sample of 100 respondents who have made transaction using Dana in the last six months in Manado. Findings of this research show that perceived usefulness, perceived ease of use and trust simultaneously influence customer's intention to use Dana as their mobile payment. Recommendations for this research are Dana remains consistent and develops the application system, made interesting for its appearance, and can add 24-hour customer service live chat features so that users feel easy, helpful, and have more trust when making transactions using Dana.

Keyword: perceived usefulness, perceived ease of use, trust, intention to use

INTRODUCTION

Research Background

In today's modern era, the use of information technology in the financial world is crucial. Development is very rapidly, along with the behavior of people who cannot be separated from the development of technology in everyday life. This is what leads to rapid changes in social, economic, and cultural. With the development of very high technology also affects the development of the financial world that becomes more efficient and modern. In today's economic world, it is essential to innovate because financial and technological have a close relationship. It is also supported by increasing internet use in everyday life that can be accessed through smartphones and other technological devices.
Increased penetration of Internet users is also encouraged by the high use of smartphones in Indonesia. The growth of high Internet users brings out various forms of new Internet-based businesses, one of which is emerging Fintech (Financial Technology) as a new payment system solution that offers convenience for its users especially those connected to the Internet. According to Hochstein quoted from American Banker in 2015, Fintech refers to the use of technology to offer financial solutions. The term success Fintech is the abbreviation of Financial Technology, which means the company's breadth combines financial services with modern and innovative technology. FinTech generally aims to attract customers with products and services that are more user-friendly, efficient, transparent and automatic compared to existing ones now (Mackenzie, 2015).

FinTech continues to evolve and rapidly improve the financial business sector. FinTech has the advantage of various parties in the financial industry. Its emergence has made a positive impact on the financial business sector to be more efficient and competitive. Some financial businesses leverage FinTech to provide a safe and secure digital service preference. In this case, banking adopts FinTech to make digital services such as internet banking and mobile banking that are easily accessible and used only using smartphones as well as encouraging people to more actively transacting efficiently, securely, and comfortably. Also, to use in FinTech banking is used in other financial businesses such as insurance and other financial instruments or provide services as a third party.

Fintech Financial services in Indonesia are divided into several groups, namely Peer-to-Peer (P2P) lending and crowdfunding; Payment, clearing, and settlement; Risk management and investment; Market aggregator. Until 2018 fintech business in Indonesia is still dominated by digital and mobile payment of (39%), Lending (24%), personal finance (7%), crowdfunding (8%), and the rest is comparison, Insurtech, POS system, cryptocurrency & Blockchain, accounting and other.

In the theory of TAM (Technology Acceptance Model) by Davis in 1989, several factors can affect interest in using a technology, one of which is perceived usefulness. According to Davis (1989) perceived usefulness is defined as the level of consumer confidence that using a system can improve performance, besides the user has a usability perception of technology in enhancing its performance, including minimizing uptime and for ensuring its accuracy and usability. One consideration that can affect the user interest to use a mobile payment service is perceived usefulness. Users will be interested in using mobile payment if it can help minimize time to do something or get something. Besides perceived usefulness, users will also consider the perceived Ease of use factor in using digital payment services. Perceived Ease of use is a level where technology is easy to understand and use (Davis, 1989). Wibowo (2006) stated that the perception of the eight Ease of use of technology is defined as a measure whereby one believes that technology can be easily understood and used. It is helpful to increase the use of payment applications that are often considered difficult despite the interest of many. Another factor that is also the consideration of the next consumer is trust. Moorman, Deshpande, and Zaltman (1993) defines trust as an individual's willingness to rely on the other parties involved in exchange for having confidence in the other party. In the use of a digital payment system, trust becomes the main factor.

The Digital Wallet DANA is a new e-wallet platform launched by Vincent Iswara on March 21, 2018, which carries the concept of an open platform. DANA is a mobile-based payment system service in the form of electronic money, electronic wallet, fund transfer, and other supporting services that can be used via Telecommunication Equipment. DANA originates from the company PT Espay Debit Indonesia. DANA introduces payments via digital wallets as well as non-cash and non-cash transaction card. Open concept DANA's platform allows this digital wallet to be available connected with various forms of payment instruments such as; online balance, card debit, and credit card. DANA developing payment facilities and features by creating new methods namely QR Scan Code scanner. This feature makes it easier for consumers using DANA and very user friendly. Although DANA has increased the number of active monthly users and still occupies the number 3 largest e-wallet in Indonesia. DANA only mastered 1 to 6% of the mobile payment market in Indonesia. The amount is still too small if it is seen that Dana is in position three, which means more than 80% of the mobile payment market is only controlled by two players. It is, therefore, crucial for the DANA to continue to maintain its position and also improve its application service considering a lot of mobile payment that offers attractive services and, of course, in deciding to use a mobile payment service users have many considerations. Based on the explanation above the title is "The Effect of Perceived Usefulness, Perceived Ease of Use, and Trust on Intention to Use Dana as a Mobile Payment".

Research Objective

This research objectives are:
1. To identify if Perceived Usefulness, Perceived Ease of Use, and Trust have significant effect toward the intention to use Dana simultaneously
2. To identify if Perceived Usefulness has significant effect toward intention to use Dana as a mobile payment.
3. To identify if Perceived Ease of Use has significant effect toward intention to use Dana as a mobile payment.
4. To identify if Trust has significant effect toward intention to use Dana as a mobile payment.

THEORETICAL FRAMEWORK

Consumer Behavior
Consumer behavior can be defined as the dynamics of interaction between influence and awareness, behavior, and the environment in which humans exchange aspects of life, in other words consumer behavior involves the thoughts and feelings they experience and the actions they take do in the consumption process. Marketers can learn about consumers’ wishes and needs by understanding the consumer's response to products. The stimulus to know the consumer response is divided into four, which are products, places, prices, and promotions (Peter and Olson, 2013).

Financial Technology and Mobile Payment
Fintech or financial technology is the economic sector in which the company offers different financial services by using new technology with a more efficient process for the company or customers (Kalmykova and Ryabova, 2015). The term fintech itself stands for the word financial technology, which means a company that combines financial services with modern and innovative technologies. As a new player on the market that offers product-oriented applications using the Internet, fintech generally aims to attract customers with products and services that are more user-friendly, efficient, transparent, and automated than existing ones today (Mackenzie, 2015). With the traditional analogy of value-adding to the universal bank, fintech can be distinguished based on the degree of involvement in financing, asset management, payment, and other fintech, a wide range of independent companies that hold the function (Dofleitner et al., 2017). Mobile payments are the tool payments for services and goods using mobile devices such as mobile phones or using Personal Digital Assistant (Pertawijaya and Sharif, 2015).

Theory Acceptance Model (TAM)
TAM or theory acceptance models, also called the theory of acceptance model, are generally used to explain online shopping behavior. This theory has previously been developed by Davis in 1989 to explain the acceptance of information technology. TAM is based on the TRA theory (Theory of Action), which explains the intention and attitude to use information systems that depend on two beliefs, namely perceived usefulness (PU) and perceived ease of use (PEOU). According to Davis (1989), the use of behavior in information technology started from PU and PEOU.

Perceived Usefulness
According to Davis (1989), perceived usefulness is defined as the level of consumer confidence that using a system can improve performance. This also means that users have a usability perception of technology in enhancing its performance, including minimizing uptime and ensuring its accuracy and usability (Lee, Xiong and Hu, 2012).

Perceived Ease of Use
According to Davis (1989), Perceived ease of use is a level where one believes that technology is easy to understand. The definition is also supported by Wibowo (2006) stating that the perception of the ease of use of a technology is defined as a measure by which one believes that technology can be easily understood and used.

Trust
Trust or trust is an important factor for consumers to decide whether to make an online transaction or not. Moorman, Deshpande, and Zaltman (1993) define the trust as an individual's willingness to rely on the other parties involved in the exchange for having confidence in the other party.

Intention to Use
According to Peter and Olson (2013), intention is a plan to engage in a specific behavior in order to achieve a purpose. Many factors influence the intention of consumers when choosing a product and the final decision depends on the consumer's intentions with large external factors (Keller, 2001).
Previous Research

Chinomona (2013) examined the influence of consumer brand experience on their brand satisfaction, brand trust and brand attachment in an African context. Five hypotheses are posited and in order to empirically test them, a sample data set of 151 was collected from Gauteng Province of South Africa. The results indicate that brand experience positively influences brand satisfaction, brand trust and brand attachment in a significant way.

Jin, Osman, and Halim (2014) investigated whether perceived usefulness and trust influence the online shopping behavior of consumers in northern Malaysia which comprises Kedah, Perlis, Penang and Perak. The relationship of the perceived usefulness and trust and the online shopping behaviors of the consumers will also be determined in this study. Quantitative research will be conducted by distributing questionnaires to 600 Internet users from different age groups, genders and backgrounds. Perceived usefulness and trust are predicted to influence the online shopping behaviors of consumers in northern Malaysia since these two factors were proven to influence the online shopping behavior of other developing countries such as China.

Sigar (2016) aimed to find out the influences between perceived usefulness, perceived ease of use, and perceived enjoyment on intention to use electronic money especially to customer of electronic money in Manado city. This research is quantitative researches that use casual type of research. The data was collected through questionnaire with sample size is about 60 respondents who are selected using convenience sampling method and analyzed by multiple linear regression analysis method. The result of this research reveals that there is significant positive influence between perceived usefulness, perceived ease of use and perceived enjoyment to intention to use electronic money.

Conceptual Framework

![Figure 1. Conceptual Framework](data_processed_2022)

Research Hypothesis

H1: Perceived Usefulness, Perceived Ease to Use, and Trust simultaneously has significantly influence on intention to use Dana.
H2: Perceived usefulness has significantly influence on intention to use Dana.
H3: Perceived ease of use has significantly influence on intention to use Dana.
H4: Trust has significantly influence on intention to use Dana.

RESEARCH METHOD

Research Approach

This research is using quantitative research. Quantitative research is a process of finding knowledge that uses data in the form of numbers as a tool to analyze information about what you want to know. (Kasiram, 2008: 149). According to Babbie (2010), quantitative research is methods that emphasize objective measurements and the statistical, mathematical, or numerical analysis of data collected through polls, questionnaires, and surveys, or by manipulating pre-existing statistical data using computational techniques. Quantitative research focuses on gathering numerical data and generalizing it across groups of people or to explain a particular phenomenon.

Population, Sample Size, and Sampling Technique

The population in this research are people who using Dana as their mobile payment in Manado. Sample are the respondents or participants that are part of the population or the targeted population. Sampling method that can be used for this research is purposive sampling method. In order to get best results, samples taken are people who have made transactions using DANA in the last 6 months.
Data Collection Method

A questionnaire is one-purpose data collection through a set of questions. The survey was created in Google Forms. Questionnaire is used to obtain primary data and will be collected by distribute questionnaires to 100 respondents.

Operational Definition of Research Variable

<table>
<thead>
<tr>
<th>Variable</th>
<th>Indicators</th>
</tr>
</thead>
</table>
| Perceived Usefulness (X1) | 1. Improve productivity  
                          | 2. More rapid in the transaction  
                          | 3. Useful for the person  
                          | 4. Effective in the transaction  
                          | 5. Improve the effectiveness of the activity |
| Perceived Ease of Use (X2) | 1. When operational  
                          | 2. Ease of operation  
                          | 3. Ease of remembering operation  
                          | 4. As the user desires  
                          | 5. Flexible in operation  
                          | 6. Easy to skilled |
| Trust (X3)               | 1. Guarantee internet technologies  
                          | 2. Believing the security  
                          | 3. According to customer’s desire |
| Intention to Use (Y)     | 1. Compatibility  
                          | 2. Ease of use |

Source: Data Processed, 2022

Validity and Reliability

Validity test use to measure the obtaining data are in line with the research concept. In other words, the instrument items used to obtain the data is correct and related with the concept of the research that will be conducted. Reliability test use to measure the consistency of instrument items. Reliability test defined as an index that showed how far instrument items can be trusted or dependable.

Multiple Linear Regression

Multiple Linear Regression is used in this research. Multiple Regression is a correlation coefficient indicates the strength of relationship between two variables, it gives us no idea of how much of the variance in the dependent or criterion variable will be explained when several independent variables are theorized to simultaneously influence it. This analysis is adopted when the researcher has one dependent variable which is presumed to be a function of two or more independent variables. The objective of this analysis is to make a prediction about the dependent variable based on its covariance with all the concerned independent variables.

RESULT AND DISCUSSION

Result

Validity and Reliability

The validity test of Perceived Usefulness, Perceived Ease of Use and Trust (X) and Intention to Use(Y) are all valid. The variable is reliable because the value of Cronbach’s Alpha is 0.958 bigger than 0.6.

Multiple Linear Regression

Multiple regression analysis is used to determine the effect of the independent variables on dependent variable. The multiple linear regression equation cab be interpreted as follows. Constant value of 1.447 means that in a condition of ceteris paribus, if all independent variables equal to zero, then Intention to Use (Y) as dependent variable will be 1.147. X1’s coefficient value of 0.161 means that if there is one unit increase in Perceived Usefulness (X1) then the Intention to Use (Y) will improve and increase by 0.161. X2’s coefficient value of 0.090 means that if there is one unit increase in Perceived Ease of Use (X2) then the Intention to Use (Y)
will improve and increase by 0.090. X3’s coefficient value of 0.310 means that if there is one unit increase in Trust (X3) then the Intention to Use (Y) will improve and increase by 0.310.

Table 2. Result of Multiple Linear Regression

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>1.447</td>
<td>.499</td>
<td>2.900</td>
</tr>
<tr>
<td>X1</td>
<td>.161</td>
<td>.037</td>
<td>.336</td>
<td>4.333</td>
</tr>
<tr>
<td>X2</td>
<td>.090</td>
<td>.033</td>
<td>.232</td>
<td>2.703</td>
</tr>
<tr>
<td>X3</td>
<td>.310</td>
<td>.068</td>
<td>.399</td>
<td>4.560</td>
</tr>
</tbody>
</table>

Source: Data Processed, 2022

Coefficient of Determination (R2)

Table 3. Result of R and R Square

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.905</td>
<td>.818</td>
<td>.813</td>
<td>.580</td>
</tr>
</tbody>
</table>

Source: Data Processed, 2022

The coefficient of determination (R2) measures the ability of a model in explaining variation of dependent variable. The value of coefficient of determination is between 0 and 1. The coefficient of determination (R2) according to the table is 0.818 which shows that the variation of all independent variable explains 81.8% of variation in the Intention to Use (Y), while the remaining 18.2% is explained by other factors outside the model or not discussed in this research.

Test of Classical Assumptions

Normality Test

Figure 2. Result of Normality Test

Source: Data Processed, 2022

Figure 2 shows that the dots are spreading near to the diagonal line and follow the direction of the diagonal line. Therefore, the normality test is accepted which means the data of this research is normally distributed.

Heteroscedasticity Test

Figure 3. Result of Heteroscedasticity Test

Source: Data Processed, 2022
Figure 3 shows that the dots are spreading above and below the number zero (0) in the Y axis. This proves that there is no heteroscedasticity in this regression.

**Multicollinearity Test**

**Table 4. Result of Multicollinearity Test**

<table>
<thead>
<tr>
<th>Model</th>
<th>Collinearity Statistics</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tolerance</td>
<td>VIF</td>
</tr>
<tr>
<td>Perceived Usefulness</td>
<td>.315</td>
<td>3.177</td>
</tr>
<tr>
<td>Perceived Ease of Use</td>
<td>.257</td>
<td>3.886</td>
</tr>
<tr>
<td>Trust</td>
<td>.247</td>
<td>4.056</td>
</tr>
</tbody>
</table>

*Source: Data Processed, 2022*

The table shows the result of multicollinearity test using Variance Inflation Factor (VIF). The tolerance of three independents variable that are Perceived Usefulness (X1), Perceived Ease of Use (X2) and Trust (X3) are >0.100 in value. The Variance Inflation Factor (VIF) are also <10 in value; means that there is no multicollinearity in this research.

**Hypothesis Testing**

**F-Test**

**Table 5. Result of F-Test**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>145.768</td>
<td>3</td>
<td>48.589</td>
<td>144.226</td>
<td>.000b</td>
</tr>
<tr>
<td>Residual</td>
<td>32.342</td>
<td>96</td>
<td>.337</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>178.110</td>
<td>99</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: Data Processed, 2022*

Table 5 shows the value of Fcount is 144.226. The value of Ftable is found on the F Distribution Table by determining the degree of freedom 1 (numerator) and degree of freedom 2 (denumerator) with level of significance is 0.05 ($\alpha = 0.05$) and the level of confidence is 95% then Ftable is 3.09. The result is Fcount (144.226) > Ftable (3.09). Therefore, since Fcount is greater than Ftable, Hypothesis 1 is accepted which means the independent variables simultaneously influence the dependent variable significantly.

**T-Test**

**Table 6. Result of T-Test**

<table>
<thead>
<tr>
<th>Variable</th>
<th>tcount</th>
<th>ttable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Usefulness (x1)</td>
<td>4.333</td>
<td>1.984</td>
<td>Accepted</td>
</tr>
<tr>
<td>Perceived Ease of Use (x2)</td>
<td>2.703</td>
<td>1.984</td>
<td>Accepted</td>
</tr>
<tr>
<td>Trust (x3)</td>
<td>4.560</td>
<td>1.984</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

*Source: Data Processed, 2022*

The value of t-count of X1 is 4.333. Since the value of tcount = 4.333 > ttable = 1.984 meaning that H2 is accepted. Sig <0.05 means that the confidence of this prediction is above 95% and the probability of this prediction errors is below 5%. The result of this declares that X1 (Perceived Usefulness) partially does have a significant effect on Intention to Use (Y). The value of t-count of X2 is 2.703. Since the value of tcount = 2.703 > ttable = 1.984 meaning that H3 is accepted. Sig <0.05 means that the confidence of this prediction is above 95% and the probability of this prediction errors is below 5%. The result of this declares that that X2 (Perceived Ease of Use) partially does have a significant effect on Intention to Use (Y). The value of t-count of X3 is 4.560. Since the value of tcount = 4.560 > ttable = 1.984 meaning that H4 is accepted. Sig <0.05 means that the confidence of this prediction is above 95% and the probability of this prediction errors is below 5%. The result of this declares that that X3 (Trust) partially does have a significant effect on Intention to Use (Y).

**Discussion**

**Perceived Usefulness and Intention to Use**

Perceived usefulness can be interpreted as how much a person believes in using a particular system that can benefit their performance. From this definition, it is known that if someone believes that the system is useful then he will use it. Conversely, if someone believes that the information system is less useful then he will not use...
it. Thus perceived usefulness will affect the intention to use DANA. Based on the result of the study, mentioning Perceived Usefulness had a statistically significant effect on Intention to Use Dana as mobile payment. The data collected was done by some of test (F test and T test) result shows that the data of variable Perceived Usefulness (X1) is accepted. The results show that in terms of the perceived usefulness of Dana, it attracts the attention of users to make Dana as a medium of mobile payment, same with hypothesis from Chinomona (2013) that perceived usefulness had a stronger effect on the intention to use mobile software. Also, same hypothesis with Tanimukti et al. (2016) the research was conducted and succeeded in getting the results that perceived usefulness had a significant effect on customer intention to use Gojek. Therefore, DANA needs to maximize its usefulness by updating the payment features while maintaining features that are already known to be practical by users.

Perceived Ease of Use and Intention to Use

Perceived ease of use can be interpreted as the extent to which a person believes in using technology without requiring more effort. Therefore, if someone believes that there is ease in using the DANA application, then that will affect one's intention to use DANA continuously. The result of Perceived Ease of Use also shows the same result. From the hypothesis of Perceiced ease of use have a significant effect on Intention to Use DANA as a mobile payment. Same hypothesis from Tanimukti et al. (2016) the results of the study reveal that perceived ease of use is significant predictors of the consumer’s intention to use.

Trust and Intention to Use

Trust in technology by users is considered important to influence intentions to use fintech in the DANA feature. The higher the user's Trust in the intention to use financial technology or fintech, the user will be interested in making transactions using that technology. Based on the result of the study, Trust had a statistically significant effect on Intention to Use Dana as a mobile payment. The data collected was done by some of test (F test and T test) result shows that the data of variable Trust (X3) is accepted. The result from previous researchers Ali et al. (2020) have the result that Trust have significant relationship with the intention to use internet banking. By giving clear information about how to use the product, how safe Dana as a mobile payment (the security and legality) and what the product really does will improve trust of customers or potential customers to the product in this case, the customer’s trust in Dana apps.

CONCLUSION AND RECOMMENDATION

Conclusion
1. Perceived usefulness related to minimizing time and efficiency to buy a product or service has a significant influence on intention to use.
2. Perceived ease of use related to ease learn, understand, and clarify the use of an technology and make it easier for technology to do what the user wants to do, has a significant effect which is positive on intention to use.
3. Trust relates to reliability; trustworthiness and the security of a technology system has a significant influence which is positive on intention to use.
4. The independent variable which are Perceived Usefulness, Perceived Ease of Use and Trust influence simultaneously on Intention to Use Dana as a mobile payment.

Recommendation

Based on the results of the study, there are several findings to study further considering the increasing growth of fintech, namely in the digital payment business sector in Indonesia and accompanied by the increasing need for quick and easy access to the financial industry, affecting the growth in the use of Dana as one of the e-wallets that has had positive growth since its launch. However, in this study there are still many shortcomings and limitations, therefore the following are various suggestions put forward by researchers based on the results of the study:

1. On the DANA application, there are many useful features for payments, such as the availability of barcode scanning using QRIS. There is also a DANA wallet where we can connect our ATM card to the application. DANA is also very useful for payments for daily activities such as buying credit, transferring funds via bank without admin fees, paying bills, and paying for entertainment such as games and cinema tickets. For this reason, based on the results of the research obtained, the researcher suggests that DANA develop a system for using applications in terms of user interfaces during transactions and top-ups so that they are easier to understand and use, so that it can increase the intention to use DANA digital wallets.
2. DANA also can improve their service with Live Chat 24 hour features in application, not only template reply, but live chat with their customer service so it can be more easier, useful, and trust when we have a problem using DANA.

REFERENCES


