BAREKENG: Journal of Mathematics and Its Applications
December 2024 Volume 18 Issue 4 Page 2071–2082
P-ISSN: 1978-7227 E-ISSN: 2615-3017
https://doi.org/10.30598/barekengvol18iss4pp2071-2082

PATH ANALYSIS OF FACTORS INFLUENCING CASHLESS SOCIETY DEVELOPMENT USING BOOTSTRAP RESAMPLING

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Article History:

Received: 31st October 2023
Revised: 1st May 2024
Accepted: 1st July 2024
Published: 14th October 2024

Keywords:

Bootstrap Resampling;
Hypothesis Testing;
Indirect Effect;
Path Analysis;
Cashless Society.

ABSTRACT

Path analysis can be applied to various fields, one of which is the field of banking economics. This study is aimed to examine what factors significantly affect the development of cashless society both directly and indirectly. There are many studies related to the development of cashless society but there has been no research that analyzes the relationship between marketing mix variables, such as product, price and promotion, with the development of cashless society. The data used came from the results of questionnaires with respondents of bank customers in Jakarta. Direct influence tests are carried out using bootstrap resampling hypothesis tests so that they are free from data distribution assumptions. It was found that product and digitalization of electronic money had a significant direct effect on the development of cashless society while price had a significant indirect effect on the development of cashless society.

How to cite this article:

D. S. Pramaningrum, A. A. R. Fernandes, A. Iriany and Solimun., "PATH ANALYSIS OF FACTORS INFLUENCING CASHLESS SOCIETY DEVELOPMENT USING BOOTSTRAP RESAMPLING," *BAREKENG: J. Math. & App.*, vol. 18, iss. 4, pp. 2071-2082, December, 2024.

Journal homepage: *https://ojs3.unpatti.ac.id/index.php/barekeng/*
Journal e-mail: *barekeng.math@yahoo.com; barekeng.journal@mail.unpatti.ac.id*

Research Article · Open Access

1. INTRODUCTION

The COVID-19 pandemic that occurred in 2020 has had a great impact on all humans. During the pandemic, people must limit physical contact and mobilization. According to [1], the tiny droplets released by talking, sneezing, and coughing can transfer the coronavirus. Slow transaction practices have evolved in society since the COVID-19 pandemic. By completing transactions with cash or checks that have been passed from one person to another, people may become infected with COVID-19. Therefore, during the pandemic, a cashless society was established to reduce physical contact. The World Health Organization (WHO) urges the public to implement contactless payments. Cashless payment is meant to reduce contact through cash payments by using digital wallets or electronic transactions [2]. This change in payment system is developing more rapidly following technological developments, this has made a lifestyle change within the society to transact using by electronic money (e-money) instead of cash.

Cashless society is a term that refers to people who in transactions, no longer use physical money, but use the digital transfer of financial information. In daily transactions, people do not use real money, but digital money [3]. The transformation from the traditional payment method using physical currency to electronic payment is the world's leading agenda for cost savings purposes in order to provide a safe, convenient and the best service to customers [4]**.** Some of the benefits or advantages of using e-money compared to cash and other non-cash payment instruments are providing convenience in payment transactions quickly and safely for the wider community, solving cash handling problems that have often been experienced when using cash as payment from the industry, improving the efficiency of money printing, and doubling money for Indonesian banks [2].

The implementation of this cashless society along with the various advantages of non-cash payments serves as an interesting research focus to help cashless culture continue developing. Conceptually, the implementation of this cashless society is still related to the community's own decision to use non-cash payments that can be influenced by marketing mix variables. Similar research related to marketing mix variables has been conducted by [5]. This research focuses on examining the relationship between Marketing Mix, Brand Equity with Purchase Decisions, and Loyalty with Digital Wallets to reinforce the relationship between Brand Equity and purchasing decisions. The research related to non-cash payments has also been conducted by [6]. Based on the findings, four factors are found to significantly influence e-wallet acceptance, which consist of Performance Expectancy, Social Influence, Facilitating Conditions and Trust.

Based on previous studies, a research gap to be researched in this study was obtained, namely, the relationship between the marketing mix variables (Product, Price, and Promotion) with Cashless Society Development through the digitalization of electronic money directly and indirectly using path analysis. Path analysis is used because there is an intervening variable, namely the digitalization of electronic money and it is possible to analyze the relationship of influence between variables directly or indirectly.

Path analysis is known as an expansion of regression analysis by allowing multiple structural equations. The fact that structural equations in path analysis involve at least one exogenous variable, one intervening variable, and one pure endogenous variable is one of their features [7]. In path analysis, exogenous variables affect other variables, while endogenous variables are influenced by others. An intervening variable both influences and is influenced by other variables [8].

Endogenous intervening variables cause more than one structural equations to be formed, meaning that regression analysis cannot be used. Due to the presence of endogenous intervening variables, path analysis has advantages over regression analysis, namely, path analysis can measure the influence of a variable either directly or indirectly (indirect effect) while regression analysis is only able to measure the influence of a variable directly [9].

Similar to regression analysis, path analysis also requires certain assumptions about the data distribution to be met, one of which is the assumption of normality. However, in this study path analysis will be carried out using a resampling approach in testing parameter hypotheses so that they are free from normality assumptions. The Central Limit Postulate has been fulfilled if resampling sample used at least 100 obervations. The larger the sample, the statistics will be close to the normal distribution [7]. In path analysis, the resampling method is also used to determine the estimation of the standard error and confidence interval of population parameters such as mean, ratio, median, proportion, correlation coefficient or regression coefficient [10].

One of the resampling methods is bootstrapping. Bootstrap uses a resampling algorithm with a number of samples that can be randomly selected by the user or known as the "resampling with replacement" method where each sampling is always returned to the next loop. The bootstrap resampling method is relatively easy to implement and can generate an unbiased estimator [11, 12].

Based on the explanation above, the topic that would be discussed about is identifying factors that affect the development of cashless society either directly or indirectly titled “Path Analysis of Factors Influencing Cashless Society Development Using Bootstrap Resampling”. This research is expected to provide inspiration to banks and the government in order to improve the quality of digital money products so that people can consistently implement non-cash payments and a cashless society can continue to develop. In addition, this research can also be used as a reference for statistical users related to the use of path analysis by taking into consideration both direct and indirect effects.

2. RESEARCH METHODS

2.1 Data Collection

The data used in this study is in the form of primary data in the form of 3P marketing mix concepts, namely Product, Price, Promotion, Electronic Money Digitalization, and the Development of Cashless Society. This data was obtained from a survey with the customer population of a bank that uses Mobile Banking in Jakarta with a sample taken the size of 100 respondents in 2020 during the COVID-19 pandemic. The determination of multiple samples is based on the theory put forward by [13] that a model using ≤ 7 variables requires at least 100 samples.

2.2 Variable Definition

The study was conducted using latent variables derived from the Likert measurement scale. Variables are obtained by using the average scoring method. By using average scoring, each sub-variable has the same weight so that the information obtained from sub-variable to variable is not reduced significantly. The variables measured in the analysis are Product (X_1), Price (X_2), Promotion (X_3), Digitalization of electronic money (Y_1), and Development of cashless society (Y_2). Respondents were given a questionnaire to provide an assessment based on the alternative answers provided. The research model can be seen in Figure 1.

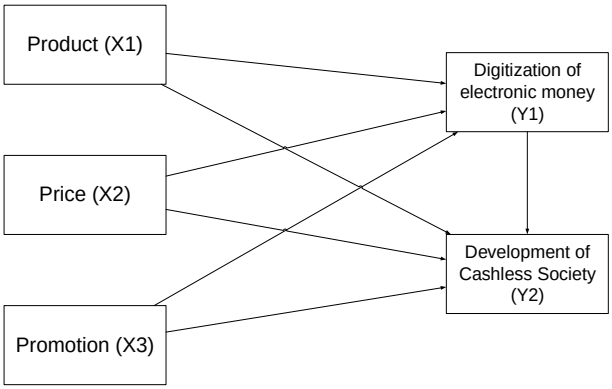


Figure 1. Research Model
Source: researcher

1) Product

According to [14], the first and most important component of marketing is the product. According to [15] product is defined as everything that can be sold to the public in order to attract attention, be purchased, used, or consumed in order to meet the needs of the consumer. The context of the product referred to here is electronic money.

2) Price

Based on [15], one of the most crucial components of the marketing mix is price because it boosts both profit and market share. Price is the amount of money needed to get the product [16]. Price is not only one of the most flexible components of the marketing mix, quickly adapting to changes in the environment, but it is also one of the most important factors in a competitive situation that directly affects the company's sales and profitability indicators.

3) Promotion

Promotion is giving a persuasive information to customers about a certain product [17]. Promotion can be also defined as one form of marketing communication which is a marketing activity to disseminate information [18]. Developing a product's image within the market is the primary goal of promotion [19]. One of the important competitive tools that can preserve the industry's vitality is promotion.

4) Electronic Money Digitalization

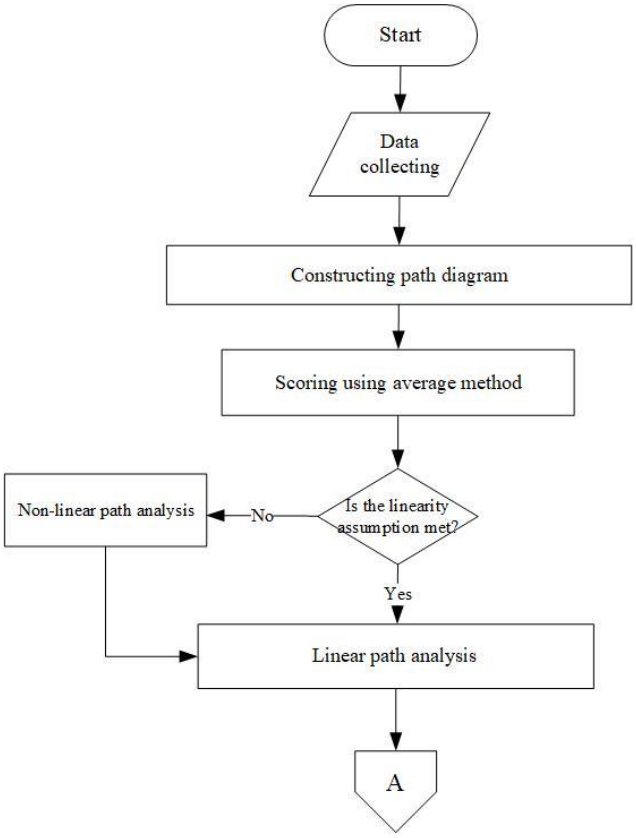
Credit cards or other digital financial instruments backed by banks or nonbanks are typically used in electronic payment systems, also referred to as cashless payment systems. Cashless payments allow buyers and sellers to transact without exchanging physical currency. Businesses can do business with low financial transaction costs thanks to this payment system [1][20].

5) Development of Cashless Society

Cashless society is a term that refers to people who in transactions, no longer use physical money, but use the digital transfer of financial information. In daily transactions, people do not use real money, but digital money [3]. Cashless payment is meant to reduce contact through cash payments by using digital wallets or electronic transactions [2]. This change in payment system is developing more rapidly following technological developments, this has made a lifestyle change within the society to transact using by electronic money (e-money) instead of cash.

2.3 Analytical Approach

The method used in this study are path analysis. In this study, a resampling method will be used in the hypothesis testing process. The step analysis using R Studio are as follows.



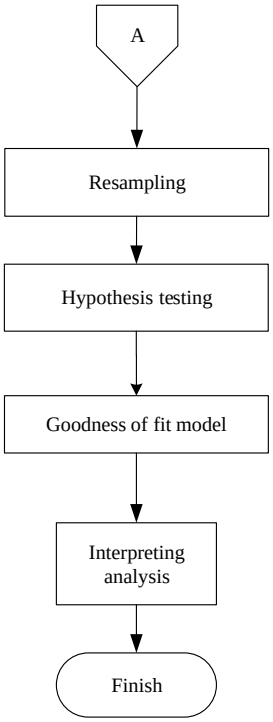


Figure 2. Research Flow Diagram
Source: researcher

1) Path Analysis

Path analysis is an expansion of the regression analysis which is used to test the significance of the correlation matrix between two or more causal models that are being compared in the research. The model is usually figured by a circle-and-arrow figure in which each arrows indicate causal relation [21]. Path analysis can also be applied to test regression equations involving several exogenous and endogenous variables at once, thus allowing testing of intervening variables or intermediate variables [22]. According to [7] The equation model can be written as follows.

$$\boldsymbol{Y}_{2n\times 1} = \boldsymbol{X}_{2n\times 9}\boldsymbol{\beta}_{9\times 1} + \boldsymbol{e}_{2n\times 1} \tag{1}$$

$$\begin{pmatrix} Y_{11} \\ Y_{12} \\ \vdots \\ Y_{1n} \\ Y_{21} \\ Y_{22} \\ \vdots \\ Y_{2n} \end{pmatrix} = \begin{pmatrix} \boldsymbol{X}_{X_{n\times 4}} & \boldsymbol{0}_{n\times 5} \\ \boldsymbol{0}_{n\times 4} & \boldsymbol{X}_{XY} \end{pmatrix} \begin{pmatrix} \beta_{01} \\ \beta_{X_1Y_1} \\ \beta_{X_2Y_1} \\ \beta_{X_3Y_1} \\ \beta_{02} \\ \beta_{X_12} \\ \beta_{X_2Y_2} \\ \beta_{X_3Y_2} \\ \beta_{Y_1Y_2} \end{pmatrix} + \begin{pmatrix} e_{11} \\ e_{12} \\ \vdots \\ e_{1n} \\ e_{21} \\ e_{22} \\ \vdots \\ e_{2n} \end{pmatrix}$$

where:

$$\boldsymbol{X}_X = \begin{pmatrix} 1 & X_{11} & X_{21} & X_{31} \\ 1 & X_{12} & X_{22} & X_{32} \\ \vdots & \vdots & \vdots & \vdots \\ 1 & X_{1n} & X_{2n} & X_{3n} \end{pmatrix}$$

$$\boldsymbol{X}_{XY} = \begin{pmatrix} 1 & X_{11} & X_{21} & X_{31} & Y_{11} \\ 1 & X_{12} & X_{22} & X_{32} & Y_{12} \\ \vdots & \vdots & \vdots & \vdots & \vdots \\ 1 & X_{1n} & X_{2n} & X_{3n} & Y_{1n} \end{pmatrix}$$

It can also be written as the following equation

$$Y_{1i} = \beta_{01} + \beta_{X_1Y_1}X_{1i} + \beta_{X_2Y_1}X_{2i} + \beta_{X_3Y_1}X_{3i} + \varepsilon_{1i} \quad (2)$$

$$Y_{2i} = \beta_{02} + \beta_{X_1Y_2}X_{1i} + \beta_{X_2Y_2}X_{2i} + \beta_{X_3Y_2}X_{3i} + \beta_{Y_1Y_2}Y_{1i} + \varepsilon_{2i} \quad (3)$$

The path coefficient of the structural model is suspected by *the ordinary least square* (OLS) method at multiple regression $\hat{Y}_{ji}$ with the following equation.

$$\hat{Y}_{ji} = \sum_{i \leftrightarrow j} \hat{\beta}_j X_{ji} \quad (4)$$

$$\widehat{\boldsymbol{\beta}}_{9\times1} = (\boldsymbol{X'X})^{-1}_{9\times9}\boldsymbol{X'}_{9\times2n}\boldsymbol{Y}_{2n\times1} \quad (5)$$

Information:

$\boldsymbol{Y}_{2n\times1}$: endogenous latent variable vectors, n: count of observation
$\boldsymbol{X}_{2n\times9}$: the matrix of exogenous latent variable
$\boldsymbol{\beta}_{9\times1}$: the vector of path coefficients
$\boldsymbol{e}_{2n\times1}$: the vector of inner model's error

The path coefficient explains the magnitude of the influence of the relationship between variables. In example, $\beta_{X_1Y_1}$ means the influence of the Product (X_1) variable on Electronic Money Digitalization (Y_1).

2) Path Analysis Assumption

There are six assumptions of path analysis [7], including:

1) The relationship between variables is linearly additive. The assumption of linearity can be checked through scatterplot, but the results will be subjective. In order to get an objective result, linearity assumptions should be tested. Linearity test that can be used is Regression Specification Error Test (RESET) which is introduced by Ramsey in 1969. This research is using Ramsey's RESET to check if the relationship between variables is linearly additive.

   The general model used to describe the relationship between exogenous and endogenous variables can be seen in the **Equation (6)**.

$$Y_{1i} = \beta_0 + \beta_1X_{1i} + \beta_2X_{2i} + \cdots + \beta_pX_{pi} + \varepsilon_{1i} \quad (6)$$

$$Y_{2i} = \beta_0 + \beta_1X_{1i} + \beta_2X_{2i} + \cdots + \beta_pX_{pi} + \beta_pY_{1i} + \varepsilon_{2i}$$

   RESET linearity test uses the following hypotheses.

   $H_0: \beta_{p+1} = \beta_{p+2} = \cdots = \beta_{p+m}$

   H_1: there is at least one β_{p+j} different from others, $j = 1,2,\ldots,m$

   The following is the procedure for using Ramsey's RESET based on the opinion of [23].

   i) Forming the old regression equation Y_i of $X_1, X_2, X_3, \ldots, X_p$ so that the estimated value $\hat{Y}_i$ is

$$\hat{Y}_i = \hat{\beta}_0 + \hat{\beta}_1X_{1i} + \hat{\beta}_2X_{2i} + \cdots + \hat{\beta}_pX_{pi} \quad (7)$$

   ii) Forming the new regression equation Y_i^* of $X_1, X_2, X_3, \ldots, X_p$ and add exogenous variables which is Y_i^2 so that the estimated value $\hat{Y}_i^*$ presented in **Equation (8)**

$$\hat{Y}_i^* = \hat{\beta}_0 + \hat{\beta}_1X_{1i} + \hat{\beta}_2X_{2i} + \cdots + \hat{\beta}_pX_{pi} + \hat{\beta}_{p+1}Y_i^2 + \hat{\beta}_{p+2}Y_i^3 + \cdots + \hat{\beta}_{p+m}Y_i^{m+1} \quad (8)$$

   iii) Calculating the coefficient of determination (R^2) from the regression in steps I) and II) which are notated as R^2_{old} dan R^2_{new}

$$R^2_{old} = 1 - \frac{\sum_{i=1}^{n}(Y_i - \hat{Y}_i)^2}{\sum_{i=1}^{n}(Y_i - \bar{y})^2} \quad (9)$$

$$R^2_{new} = 1 - \frac{\sum_{i=1}^{n}(Y_i - \hat{Y}_i)^2}{\sum_{i=1}^{n}(Y_i - \bar{y})^2} \quad (10)$$

   iv) From **Equation (9)** and **Equation (10)**, calculate the statistical value of the F test

Rejects H_0 if $p - value = P(F_{n-p-1-m} \geq F\ statistics) < \alpha$

$$F\ statistics = \frac{\left(R^2_{new} - R^2_{old}\right)/m}{(1 - R^2_{new})/(n - p - 1 - m)} \sim F_{m,n-p-1-m} \quad (11)$$

Information:

$j = 1,2 \ldots, m$, m: count of additional exogenous latent variable

p : count of previous exogenous variable

$i = 1,2,3, \ldots n$, n: count of observation

Based on the hypothesis testing above, if $p - value < \alpha$, Then it can be decided that H_0 is rejected so that it can be concluded that the model is not linear.

2) The residual is normally distributed. Residual's nornality test that usually used is Kolmogorov-Smirnov. t-test which can be used to calculate the significance of exogenous variable's impact on endogenous variable, will be valid if the obtained residual from the path model is normally distributed. However, in this study path analysis will be carried out using a resampling approach in testing parameter hypotheses so that they are free from normality assumptions. The Central Limit Postulate has been fulfilled if resampling sample used at least 100 obervations. In path analysis, the resampling method is also used to determine the estimation of the standard error and confidence interval of population parameters such as mean, ratio, median, proportion, correlation coefficient or regression coefficient.
3) The relationships of each variables is recursive (one-way causal flow system). The recursive model has some characteristics such as: a. between εi is independent. b. Between εi and X_i is independent.
4) Endogenous variable is at least in an interval measuring scale.
5) The variables is measured without mistake (the research instrument must be valid and reliable).
6) The analyzed model is specified based on relevant theories and concepts.

3) Path Analysis Decomposition Model

The decomposition model is one of the models in the framework of path analysis that emphasizes more on the influence of causality between variables, both direct and indirect influences. In this model, noncausality relationships or correlation relationships that occur between exogenous variables are not included in the calculation. According to **[24]** calculations using path analysis with decomposition models can be divided into five, which are as follows:

1) Direct Causal Effects

Direct causal effect is the relationship between an exogenous variable and an endogenous variable without being affected by another endogenous variable. The direct causal effect of exogenous variables X_1 towards Y_1 can be written as β_{X1Y1} and the direct causal influence of exogenous variables X_1 towards endogenous variable Y_2 can be written as β_{X1Y2}.

2) Indirect Causal Effects

Indirect causal effect is the relationship between an exogenous variable and an endogenous variable by going through another endogenous variables contained in the causality model being analyzed. The indirect causal influences of X_1 towards Y_2 by going through Y_1. Indirect causal effect is calculated by multiplying the X_1 influence towards Y_1 and the influence of Y_1 towards Y_2 or can be written as $\beta_{X1Y1} \times \beta_{Y1Y2}$.

3) Total Causal Effects

Total causal effect is the sum of direct and indirect causal influences. To obtain the total effect of the variable X_1 on Y_2, the addition of direct and indirect causal influences must be operated or can be written with the formula $\beta_{X1Y2} + (\beta_{X1Y1} \times \beta_{Y1Y2})$.

4) Unanalyzed Effect

Unanalyzed effects are influences that arise due to relationships or correlations between exogenous variables. The relationship between variables X_1 and X_2 then the relationship between variables X_1 with Y and X_2 with Y will also be affected. Therefore, the magnitude of the relationship X_1 with Y can be calculated by the formula $\beta_{X1Y} \times r_{X1X2}$ and the magnitude of the relationship X_2 with Y can be calculated by the formula $\beta_{X2Y} \times \beta_{X1X2}$.

5) Spurious-Effect

Spurious-Effect is an influence that arises due to a correlation or relationship between exogenous variables with more than one endogenous variable that is correlated.

4) Resampling Method

The resampling method can be used in testing the significance of path coefficients. Resampling is applied to estimate the standard error and confidence intervals from population parameters **[10]**. Generally, research that uses bootstrap resampling technique aims to overpass deviations from the normality assumption in modeling since normality assumptions are needed on statistical tests **[25][26]**. One of resampling methods that can be used is bootstrap. Bootstrap uses a resampling algorithm with a number of samples that can be selected by the user randomly or known as the "resampling with replacement" method where each sampling is always returned a sample on the next iteration.

The Bootstrap method is carried out by taking samples no more than the number of original samples. Suppose there are 110 samples of the original, then the Bootstrap sample can be taken a maximum of 110 samples. Bootstrapping sampling is done repeatedly until we get a convergent sample estimator. In bootstrap resampling based on several studies and research, convergent sample estimators have been obtained in bootstrap sampling as many as 100 **[27]**.

The bootstrap steps for standard error estimation are as follows **[10]**.

1. Specifies the number of B times in the Bootstrap sample $(x_1^*, x_2^*, \dots, x_B^*)$ obtained from random retrieval with the return of as many as n elements from the initial sample $(x_1, x_2, \dots, x_n)$.
2. Calculate bootstrap replication for each sample

$$\hat{\beta}_{(b)}^* = \left(X_b^{*\prime} X_b^*\right)^{-1} X_b^{*\prime} Y_b^*, b = 1,2, \dots, B \tag{12}$$

3. Estimating standard error by using standard deviation for replicated Bootstrap B times.

$$SE_{\hat{\beta}} = \sqrt{\frac{\sum_{b=1}^{B} [\hat{\beta}_{(b)}^* - \bar{\beta}_{(.)}^*]^2}{B-1}} \tag{13}$$

With

$$\bar{\beta}_{(.)}^* = \sum_{b=1}^{B} \frac{\hat{\beta}_{(b)}^*}{B} \tag{14}$$

5) Hypothesis Testing of Direct Effect

Determining an exogenous variable has a partially significant effect on the endogenous variable can be obtained using t-test is performed **[7]**. Hypothesis testing of direct effect is carried out using a t-test with the following formula:

$$t_{statistics} = \frac{\hat{\beta}_j^* - \beta_j}{SE_{\hat{\beta}}^*} \sim t_{n-1} \tag{15}$$

Standard errors in $t_{statistics}$ are obtained from the resampling process using the bootstrap method that has been done previously. If $t_{statistics} \geq$ critical value (1.96) so H_0 is rejected. If the test results are significant, it means that exogenous variables significantly affect endogenous variables.

6) Hypothesis Testing of Indirect Effect

Indirect influence is calculated by performing the multiplication method. This multiplication method is commonly called the sobel test. The aim of using Sobel test is to examine the significance of exogenous

variable's effect on endogenous variable Y variable mediated by medation endogenous variable [28] which in the context of this research is limited to the second order relationship. The sobel test is multiplication through the results of testing the hypothesis of direct influence [7]. To test the significance of indirect influences, the $\mathrm{p}-\mathrm{value}$ of the z statistic is used. When the $\mathrm{p}-\mathrm{value} < \alpha$, it can be concluded that there is an influence of mediation. Formula for calculating indirect influence on **Equation (16)**.

$$\text{Indirect Effect} = \mathrm{P}_{X_1} \times \mathrm{P}_{Y_1} \tag{16}$$

Next, the value of z is calculated by the formula in **Equation (17)**.

$$\mathrm{z}_{\text{value}} = \frac{(\mathrm{p}_1 \times \mathrm{p}_2)}{\sqrt{\mathrm{p}_1^2\ \mathrm{SE}_{\mathrm{p}_1}{}^2 + \mathrm{p}_2^2\ \mathrm{SE}_{\mathrm{p}_2}{}^2}} \tag{17}$$

Information:

p_1 : path coefficient of direct effect P_{X_1}

p_2 : path coefficient of direct effect P_{Y_1}

$\mathrm{p}_1 \times \mathrm{p}_2$: path coefficient of indirect effect

$\mathrm{SE}_{\mathrm{p}_1}$: standard error of p_1

$\mathrm{SE}_{\mathrm{p}_2}$: standard error of p_2

7) Goodness of Fit

Goodness of Fit Model is used to measure the goodness of relationships between latent variables [7]. Goodness of Fit Model can be considerated by calclulating the percentage of variance explained or usually known as a Q-square predictive relevance. Q-square predictive relevance for path models measures how well the observation values produced by the model and also estimating its parameters. The calculation of Q-square is done by the formula R^2:

$$\mathrm{Q}^2 = 1 - (1 - \mathrm{R}_1^2)(1 - \mathrm{R}_2^2) \ldots \left(1 - \mathrm{R}_{\mathrm{p}}^2\right) \tag{18}$$

Information:

a. $\mathrm{R}_1^2, \mathrm{R}_2^2, \ldots, \mathrm{R}_{\mathrm{p}}^2$ are the R^2 of endogenous variable on the model. The R-squared of endogenous variable of each models can describe the substancial (strong), moderate, or low relationship [24].

b. The Q^2 interpretation is equal to the value of total determination on the path analysis.

The range of Q^2 value is $0 < \mathrm{Q}^2 < 1$, which means the closer to 1 is the better. This quantity is equivalent to the total coefficient of determination.

3. RESULTS AND DISCUSSION

3.1 Linearity Test Results

The linearity test is performed using Ramsey's RESET. The results can be seen in **Table 1**.

Table 1. Linearity Test Results

Variable	$\mathrm{p}-\mathrm{value}$	Result
$X_1 \rightarrow Y_1$	0.6057	Linear
$X_2 \rightarrow Y_1$	0.4780	Linear
$X_3 \rightarrow Y_1$	0.9284	Linear
$X_1 \rightarrow Y_2$	0.6837	Linear
$X_2 \rightarrow Y_2$	0.6951	Linear
$X_3 \rightarrow Y_2$	0.8941	Linear
$Y_1 \rightarrow Y_2$	0.9563	Linear

Based on **Table 1**, it can be seen that all of these p − values is greater than 0.05 so that H_0 acceptance occurs which means that the relationship between variables in this study is linear. Based on the relationship between the variables formed, path analysis can be used.

3.2 Results of Path Analysis (Parameters Estimation) and Direct Effect Hypothesis Testing

The results of direct influence hypothesis testing can be seen in **Table 2**.

Table 2. Results of testing the hypothesis of direct influence

Variable	Path Coefficient	p − value	Information
$X_1 \rightarrow Y_1$	0.268	0.002	significant
$X_2 \rightarrow Y_1$	0.404	< 0.001	significant
$X_3 \rightarrow Y_1$	0.170	0.039	significant
$X_1 \rightarrow Y_2$	0.176	0.034	significant
$X_2 \rightarrow Y_2$	0.051	0.305	not significant
$X_3 \rightarrow Y_2$	0.155	0.060	not significant
$Y_1 \rightarrow Y_2$	0.433	< 0.001	significant

Based on **Table 2** it can be seen that there are five significant influence relationships. These relationships include: the influence of the relationship of each product variable (X_1). price (X_2). and promotion (X_3) of electronic money digitalization (Y_1) as well as product relations and electronic money digitalization to the development of cashless society (Y_2). Thus, it can be seen that the aspect that significantly affects the increase in digitalization of electronic money is the marketing mix variable, namely Product, Price, Marketing. The results of this study are in line with the research that has been conducted by **[5]**. It was found that the mix marketing variable had an effect on the purchase decision using digital wallets. If the product's quality, which in the context of this study is an e-wallet or electronic money, offered by the bank is considered quite attractive and in accordance with customer expectations, then the customer will be loyal to make non-cash payments. In addition, if the price offered is in accordance with customer expectations, then customers will also be interested in using e-money. One of the prices referred to here is such as the admin fee required for each e-wallet top up or for each payment. Attractive marketing techniques will also influence customers' decisions in using e-money.

The variable that has a significant direct effect on the development of cashless society is the digitization of electronic money. There has been no specific study that has analyzed the relationship between these two variables. However, conceptually, if customers are interested in using e-money, then the habit of implementing non-cash payments will continue to grow in the community. Therefore, it is recommended that banks and the government work together to always pay attention to and improve the quality of electronic money digitization so that customers are comfortable to always make non-cash payments so that this non-cash payment culture can continue to develop. Of the total 7 relationships tested for significance, there were 5 significant relationships. This indicates that resampling in hypothesis tests can capture the significance of relationships between variables well.

3.3 Result of Indirect Effect Hypothesis Testing

The results of indirect effect hypothesis testing is obtained by using the sobel test which can be seen in **Table 3**.

Table 3. Results of Indirect Effect Hypothesis Testing

Variable	Indirect Effect Value	p − value	Information
$X_1 \rightarrow Y_2$	0.121	0.040	significant
$X_2 \rightarrow Y_2$	0.175	0.006	significant
$X_3 \rightarrow Y_2$	0.074	0.145	not significant

Based on the results of the indirect influence test above, it can be seen that product (X_1) and price (X_2) significantly affect the development of cashless society (Y_2) indirectly through the variable of digitization of electronic money (Y_1). While the promotion variable (X_3) is not significant in exerting an indirect influence on the development of cashless society (Y_2).

3.4 Goodness of Fit

Evaluation of the path model is viewed based on Q-square predictive relevance. The Q-square predictive relevance calculation is 0.5101 which indicates that 51.01% of multigroup data can be explained by the model. while 48.99% was explained by other variables outside the model.

4. CONCLUSIONS

Based on the result in this research, it can be concluded that the use of resampling in hypothesis tests can capture the significance of relationships between variables well. Product and digitalization of electronic money have a significant direct effect on the development of cashless society, while price has a significant indirect effect on the development of cashless society. However, the results of this analysis cannot be generalized to all regions of Indonesia, it is only applicable to the Jakarta area which was the object of research.

Thus, advice can be given to the bank to pay attention to feature availability and make regular feature updates for the convenience of mobile banking users. Besides. The bank must also consider the admin fee required for each transaction whether it is in accordance with the mobile banking price market in general. It is recommended that the next research be carried out to expand the research object to all regions of Indonesia so that the research results are more precise and decision-making can be carried out better. Advice for statistics users, the use of resampling in hypothesis tests can be applied to future research. For future research in the field of cashless society, more advanced analysis can also be applied, such as SEM in order to find out which sub-variables are the most dominant so that they can provide more detailed decision-making advice.

ACKNOWLEDGEMENT

The researcher expressed the gratitude for the help and support from many parties, especially to Dr. Ir. Solimun, MS & Dr. Adji Achmad Rinaldo Fernandes for allowing the researcher using their data research as the data source.

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