

Modeling Out Factors That Affects Buying Decisions and Consumptive Behaviour of Shopee Consumer Based on Structural Equation Modeling – Partial Least Square Method

Ruth Hosana¹, Ardi Kurniawan^{2*}, Sediono³, Toha Saifudin⁴

¹Department of Mathematics, Faculty of Science and Technology, Universitas Airlangga, Surabaya, Indonesia, sarah.natasha.putri-2020@fst.unair.ac.id

²Department of Mathematics, Faculty of Science and Technology, Universitas Airlangga, Surabaya, Indonesia, ardi-k@fst.unair.ac.id

³Department of Mathematics, Faculty of Science and Technology, Universitas Airlangga, Surabaya, Indonesia sediono101@gmail.com

⁴Department of Mathematics, Faculty of Science and Technology, Universitas Airlangga, Surabaya, Indonesia tohasaifudin@fst.unair.ac.id

*Corresponding Author: ardi-k@fst.unair.ac.id

Abstract: In the era of industrial revolution 4.0 and rapid globalization, technology has become the main capital in various sectors, including the economy. Buying and selling activities, which were previously conventional, have now shifted to the digital realm. In the ever-evolving commerce industry, sellers need to adopt technology to expand their businesses and stay competitive. One implementation of technology in economic activities is through digital e-commerce platforms, such as Shopee, which are effective and efficient in meeting consumer needs. This research aims to model and find out how much influence application facilities (features), information quality, promotions offered, and affiliate programs have on buying decisions and consumptive behavior of Shopee consumers in the city of Surabaya. The sampling method used was purposive sampling with a total sample of 267 respondents. The data obtained was then analyzed using the Structural Equation Modeling method with the Partial Least Square (SEM-PLS) approach via the SmartPLS application. Based on the Goodness of Fit Index test, a value of 0.592 is obtained, categorized as large, indicating that the formed model is valid and can explain empirical data as a whole.

Keywords: *Shopee, Buying Decision, Consumptive Behaviour, SEM PLS*

1. Introduction

Along with the era of the industrial revolution 4.0 and globalization which is developing rapidly throughout the world, technology has become one of the most needed capital in carrying out various activities in various sectors, one of which is the economic sector. One form of application of technology to economic activities is the emergence of various e-commerce on digital platforms which are able to accommodate consumer needs more effectively and efficiently.

In East Java, specifically the city of Surabaya, is also feeling the influence of the emergence of e-commerce. Google, in collaboration with the Gesellschaft für Konsumforschung (GfK) research institute, has conducted a study entitled "Shopping Behavior in Indonesia". This research reveals that Surabaya occupies the top position as the city with the highest electronic commerce activity with a percentage of 71% with an online shopping duration of 5.8 hours. One e-commerce that is very familiar today is Shopee. Shopee is an online marketplace application for buying and selling on cellphones easily and quickly. The widespread use of Shopee in the community also has an

impact on the psychology of transaction actors, one of those affected is the buyer's side. According to Ancok

(2015), uncontrolled buying decision-making habits can result in the formation of consumer behavior. Apart from that, according to

Ridwan (2018), buying decisions provide a real relationship to consumer behavior. Consumptiveness describes the urge to buy products with excessive intensity, even though in reality the product may not be necessary, simply to follow fashion trends, just want to try new products, even want to gain social recognition and so on.

Based on previous research, the urgency of this research is to explore whether these factors, application facilities (features), quality of information, promotions offered, and affiliate programs) simultaneously influence buying decisions and consumptive behavior of Shopee consumers in the city of Surabaya. A suitable method to use to study this is the Structural Equation Modeling (SEM) method.

2. Literature Review

2.1 Shopee

Shopee is an e-commerce platform that connects sellers and buyers, making online buying and selling transactions easier via mobile devices. Shopee was founded by an e-commerce technology company from Singapore, Sea Limited. This company was originally founded in 2009 by Forrest Li under the name Garena. Shopee is a business-to-consumer (B2C) mobile marketplace application (Periamsyah et al, 2018:565) which focuses on providing an online shopping experience safely, simply, and prioritizing buyer privacy

2.2 Validity Test

A validity test is a test carried out on the content of an instrument which aims to measure the accuracy of the instrument to be used in a study. In short, a validity test is a test used to find out or see whether a measuring instrument is valid/legitimate or invalid (Sugiyono, 2019).

$$r_{x_iy} = \frac{n \sum_{j=1}^n x_{ij}y_j - (\sum_{j=1}^n x_{ij})(\sum_{j=1}^n y_{ij})}{\sqrt{n \sum_{j=1}^n x_{ij}^2 - (\sum_{j=1}^n x_{ij})^2} \sqrt{n \sum_{j=1}^n y_{ij}^2 - (\sum_{j=1}^n y_{ij})^2}} \quad (1)$$

With:

r_{x_iy} : correlation coefficient of the instrument or question item

x_{ij} : i-th instrument score for j-th respondent = 1,2,...,n

y_j : The total score of the instrument per dimension for the jth respondent = 1,2,...,n

n : number of respondents

2.3 Reliability Test

Reliability testing is used to determine the consistency of the measuring instrument used, whether the measuring instrument will remain consistent if measurements are carried out repeatedly (Dewi, 2018). The technique used to measure reliability is Cronbach's Alpha. The Cronbach's Alpha method has the advantage that it can be used if there is more than one answer and the number of questionnaire questions is the same (Adamson and Prion, 2013). The formula used is as follows (Yusup, 2018):

$$r_{11} = \left[\frac{n}{(n-1)} \right] \left[1 - \frac{\sum s_i^2}{s_t^2} \right] \quad (2)$$

r_{11} : instrument reliability coefficient (total tests)

n : number of questions tested

s_i^2 : variance of scores for each item

s_t^2 : total score variance

The value of Cronbach's Alpha reliability level is show in table 1.

Table 1 Level of Reliability Coefficient Cronbach's Alpha Value

Cronbach's Alpha Value	Reliability Level
$r_{11} < 0.20$	Very Low
$0.20 \leq r_{11} < 0.40$	Low

$0.40 \leq r_{11} < 0.60$	Medium
$0.60 \leq r_{11} < 0.80$	High
$0.80 \leq r_{11} < 1.00$	Very High

2.4 Structural Equation Modeling (SEM)

Structural equation modeling (SEM) is a multivariate analysis method that is a combination of factor analysis and path analysis. With SEM, the relationship between constructs is evaluated together and the strength of testing the research model is also evaluated (Jogiyanto, 2011). SEM has several advantages, namely that it responds to various research problems through more systematic and comprehensive analyses. SEM involves a structural equation model that includes two types of variables: latent variables and manifest variables. It contains two types of models: a structural model (internal model) and a measurement model (external model). There are also two types of errors: structural errors and measurement errors.

2.5 Partial Least Square (PLS)

According to Ghazali (2016), the Partial Least Square method is a variance-based structural equation model that is able to describe latent variables (not directly measurable) and is measured using indicators (manifest variables). Some of the advantages of using the PLS analysis model include data not having to have a certain distribution, the ability to build models without having to rely on a particular theory, overcoming indetermination, and the ability to work with small sample sizes.

The measurement model shows the relationship between the latent variables and their indicators. There are two types of models namely reflective indicator model and shape indicator model. A reflective indicator model can arise when the indicator is influenced by latent variables. The equation for reflective indicator models can be formulated as follows:

$$x = \lambda_x \xi + \delta \quad (3)$$

$$y = \lambda_y \eta + \varepsilon \quad (4)$$

The structural model shows the relationship between exogen and endogen latent variables which can be formulated as follows:

$$\eta = B\eta + \Gamma\xi + \zeta \quad (5)$$

The model in equation (5) can be described as follows:

$$\begin{bmatrix} \eta_1 \\ \eta_2 \\ \vdots \\ \eta_m \end{bmatrix} = \begin{bmatrix} 0 & \beta_{12} & \dots & \beta_{1m} \\ \beta_{21} & 0 & \dots & \beta_{2m} \\ \vdots & \vdots & \ddots & \vdots \\ \beta_{m1} & \beta_{m2} & \dots & 0 \end{bmatrix} \begin{bmatrix} \eta_1 \\ \eta_2 \\ \vdots \\ \eta_m \end{bmatrix} + \begin{bmatrix} \gamma_{11} & \gamma_{12} & \dots & \gamma_{1m} \\ \gamma_{21} & \gamma_{22} & \dots & \gamma_{2m} \\ \vdots & \vdots & \ddots & \vdots \\ \gamma_{m1} & \gamma_{m2} & \dots & \gamma_{mk} \end{bmatrix} \begin{bmatrix} \xi_1 \\ \xi_2 \\ \vdots \\ \xi_m \end{bmatrix} + \begin{bmatrix} \zeta_1 \\ \zeta_2 \\ \vdots \\ \zeta_m \end{bmatrix} \quad (6)$$

Model evaluation in PLS includes two stages: the measurement model and the structural model. There are 3

things that can be done to evaluate the measurement model, namely convergent validity, which consists of loading factors and Average Variance Extracted (AVE), discriminant validity, and reliability testing, which consists of composite reliability and Cronbach's Alpha. The evaluation of the structural model is done using R-Square (R²) and Q-Square (Q²). Meanwhile, to validate the combined performance of the measurement and structural models, Goodness of Fit can be assessed using the following formula:

$$GoF = \sqrt{AVE \times R^2} \quad (7)$$

with \overline{com} representing the average value of AVE dan $\overline{R^2}$ being the average value of R-Square. The criteria for the value of GoF are as follows: *small* if $0 \leq GoF < 0,25$, *medium* if $0,25 \leq GoF < 0,36$, and *large* if $GoF \geq 0,36$ (Trujillo, 2009)

Hypothesis testing in PLS involves testing parameters λ obtained from the measurement model (outer model) and parameter β dan γ obtained from structural model (inner model). The statistical hypotheses for the measurement mode are $H_0: \lambda_{jk} = 0$ and $H_1: \lambda_{jk} \neq 0$, where J a s the number of indicators for latent variables, and K is the number of latent variables. The statistical hypotheses for the are endogen latent variables The statistical hypotheses for the structural model (exogenous latent variables to endogenous) are $H_0: \gamma_{mk} = 0$ and $H_1: \gamma_{mk} \neq 0$ where M is the number of endogen latent variables, and K is the number of exogen latent variables.

3. Methodology

3.1 Data and Data Collection Techniques

The data used in this research is primary data. Data was obtained through a survey of Shopee consumers who live in the city of Surabaya. The survey was conducted offline by distributing questionnaires and direct interviews with Shopee consumers from October 2023 to November 2023. The sampling method used was a purposive sampling technique, namely selecting respondents with special considerations or criteria. In determining a sample if the population is large and the number is not known with certainty, to calculate the minimum sample size required using the formula of Lemeshow et al (1997) for an unknown population, namely:

$$n = \frac{1.96^2 \times 0.5 \times (0.5)}{(0.06)^2} = 266.78 \quad (8)$$

Referring to the minimum sample theory and sample calculations above, the researcher determined the number of samples used was 267.

3.2 Research Variable

This research variable consists of latent variables and indicators. Latent variables are divided into exogenous latent variables and endogenous latent variables.

No.	Variable	Indicator
1.	Buying Decision (η_1)	Make purchases on Shopee because you get clear product information.
		Make purchases on Shopee because the products offered suit your wants and needs.
		Buy products on Shopee based on other people's testimonials/reviews.
		Make purchases on Shopee because Shopee is more famous than others
		Pay attention to the price and quality of the product you want to buy.
2.	Consumptive Behaviour (η_2)	Prioritize desires over needs when buying a product
		Shop more when there are promos (free shipping, discounts, cashback, buy 1 get 1, and the like)
		Tend to buy a product that is offered suddenly
3.	Application Facilities (Features) (ξ_1)	The facilities (features) at Shopee are complete
		The facilities (features) at Shopee are in accordance with user needs
		Shopee's various facilities (features) make shopping easier
		The overall design of the Shopee page is attractive
4.	Information Quality (ξ_2)	Information related to product descriptions is relevant and useful
		Order position tracking information is listed in detail and in real time
		The help center / customer service can resolve problems / complaints quickly
		Information related to customer ratings/reviews helps in product selection
5.	Promotions Offered (ξ_3)	Product price discounts on Shopee vary
		Discounted shipping vouchers are considered profitable
		There are many products that have a variety of discounts
		Price discounts during flash sales (limited offers) are very large
		Using discounts on Shopee can be used for quite a long time
6.	Affiliate Program (ξ_4)	Video content related to products promoted by affiliates can help consumers find out the specifications of a product (informativeness)
		Explanations regarding product advantages and disadvantages are provided by affiliates in an honest and easy to understand manner

		Affiliates are able to convince buyers to buy promoted products
		Affiliates master usability and provide quality product recommendations to users
		Interesting affiliate content has a huge influence in increasing interest in buying a product.

4. Results

4.1 Respondent Characteristics

Data from 267 respondents was obtained. The analysis stage begins by carrying out descriptive analysis to determine the characteristics of the respondents and explain the general picture. In short, the demographics of respondents are mostly female and aged 17-22 years. The characteristics of the respondents based on occupation were mostly students and with an income of Rp. 1,000,001-Rp. 2,000,000. Meanwhile, for the analysis carried out using bar charts, the majority of respondents chose answers by rounding answers to 3, which means agreeing with each question indicator on the variables of application facilities (features), quality of information, promotions offered, affiliate programs, buying decisions, and behavior. consumptive. In the validity test, all statements in the questionnaire can measure the same aspect or can be declared valid. The results of the reliability test show that the variables of application facilities (features), information quality, promotions offered, and affiliate programs have high reliability because the Cronbach's Alpha value is more than 0.6.

4.2 Research Path Diagram

The research path diagram along with the outer loading values can be depicted in Figure 1 as follows:

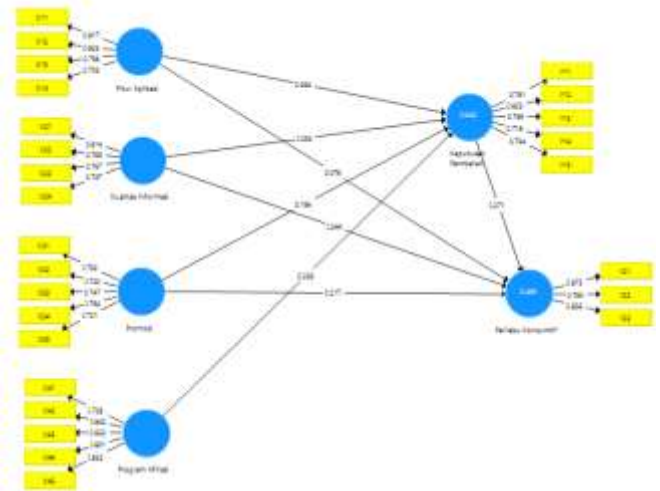


Figure 1. Research Path Diagram for PLS Algorithm Results

4.3 Outer Loading

Next, a model equation is determined based on the research path diagram, which is divided into measurement models and structural models. Thus, the measurement equation for the exogenous latent variable is as follows:

- a. Application Facilities (Features) (ξ_1)

$$\hat{x}_{11} = 0,817\hat{\xi}_1$$

$$\hat{x}_{12} = 0,823\hat{\xi}_1$$

$$\hat{x}_{13} = 0,798\hat{\xi}_1$$

$$\hat{x}_{14} = 0,703\hat{\xi}_1$$

- b. Information Quality (ξ_2)

$$\hat{x}_{21} = 0,814\hat{\xi}_2$$

$$\hat{x}_{22} = 0,769\hat{\xi}_2$$

$$\hat{x}_{23} = 0,767\hat{\xi}_2$$

$$\hat{x}_{24} = 0,737\hat{\xi}_2$$

- c. Promotions Offered (ξ_3)

$$\hat{x}_{31} = 0,792\hat{\xi}_3$$

$$\hat{x}_{32} = 0,720\hat{\xi}_3$$

$$\hat{x}_{33} = 0,747\hat{\xi}_3$$

$$\hat{x}_{34} = 0,764\hat{\xi}_3$$

$$\hat{x}_{35} = 0,721\hat{\xi}_3$$

- d. Affiliate Program (ξ_4)

$$\hat{x}_{41} = 0,728\hat{\xi}_4$$

$$\hat{x}_{42} = 0,842\hat{\xi}_4$$

$$\hat{x}_{43} = 0,833\hat{\xi}_4$$

$$\hat{x}_{44} = 0,801\hat{\xi}_4$$

$$\hat{x}_{45} = 0,832\hat{\xi}_4$$

e. Buying Decision (η_1)

$$\hat{y}_{11} = 0,781\hat{\eta}_1$$

$$\hat{y}_{12} = 0,825\hat{\eta}_1$$

$$\hat{y}_{13} = 0,766\hat{\eta}_1$$

$$\hat{y}_{14} = 0,716\hat{\eta}_1$$

$$\hat{y}_{15} = 0,794\hat{\eta}_1$$

f. Consumptive Behaviour (η_2)

$$\hat{y}_{21} = 0,873\hat{\eta}_2$$

$$\hat{y}_{22} = 0,783\hat{\eta}_2$$

$$\hat{y}_{23} = 0,856\hat{\eta}_2$$

From the measurement equation it also shows that each variable already has the outer loading value is > 0.7 so it can be concluded that all indicators are valid and significant in forming latent variables.

4.4 Aaverage Variance Extracted (AVE)

Furthermore, another method is used to examine the convergent validity by looking at the values of Average Variance Extracted (AVE) for each latent variable. The average percentage of AVE values among indicators in a set of latent constructs summarizes convergent indicators. A good AVE value is above 0.5 to ensure that each variable has parameters that are suitable for use.

Table 3. Average Variance Extracted (AVE) Values

Variable	AVE
Application Facilities (Features) (ξ_1)	0,619
Information Quality (ξ_2)	0,596
Promotions Offered (ξ_3)	0,561
Affiliate Program (ξ_4)	0,653
Buying Decision (η_1)	0,604
Consumptive Behaviour (η_2)	0,703

From the table, all the variables used in this study have acceptable convergent validity because an AVE values above 0.5.

4.5 Discriminant Validity

Discriminant validity can be calculated based on the cross-loading value of the manifest variable on each latent variable. The cross-loading criteria for each indicator that measures the construct must be more highly correlated with the latent variable than with other latent variables. The following is the cross-loading value of each indicator

Table 4. Cross Loading Values

	ξ_1	ξ_2	ξ_3	ξ_4	η_1	η_2
x_{11}	0.817	0.542	0.507	0.429	0.578	0.455
x_{12}	0.823	0.562	0.424	0.395	0.547	0.462
x_{13}	0.798	0.551	0.489	0.449	0.539	0.426
x_{14}	0.703	0.475	0.463	0.446	0.475	0.406
x_{21}	0.642	0.814	0.539	0.518	0.593	0.536
x_{22}	0.464	0.769	0.493	0.480	0.506	0.495
x_{23}	0.466	0.767	0.461	0.595	0.544	0.502
x_{24}	0.511	0.737	0.490	0.426	0.558	0.403
x_{31}	0.509	0.506	0.792	0.489	0.564	0.465
x_{32}	0.478	0.479	0.720	0.408	0.522	0.411
x_{33}	0.417	0.493	0.747	0.384	0.430	0.404
x_{34}	0.460	0.455	0.764	0.352	0.442	0.470
x_{35}	0.366	0.473	0.721	0.457	0.459	0.478
x_{41}	0.347	0.429	0.409	0.728	0.449	0.377
x_{42}	0.430	0.542	0.476	0.842	0.508	0.411
x_{43}	0.483	0.578	0.449	0.833	0.513	0.409
x_{44}	0.437	0.503	0.427	0.801	0.535	0.519
x_{45}	0.485	0.580	0.497	0.832	0.620	0.415
y_{11}	0.512	0.534	0.452	0.521	0.781	0.428
y_{12}	0.572	0.600	0.546	0.523	0.825	0.491
y_{13}	0.521	0.584	0.543	0.569	0.766	0.554
y_{14}	0.502	0.510	0.502	0.476	0.716	0.530
y_{15}	0.535	0.533	0.463	0.446	0.794	0.465
y_{21}	0.505	0.555	0.539	0.468	0.548	0.873
y_{22}	0.457	0.488	0.470	0.422	0.538	0.783
y_{23}	0.435	0.537	0.487	0.436	0.521	0.856

Based on the data presented in Table 4, it is shown that each indicator has a loading factor value that is greater than the value of the cross loading. So, it can be interpreted that the correlation value of the variable with the indicator is greater than the correlation value with other variables. So, it can be concluded that all variable indicators have good discriminant validity.

4.6 Composite Reliability and Cronbach's Alpha

The method to assess reliability can be determined by the values of composite reliability and Cronbach's alpha. A variable can be considered to meet composite reliability if it has a composite reliability value above 0.7 (Ghozali, 2014) and a Cronbach's alpha value above 0.6. The following are the values of composite reliability and Cronbach's alpha:

Table 5. Composite Reliability and Cronbach’s Alpha Values

Variable	Composite Reliability	Cronbach’s Alpha
Application Facilities (Features) (ξ_1)	0,866	0,793
Information Quality (ξ_2)	0,855	0,774
Promotions Offered (ξ_3)	0,865	0,804
Affiliate Program (ξ_4)	0,904	0,867
Buying Decision (η_1)	0,884	0,835
Consumptive Behaviour (η_2)	0,876	0,787

Based on table 5 which contains six latent variables, each obtained a composite reliability value above 0.7 and a Cronbach's alpha value above 0.6. So, it can be concluded that the value of each indicator is reliable in measuring the latent variable.

4.7 Structural Model Equation

The structural model equation is obtained from the path diagram in Figure 1 to form the structural model equation as follows:

- a. Structural Equation for Buying Decisions (η_1)
 $\hat{\eta}_1 = 0,264\xi_1 + 0,254\xi_2 + 0,196\xi_3 + 0,236\xi_4$
- b. Structural Equation for Consumptive Behaviour (η_2)
 $\hat{\eta}_2 = 0,271\eta_1 + 0,076\xi_1 + 0,244\xi_2 + 0,217\xi_3$

Based on the structural model equation above, the interpretation is that there is a directly proportional relationship to buying decisions. The higher the application facilities (features), quality of information, promotions offered, and affiliate programs, the greater the buying decisions of Shopee consumers. Apart from that, the higher the application facilities (features), quality of information and promotions offered, the more consumptive behavior Shopee consumers will increase

4.8 Structural Model Evaluation

The next step is to conduct an evaluation of the structural model (inner model). The evaluation of the structural model is used to assess the relationships between latent variables. The evaluation of the structural model is done using R-square (R^2). The larger the R^2 value, the greater the influence of exogeno latent variables on endogen variables.

Table 6. R – Square Values

Variable	R-Square	Information
Buying Decision	0,637	Strong Model
Consumptive Behaviour	0,491	Moderate Model

Based on the results of the analysis via SmartPLS software shown in Table 4.6, it can be seen that the

endogenous latent variable buying decisions can be explained well by the exogenous latent variables application facilities (features), information quality, promotions offered, and affiliate programs at 63.7%. Meanwhile, the remaining 36.3% is explained by other factors outside the research. This also shows that the model is included in the strong category. Meanwhile, the endogenous latent variable of consumer behavior can be explained well by the exogenous latent variable of application facilities (features), information quality, promotions offered and affiliate programs at 49.1%. Meanwhile, the remaining 50.9% is explained by other factors outside the research. So, the model can be categorized into a moderate or moderate model.

Next is Predictive Relevance used to validate the predictive ability of the model. If the value of Q^2 approaches 1, it is said that the structural fit with the data or has relevant predictions. The Q^2 value is obtained through:

$$Q^2 = 1 - (1 - R_1^2)(1 - R_2^2)$$

$$Q^2 = 1 - (1 - 0,637)(1 - 0,491)$$

$$Q^2 = 0,814724 \approx 0,815$$

The obtained Q^2 value is 0,815, indicating that Q^2 is close to 1. So, it can be said that the model has good predictive ability or predictive relevance. So, it can be concluded that the exogenous latent variable is able to explain the endogenous latent variable in the model.

4.9 Goodness of Fit (GoF) Index

Evaluation of the measurement model (outer model) and structural (inner model) as a whole is the final stage of model evaluation. Evaluation of the entire model is carried out using the Goodness of Fit (GoF) value with the following calculations:

$$GoF: \sqrt{\left(\frac{0,619 + 0,596 + 0,561 + 0,653 + 0,604 + 0,703}{6}\right) \times \left(\frac{0,637 + 0,491}{2}\right)}$$

$$GoF = \sqrt{0,6227 \times 0,5635}$$

$$GoF = \sqrt{0,3509}$$

$$GoF = 0,592361 \approx 0,592$$

Based on the results of these calculations, the GoF value is 0.592. The GoF value is greater than 0.36, so the Goodness of fit value is included in the large criteria. So, it can be concluded that the model has a high ability to explain the data so that the model formed as a whole is appropriate or fit.

4.10 Hypothesis Test

Statistical hypothesis testing is conducted with a significance level of $\alpha = 5\%$ thus obtaining the value of $t_{\frac{\alpha}{2}, n-1}$ as 1,96 The criterion is that if the tstatistics $> 1,96$ then the parameter used has a significant effect

Table 7. Structural Model Significant Test

Variable	Original Sample	Sample Mean	T Statistics	P Values
AF → BD (γ_{11})	0.264	0.266	3.643	0.000
IQ → BD (γ_{12})	0.254	0.249	2.924	0.003
PO → BD (γ_{13})	0.196	0.199	3.010	0.002
AP → BD (γ_{14})	0.236	0.236	3.753	0.000
AF → CB (γ_{21})	0.076	0.082	0.910	0.363
IQ → CB (γ_{22})	0.244	0.251	3.205	0.001
PO → CB (γ_{23})	0.217	0.217	3.150	0.002
BD → CB (β_{21})	0.271	0.259	2.827	0.005

Based on the analysis results, it can be concluded that application facilities (features), quality of information, promotions offered, and affiliate programs have a significant impact on buying decision. Also, application facilities (features), quality of information, and promotions offered have a significant impact on consumptive behaviour.

4.11 Mediaton Test

Mediation Test is carried out to detect the position of the mediating variable in a model. Mediation testing is obtained from the specific indirect effect value. The processing results for the mediation test are presented as follows

Table 8. Specific Indirect Effect Values

	Original Sample	Sample Mean	T Statistic	P Values
AF → BD → CB	0.072	0.068	2.321	0.020
IQ → BD → CB	0.069	0.064	2.097	0.036
PO → BD → CB	0.053	0.051	2.178	0.029
AF → BD → CB	0.064	0.064	1.890	0.059

Based on the analysis shown in Table 8, the $t_{statistics}$ value of the application facility (feature) variables, quality of information and promotions offered is greater than the t_{table} value, which means that the mediating parameter is significant. However, the $t_{statistics}$ value for affiliate programs on consumptive behavior through buying decisions is $1,890 < t_{table}$ (1,96), which means there is no significant indirect effect.

5. Conclusion

Based on the results of the analysis, the majority of respondents chose agree answers regarding the questions in the questionnaire. The test results for the entire model obtained a value of 0.592, which means that if the model value has a high ability to explain the data, then overall the model formed is valid. An inner model was obtained which shows that the variables that influence purchasing decisions are application facilities (features), quality of information, promotions offered, and affiliate programs. Furthermore, the variables that influence consumer behavior are application facilities (features), quality of information and promotions offered.

The suggestion that can be given is that the resulting structural model is limited to 4 exogenous variables so that for further research researchers are expected to include exogenous variables from other supporting mechanisms which may significantly influence purchasing decisions and consumer behavior. Apart from that, further research can be carried out on respondents in other areas using other SEM methods or approaches. Shopee is expected to pay attention to mechanisms that can improve purchasing decisions and consumer consumptive behavior.

6. References

- [1] Adamson, K. A., & Prion, S. (2013). Reliability: Measuring Internal Consistency Using Cronbach's α . *Clinical simulation in Nursing*, **9**(5), e179-e180.
- [2] Ancok, D. (1995). *Nuances of Development Psychology*. Insan Kamil Foundation in Collaboration with Student Library Publishers.
- [3] Dewi, D. A., 2018, *Validity and Reliability Test Module*, Semarang: Diponegoro University.
- [4] Ghozali, I., 2014, *Structural Equation Modeling: Alternative Method with Partial Least Squares (PLS)*, Semarang: Diponegoro University.
- [5] Jogyanto, H. M. (2011). *Concepts and Applications of Variant-Based Structural Equation Modeling in Research*. Yogyakarta: UPP STIM YKPN.
- [6] Lemeshow, S., Hosmer, D. W., Klar, J., & Lwanga, S. K. (1997). *Sample size in health research*. Yogyakarta: Gajah Mada University.
- [7] Periamsyah, P., Subhan, S., & Syahab, A. (2018). *Analysis of the E-Commerce System in the Mobile Marketplace Company Shopee Indonesia. Proceedings of the National Seminar on Information Systems and Information Technology*, **Vol. 1**, No. 1, pp. 565-569.
- [8] Ridwan, M. (2018). *Purchasing Decisions via Online Shopping Sites on Community Consumptive Behavior in an Islamic Economic Perspective (Case Study of Lazada Application Users in Medan)*" (Doctoral dissertation, North Sumatra State Islamic University). Sugiyono, 2019, *Statistics for Research*. Bandung: CV. Alfabeta.

- [9] Trujillo, G. S. (2009). Pathmox approach: Segmentation trees in partial least squares path modeling (*Doctoral dissertation*, Universitat Politècnica de Catalunya (UPC)).
- [10] Yusup, F. (2018). *Validity and Reliability Test of Quantitative Research Instruments*. *Tarbiyah: Educational Scientific Journal*, 7(1)