



The Effect of Website Design, Website Security, Information Quality, and Perceived Ease of Use on Customer Satisfaction and Online Purchase Intention in Indonesia E-Commerce in Jakarta

Fredy Fernandus¹, Nilo Legowo²

¹Information Systems Management Department, Bina Nusantara University, Jakarta, Indonesia,
¹fernandus.fredy@gmail.com

²Information Systems Management Department, Bina Nusantara University, Jakarta, Indonesia,
²nlegowo@binus.edu

ABSTRACT

According to data reported by APJI, internet users in Jakarta have reached 8.2 million people with 96% of them having used e-commerce. Based on data released by databoks.id the three biggest e-commerce sites in Indonesia are Tokopedia, Bukalapak, and Shopee. In keeping its market competitive, e-commerce must know effective ways of satisfying customer wants and needs. A huge number of monthly visits prove that customer satisfaction in online business is a key factor in profitability. Therefore, this study examines several variables, including Website Design, Website Security, Information Quality, and Perceived Ease of Use, that affect customer satisfaction and its effect on online purchase intention. Sampling totaling 400 respondents, including 168 Tokopedia respondents, 141 Bukalapak respondents, and 92 Shopee respondents and questionnaires were distributed in DKI Jakarta. All questionnaire data were analyzed using Smart PLS 3.0 with the Partial Least Square method. The results showed that perceived ease of use has a significant effect on customer satisfaction, and customer satisfaction has a significant effect on online purchase intention. On the other hand, the results showed that website design, website security, and information quality had no significant effect on customer satisfaction. Thus, the findings of this study are expected to help e-commerce to implement the right strategy to keep competing in e-commerce in Indonesia, especially Jakarta.

Key words: customer satisfaction, information quality, online purchase intention, online shopping, perceived ease of use, website design, website security

1. INTRODUCTION

The development of information technology especially the internet has experienced very rapid development in the past decade. This progress is changing the way we do business, many of the businesses and transactions that are now running on online shopping platforms or commonly called e-commerce. Based on data reported by price insight in the first quarter of 2019 Tokopedia, Bukalapak and Shopee is the most popular e-commerce in Indonesia, with monthly visits reaching 137 million, 115 million and 75 million visits. While

the number of transactions in 2019 Tokopedia reached 10.6 billion USD, Bukalapak 3 billion USD, and 7.2 billion USD.

To keep the market competitive e-commerce must implement effective ways to satisfy the wants and needs of its customers, with the number of visits and these huge transactions prove that customer satisfaction in online business is the key to profitability [1]. Therefore, to ensure online buyers intention to purchase online continuously, online sellers need to examine how well their websites fulfill the requirements of online buyers [2].

This study will examine the effect of website design, website security, information quality, and perceived ease of use on customer satisfaction and its effect on online purchase intention in the three biggest e-commerce sites in Jakarta. Previous studies have shown that research on website quality is aimed at examining their effects on shopping habits such as in New Zealand [3] and India [4].

The sample in this study is the user who has shopped online using e-commerce Tokopedia, Bukalapak, and Shopee at least once. It is expected that the results of this research can help e-commerce in providing insights on strategies that can improve business development.

2. LITERATURE REVIEW

2.1 Website Design

Website design plays an important role in online retail because it affects customers directly during the buying process. The characteristics of the website determine the customer's perception of the online store. A well-designed website reduces information time and avoids possible non-conformities. Website design affects customer satisfaction [5].

2.2 Website Security

Transaction security and customer data security are the main concerns of online customers in buying products and services [6]. For this reason, e-commerce usually includes a privacy policy on how they manage their consumer data. This is done so that consumers feel more comfortable when going to transact. In his research stated that security is the factor that most influences consumers when deciding whether to make an online purchase.

2.3 Information Quality

The information has a significant role in influencing customer decisions in the decision-making process because it will guide them because there is no physical interaction with the product in the online environment [7].

2.4 Perceived Ease of Use

Indicators used in measuring perceived ease of use are easy to learn, flexible, able to control work, and easy to use [8]. Perceived ease of use can also be measured through clear indicators that are easy to understand, and easy to master [9], [10], [11].

2.5 Customer Satisfaction

Customers will return if low expectations are met with high performance and will positively influence buying intentions by mediating customer satisfaction [12].

2.6 Online Purchase Intention

In increasing the sense of acceptance of e-commerce, it is very necessary for customers to have a desire to use a website to obtain information and complete transactions by buying products or services. Online purchase intention is the final consequence of achieving some of the customer's desires. The desire of customers to buy something from an online store will increase if the seller is able to increase customer satisfaction [13].

3. METHOD

3.1 Research Designs and Models

The research design used in this study is conclusive research design. Conclusive research is research that is designed to assist decision-makers in determining, evaluating, and choosing a series of actions that must be taken in certain situations.

After that, conclusive research is divided into two: conclusive descriptive and conclusive causal. However, the author uses conclusive descriptive research, which means one type of conclusive research that has the main goal of describing something, usually market characteristics or functions [14]. Then the research model conducted is shown in Figure 1:

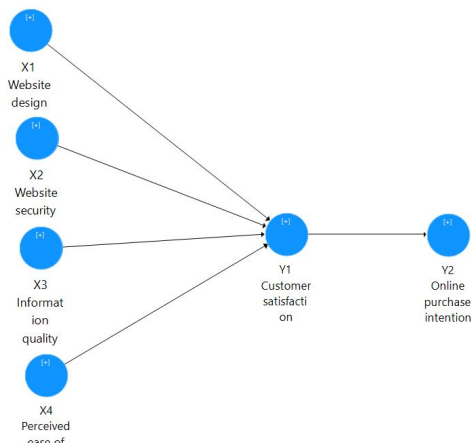


Figure 1: Research Model

Where is the independent variable (website design (X1), Website Security (X2), Information Quality (X3), and Perceived Ease of Use (X4). The dependent variable is Customer Satisfaction (Y1) and Online Purchase Intention (Y2).

3.2 Data Collection Technique

Data collection is obtained by distributing questionnaires online to consumers who have shopped at Tokopedia, Bukalapak, or Shopee, who have met the criteria as stated earlier. The questionnaire is a closed one, namely a list of questions written by researchers who have been formulated beforehand that the respondent will answer, usually in clearly defined alternatives [15].

The questionnaire consists of two parts, first the respondent will be asked about self-information and which e-commerce is most often used to shop online. The second part was asked about the shopping experience based on predetermined variables consisting of 32 questions with measurements using a Likert scale (from 1-Strongly disagree to 5-Strongly agree).

Based on research conducted by the Association of Indonesian Internet Service Providers regarding internet user penetration data throughout 2018, internet users in Jakarta are 4.8% of the total national users, or as many as 8.2 million people. Then from research conducted by Katadata 96% of them use e-commerce, so that the total population of 7.88 million people. The sample is determined using the Slovin formula as in the equation below.

$$n = \frac{N}{1 + Ne^2} \tag{1}$$

The result (1) is 400 samples with the distribution of 168 Tokopedia respondents, 141 Bukalapak respondents and 92 Shopee respondents. The total response reached 427 responses with 27 of them eliminated from the sample because it is not appropriate so that there are a total of 400 data used for data analysis.

3.3 Operationalization of Variables

There are 2 types of variables in this study, namely, independent and dependent variables. The independent variables in this study are website design (X1), website security (X2), information quality (X3) and perceived ease of use (X4). Then the dependent variable in this study is customer satisfaction (Y1) and online purchase intention (Y2).

Table 1: Operationalization of Variables

Variable	Dimension
Website design (X1)	1. Attractive display design
	2. Ease of information
	3. Functional
	4. Understand your needs and desires
	5. Ease of navigation

Website security (X2)	<ol style="list-style-type: none"> 1. Information security 2. Privacy issues 3. Security of transactions 4. The use of authorization
Information quality (X3)	<ol style="list-style-type: none"> 1. Adequacy of content 2. Use of content 3. Accuracy of information 4. Up to date information 5. Clear report
Perceived ease of use (X4)	<ol style="list-style-type: none"> 1. Ease of use 2. Ease of learning 3. Ease of finding products 4. No need for special skills
Customer satisfaction (Y1)	<ol style="list-style-type: none"> 1. Efficiency in the use of e-commerce 2. Right in choosing a website 3. Shopping experience expectations 4. E-commerce has the desired character 5. The desire to tell and provide recommendations 6. Service satisfaction 7. E-commerce effectiveness
Online Purchase Intention (Y2)	<ol style="list-style-type: none"> 1. Repeated use 2. Decision making transactions 3. Sustainable website environment 4. Reasons to shop online 5. Will continue to use the website 6. The desire to reuse 7. Love shopping online

3.4 Validity Test

Validity or validity is showing the extent to which a measuring instrument is able to measure what you want to measure (a valid measure if it successfully measures the phenomenon) [16]. After making the questionnaire (research instrument) the next step is to test whether the questionnaire is made valid or not with formula 2. The following are the criteria for knowing the measured results, namely:

1. If the product moment correlation coefficient exceeds 0.3;
2. If the product moment correlation coefficient > r-table (r table = 0.098);
3. Sig. ≤ α.

3.5 Reliability Test

The reliability measurement technique used in this study is the Cronbach Alpha Technique, with the help of the SmartPLS software program. This technique or formula can be used to determine the level of reliability or reliability of a research instrument. The criteria for a research instrument are said to be reliable using this technique, if the reliability coefficient > 0.6.

3.6 Hypothesis Testing

In testing the structural model, there are criteria that must be met, namely the coefficient of determination (R2), Goodness of Fit, t-test statistic. In determining the coefficient of determination R2, the value ranges from 0 to 1 which is grouped that 0.75 is substantial, 0.50 is moderate and 0.25 is weak. Then the GoF values are grouped based on three groups namely GoF small, GoF medium and GoF large with the provisions of GoF small = 0.1, GoF medium = 0.25 and GoF large = 0.36 [17].

The value of t can be determined through the bootstrapping method using Smart PLS software. In this study, testing was carried out using a significance level of 5%, then the minimum cut-off value in testing this hypothesis was 1.96. The following hypotheses are formed based on a predetermined research model:

Hypothesis 1: Website Design has a positive effect on Customer Satisfaction.

Hypothesis 2: Website Security has a positive effect on Customer Satisfaction.

Hypothesis 3: Information Quality has a positive effect on Customer Satisfaction.

Hypothesis 4: Perceived Ease of Use has a positive effect on Customer Satisfaction.

Hypothesis 5: Customer Satisfaction has a positive effect on Online Purchase Intention.

4. RESULTS AND DISCUSSION

4.1 Descriptive Analysis

In Table 2 below shows the demographics of respondents in this study.

Table 2: Demographic Profile Respondents

Demographic variable	Details	Frequency	Percentage (%)
Gender	Male	202	50,50%
	Female	198	49,50%
Age	< 19 years old	85	21,25%
	20-30 years old	220	55%
	31-40 years old	95	23,75%
Occupation	Student	126	31,50%
	Employee	211	52,75%
	Entrepreneur	38	9,50%
	Other	25	6,25%
Usage period	<1 year	28	7,00%
	1-2 years	116	29,00%
	2-3 years	173	43,25%
	>3 years	83	20,75%
Domicile	East Jakarta	94	23,50%
	West Jakarta	97	24,25%

	North Jakarta	78	19,50%
	Central Jakarta	61	15,25%
	South Jakarta	70	17,50%

Based on Table 2, based on gender as much as 50.5% of male respondents, 49.5% are female. From the age group the majority of respondents were at the peak of the productive age of 20-30 years by 55%, 21.25% of respondents were aged <19 years, and as many as 23.75% of respondents aged 31-40 years.

Then from work it was seen that the majority of respondents worked as employees companies as much as 52.75% of respondents, then 31.5% of respondents work as students, then as many as 9.5% of respondents are self-employed and the remaining 6.25% of respondents answer the others.

From the length of time using e-commerce it can be seen that as many as 43.25% of respondents have used e-commerce for 2-3 years, then 29% of respondents use it for 1-2 years, then as much as 20.75% of respondents have used it more than 3 year and the remaining 7% of respondents use it for under 1 year.

From the domicile, it can be seen that the majority of respondents are domiciled in West Jakarta with 24.25% of respondents, then 23.5% of respondents from East Jakarta, then 19.5% of respondents are from North Jakarta and as much as 15.25% and 17.5 % came from successively in Central Jakarta and South Jakarta.

4.2 Validity test

Following as shown in Table 3 are the questions and statements that were submitted to respondents:

Table 3: Questionnaire

Variable	Question / Statement
Website design (X1)	1. Is the e-commerce display design attractive? 2. Are you happy to easily get the information you are looking for? 3. Do the e-commerce features and functions meet your expectations? 4. Does the information answer your needs and wants? 5. Do you find it easy to navigate in e-commerce?
Website security (X2)	1. I feel that my personal information is safe 2. I feel my privacy is protected when using e-commerce 3. When making transactions I feel confident and secure 4. The use of authorization convinces me of e-commerce security

Information quality (X3)	1. Does the existing content provide enough information needed? 2. Is the content useful for customers? 3. Information available in e-commerce is accurate 4. E-commerce provides up to date information 5. E-commerce provides a clear report of the transactions I make
Perceived ease of use (X4)	1. Is this website easy to use? 2. Is this website easy to learn? 3. Is this website easy to use to find the product you want? 4. No need special skills to use e-commerce
Customer satisfaction (Y1)	1. The e-commerce that I use is quite efficient 2. I feel my choice of choosing the right service 3. My shopping experience exceeded expectations 4. E-commerce has the desired characteristics 5. I will recommend this e-commerce service and share my good experiences 6. I am satisfied with the service provided 7. The e-commerce that I use is quite effective.
Online Purchase Intention (Y2)	1. I will probably shop online in this e-commerce in the next 1 month. 2. I will buy a product in this e-commerce site. 3. E-commerce provides a sustainable atmosphere that makes me want to buy products / services 4. I shop online because I want to buy the product 5. I am confident enough and will continue to use e-commerce 6. I feel compelled enough to use e-commerce repeatedly to buy products / services 7. I like the idea of buying products / services online

The validity analysis method in this study uses component or variance based structural equation modeling where in processing data it uses a partial least square (smart-pls) program. PLS (Partial Least Square) is an alternative model of SEM-based covariance [18] the goal pls is to find the optimal predictive linear relationship in the data.

The rule of thumb that is used to assess the convergent validity is that the loading factor value must be more than 0.5 for confirmatory research or the indicator can be said to be good and the loading factor value between 0.5-0.7 for explanatory research can still be accepted (considered

sufficient) and the average variance extracted (AVE) value must be greater than 0.5. The results of the correlation output between indicators and their constructs can be seen in Figure 2 below:

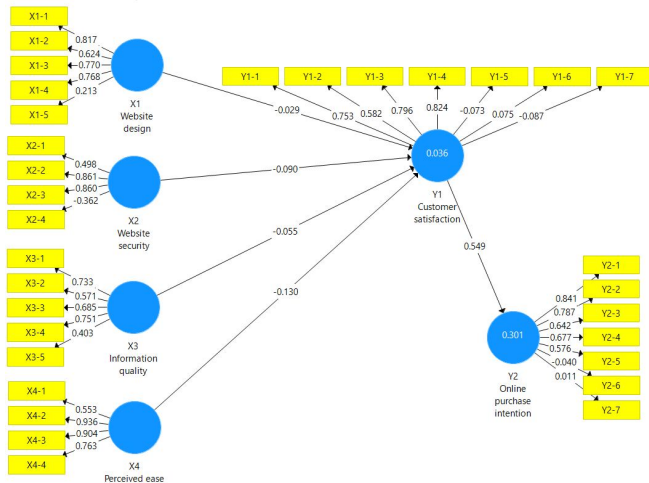


Figure 2: Convergent Validity Test

Figure 2 is a structural model of data processing using SmartPLS 3.0. It can be seen in the picture where there is an outer model value or correlation between constructs with variables that do not meet the convergent validity, and there are indicators that have a loading factor value of less than 0.50.

Table 4: Convergent Validity Test

Variable	Indicator	Outer Loading	Remarks
Website Design (X1)	WD1	0,817	Valid
	WD2	0,624	Valid
Website Design (X1)	WD3	0,770	Valid
	WD4	0,768	Valid
	WD5	0,213	Invalid
Website Security (X2)	WS2	0,498	Invalid
	WS3	0,861	Valid
Website Security (X2)	WS4	-0,362	Invalid
	WS5	0,860	Valid
Information Quality (X3)	IQ1	0,733	Valid
	IQ2	0,571	Valid
	IQ3	0,685	Valid
	IQ4	0,751	Valid
	IQ5	0,403	Invalid
Perceived Ease of Use (X4)	PEOU1	0,553	Valid
	PEOU2	0,936	Valid
	PEOU3	0,904	Valid
	PEOU4	0,763	Valid
Customer Satisfaction (Y1)	CS5	-0,073	Invalid
	CS6	0,075	Invalid
	CS7	-0,087	Invalid
Online Purchase Intention (Y2)	OPI6	-0,040	Invalid
	OPI7	0,011	Invalid

Based on Figure 2 and Table 4 it can be seen that there are invalid statements namely statements WD5, WS1, WS4, IQ5, CS5, CS6, CS7, OPI6, OPI7 with loading factor values below 0.5. Based on these results, it is necessary to rebuild with the elimination of several other indicators so that the AVE (Average Variance Extracted) and Discriminant Validity (Fornell-Larcker Criterion) values are obtained.

Based on the description above, statements/questions from invalid variables will be dropped from the model. Other deleted indicators are WD2, WD5, WS1, WS4, IQ5, CS5, CS6, CS7, OPI6, OPI7.

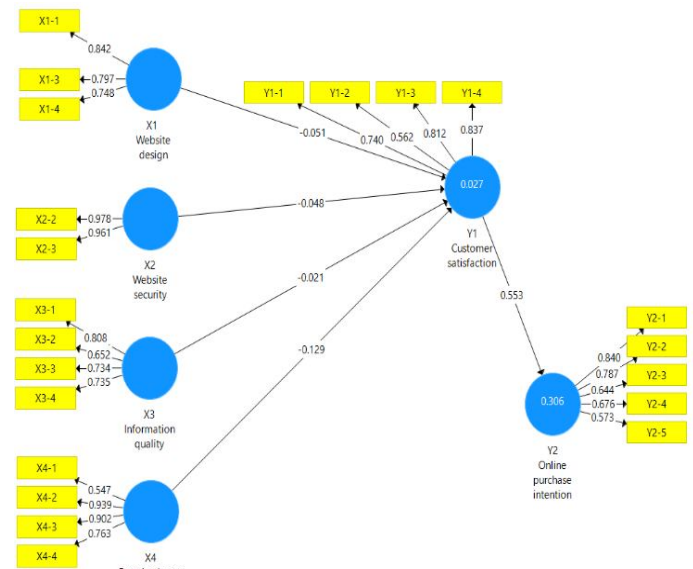


Figure 3: PLS Algorithm Results (Modified)

Table 5: Modified Convergent Validity Test

Variable	Indicator	Outer Loading	Remarks
Website Design (X1)	WD1	0,842	Valid
	WD3	0,797	Valid
	WD4	0,748	Valid
Website Security (X2)	WS2	0,978	Valid
	WS3	0,961	Valid
Information Quality (X3)	IQ1	0,808	Valid
	IQ2	0,652	Valid
	IQ3	0,734	Valid
	IQ4	0,735	Valid
Perceived Ease of Use (X4)	PEOU1	0,547	Valid
	PEOU2	0,939	Valid
	PEOU3	0,902	Valid
	PEOU4	0,763	Valid
Customer Satisfaction (Y1)	CS1	0,74	Valid
	CS2	0,562	Valid
	CS3	0,812	Valid
	CS4	0,837	Valid
Online Purchase Intention (Y2)	OPI1	0,84	Valid
	OPI2	0,787	Valid
	OPI3	0,644	Valid
	OPI4	0,676	Valid
	OPI5	0,573	Valid

Based on Figure 3 and Table 5, it can be seen that all statements have fulfilled the outer loadings criteria of > 0.5 and have fulfilled the AVE value which is > 0.5 and

Discriminant Validity (Fornell-Lacker Criterion) that meets the requirements. From the convergent validity test results and after removal of several indicators, the following is a table of AVE values (Average Variance Extracted) which can be seen in Table 5. In the partial least square test, the standardization for the Average Variances Extracted assessment is 0.5, so that, each latent variable which has a value of Average Variance Extracted > 0.5 means it has been able to meet the requirements of Average Variance Extracted.

Table 6: Average Variance Extracted (Cross Loading) Test

Variable	AVE (Average Variance Extracted)
Website Design (X1)	0,635
Website Security (X2)	0,941
Information Quality (X3)	0,539
Perceived Ease of Use (X4)	0,645
Customer Satisfaction (Y1)	0,556
Online Purchase Intention (Y2)	0,505

The results of the convergent validity construct test in Table 6 above can be seen that each construct has fulfilled the criteria with AVE (Average Variance Extracted) values above 0.50. Discriminant Validity Test, reflexive indicators can be seen in cross-loading between indicators and their constructs. An indicator is declared valid if it has the highest loading factor to the intended construct compared to loading factor to other constructs.

4.3 Reliability Test

Cronbach’s Alpha is used to determine the reliability of each variable studied by researchers. In partial least square testing, the standardization for Cronbach's Alpha assessment is 0.6, so that each latent variable that has a Cronbach’s Alpha value > 0.6 means that it has been able to meet the requirements of Cronbach’s Alpha. Based on the results of Cronbach's Alpha in table 7, obtained the value of all variables > 0.6, so it can be concluded that the six variables of this study are reliable.

Table 7: Cronbach’s Alpha Test Results

Variable	Cronbach's Alpha	Remarks
Website Design (X1)	0,718	Reliable
Website Security (X2)	0,938	Reliable
Information Quality (X3)	0,741	Reliable
Perceived Ease of Use (X4)	0,810	Reliable
Customer Satisfaction (Y1)	0,732	Reliable
Online Purchase Intention (Y2)	0,761	Reliable

The following are conclusions from the results of the Validity and Reliability Test in the partial least square test in this study:

Table 8: Conclusion of Validity and Reliability Test Results (Outer Model)

Testing	Decision
Convergent Validity	Qualify
Average Variances Extracted	Qualify
Cronbach’s Alpha	Qualify

From Table 8, it can be concluded that the test results from Convergent Validity have fulfilled the requirements, tests of Average Variances Extracted have met the requirements, tests of Discriminant Validity have fulfilled the requirements, tests from Cronbach’s Alpha have fulfilled the requirements and Composite Reliability tests have fulfilled the requirements.

4.4 Hypothesis testing

Testing the inner model is the development of concept-based models and theories in order to analyze the relationship between exogenous and endogenous variables have been described as conceptual framework. Inner model analysis is carried out with the aim of ensuring that structural models are carried out that are built robust and accurate. Testing of structural models is done by looking at the R-Square value which is a goodness-fit test of the model.

R-Square (R²) is a goodness-fit test model for endogenous latent variables of 0.67, 0.33, and 0.19 in the structural model indicating that the model is "good", "moderate" and "weak" [19] . Looking at the value of R-Square (R²) which is a goodness-fit test of the model, in assessing the model with PLS starting with R-Square (R²) for each dependent latent variable. The coefficient of determination R-Square (R²) shows how much the independent variable explains the dependent variable. The value of R-Square (R²) is zero up to one. If the value of R-Square (R²) is getting closer to one, then the independent variables provide all the information needed to predict variations in the dependent variable.

Conversely, the smaller the value of R-Square (R²), the ability of independent variables in explaining dependent variations is increasingly limited. The value of R-Square (R²) has a weakness that is the value of R-Square (R²) will increase every time there is the addition of one independent variable even though the independent variable has no significant effect on the dependent variable.

Table 9: R Square Test Results

	R Square	R Square Adjusted
Online Purchase Intention (Y2)	0,306	0,304

Based on Table 9 it can be seen that the value of R-Square (R²) variable Job Satisfaction is 0.306 which means that the variables Website Design, Website Security, Information Quality, Perceived Ease of Use, and Customer Satisfaction affect Online Purchase Intention by 31% while 69% are influenced by other variables not examined in this study.

Goodness of Fit Model (GoF) illustrates the overall suitability of the model calculated from the squared residuals of the predicted model compared to the actual data that was presented by [20]. This GoF index is a single measure used to validate the combined performance of the measurement model (outer model) and structural model (inner model). Goodness of Fit Model (GoF) index values obtained from average communalities are multiplied by the model R² value [21]. GoF values range from 0-1 to 0.1 = small, 0.25 = moderate, 0.36 = large. The Goodness of Fit (GoF) equation is as follows:

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

Based on the results of the calculation of Goodness of Fit (GoF) by entering into (2) the results can be seen 0.3 and included in moderate GoF. Therefore, it can be concluded that the performance between the measurement model and structural model has a GoF of 0.3 or above 0.25. This hypothesis testing phase is carried out after the structural model evaluation phase is carried out. This stage is carried out to determine whether the research hypotheses submitted on the research model are accepted or rejected. To test the hypothesis proposed, it can be seen from the T value of Statistics.

Table 10: Hypothesis Test Results

	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
WD (X1) -> CS (Y1)	-0,044	0,074	0,681	0,496
WS (X2) -> CS (Y1)	-0,050	0,051	0,929	0,354
IQ (X3) -> CS (Y1)	0,049	0,084	0,247	0,805
PEOU (X4) -> CS (Y1)	0,148	0,046	2,807	0,005
CS (Y1) -> OPI (Y2)	0,560	0,025	22,152	0,000

4.5 Hypothesis Test Results

Based on Table 10 the relationship between Website Design and Customer Satisfaction is not influential because it has a t-statistic value <1.96, which is 0.681 and has a P value of 0.496, which means > 0.05, which means it is not significant.

From the above explanation it can be concluded that website design has no effect on customer satisfaction, so the H1 hypothesis is rejected.

Then the relationship between Website Security and Customer Satisfaction is no effect because it has a t-statistic value <1.96, amounted to 0.929 and has a test value of P> 0.05 which is 0.354 which means it is not significant. From the above explanation it is concluded that Website security has no effect on Customer satisfaction, so the H2 hypothesis is rejected.

Furthermore, the relationship between Information Quality and Customer Satisfaction is no effect because it has a t-statistic value <1.96, which is 0.247 and has a P test value of 0.805, which means > 0.05, which means it is not significant. From the explanation above explains that website security has no effect on customer satisfaction, so the H3 hypothesis is rejected.

Furthermore, the relationship between Perceived Ease of Use and Customer Satisfaction is influential because it has a t-statistic value > 1.96 which is 2.807 and has a P value of 0.005, which means <0.05, which means significant. From the explanation above it can be concluded that Perceived Ease of Use has a significant effect on customer satisfaction, so the H4 hypothesis is accepted.

Furthermore, the relationship between Customer Satisfaction and Online Purchase Intention is influential because it has a t-statistic value > 1.96 which is 22,152 and has a P value of 0,000, which means <0.05, which means significant. From the above explanation it can be concluded that Customer satisfaction has a significant effect on Online Purchase Intention so that the H5 hypothesis is accepted.

5. CONCLUSION

5.1 Hypothesis Conclusions

Table 11: Conclusion Table

	Hypothesis	Conclusion
H1	WD (X1) -> CS (Y1)	Rejected
H2	WS (X2) -> CS (Y1)	Rejected
H3	IQ (X3) -> CS (Y1)	Rejected
H4	PEOU (X4) -> CS (Y1)	Accepted
H5	CS (Y1) -> OPI (Y2)	Accepted

As seen in Table 11 the perceived ease of use variable has a significant influence on customer satisfaction. In addition, customer satisfaction has a significant effect on online purchase intention. Therefore, e-commerce can use this information to provide insight into what strategies they will implement to keep their markets good. Conversely, website design, website security and information quality do not show a significant effect on customer satisfaction. Thus, e-commerce customers in Jakarta do not really feel that website design, website security and information quality affect general satisfaction.

5.2 Future Studies

Based on the conclusions above, several suggestions are taken into consideration for Tokopedia, Bukalapak and Shopee in particular and e-commerce in general:

1. This study has several limitations such as the possibility that the respondent did not answer the question in earnest.
2. The need for additional independent variables to see the possibility of additional variables that affect customer satisfaction.
3. Respondents who are only productive age and not yet known how the response of e-commerce users who are over 45 years old.

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