

## What affects customer satisfaction evidences Indonesia online customer

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### Abstract

This research aims to analyze the impact of digital marketing and product quality on customer satisfaction and purchasing decisions among consumers using the Shopee app. The sample consists of 383 Shopee customers from across Indonesia, selected through purposive sampling, targeting those who meet the criteria of being Shopee users. Data collection was conducted via questionnaires distributed to the designated respondents. The analysis model used is Structural Equation Modeling (SEM). The variables in this study include exogenous variables (digital marketing and product quality), a mediating variable (customer satisfaction), and an endogenous variable (purchasing decision).

The results indicate that digital marketing and product quality have a significant impact on customer satisfaction, which in turn significantly affects purchasing decisions. This is demonstrated by C.R. values  $\geq 1.96$  and  $P \leq 0.05$  for each relationship between the variables, indicating significant effects. In conclusion, effective digital marketing and high product quality are crucial factors in enhancing customer satisfaction, which subsequently drives repeat purchase decisions on the Shopee e-commerce platform.

### Keywords:

Customer Satisfaction; Digital Marketing; E-commerce applications; Product Quality; Purchasing Decisions;

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## INTRODUCTION

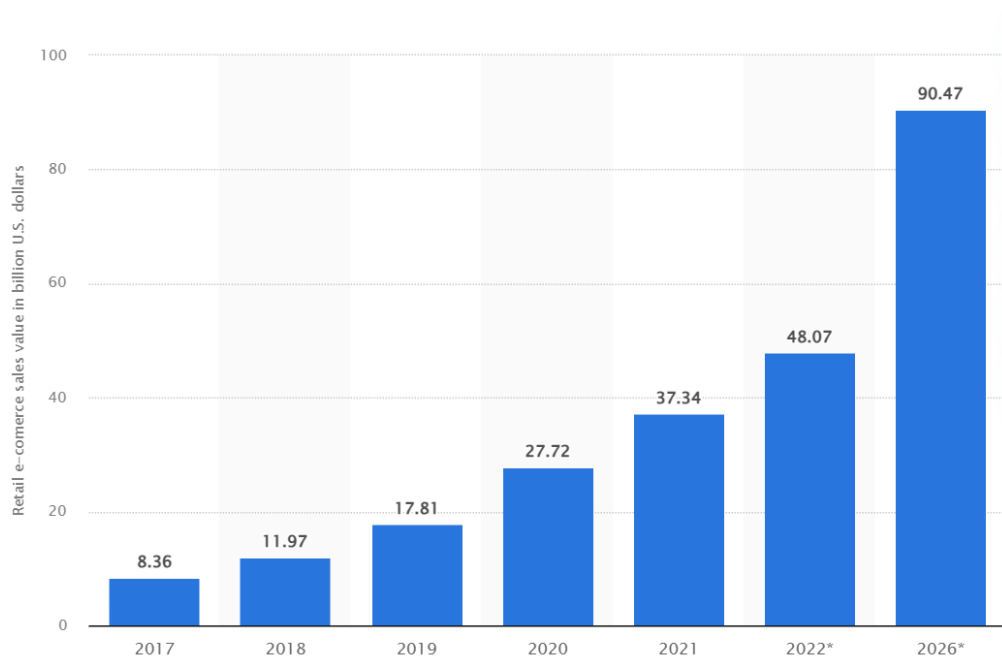
The rapid development of information and telecommunications technology in the area of globalization makes the internet no longer a luxury for the people around the world. There is hardly anyone who is not familiar with the internet. The use of the internet has now been optimized in almost all life activities, including the economic sector which includes the marketing of goods and services.

E-commerce is a buying and selling transaction activity by utilizing the internet media computer network that involves various groups, namely consumers, manufacturers, services, and other trade intermediaries. The use of the internet shows something that is considered important to determine one of several choices or preferences in purchasing goods so that someone needs a decision in this case (Y. Wang & Hao, 2018). A person must be able to choose two or more options so that they can form a consumer attitude to process all information and draw conclusions in the form of responses that appear when a product is purchased through the application (Z. Wang et al., 2024).

There are a lots of e-commerce application such as Tokopedia, Shopee, Blibli, Lazada, and Bukalapak are widely used by small and large entrepreneurs who sell their products. In 2022, the sales value of the retail e-commerce in Indonesia amounted to approximately 48.07 billion U.S. dollars and in 2026 it targets 90.47 billion, as shown in the following figure :

**Figure 1.**

*Indonesia Retail Sales e-Commerce Sales 2017-2026 (Targeting)*

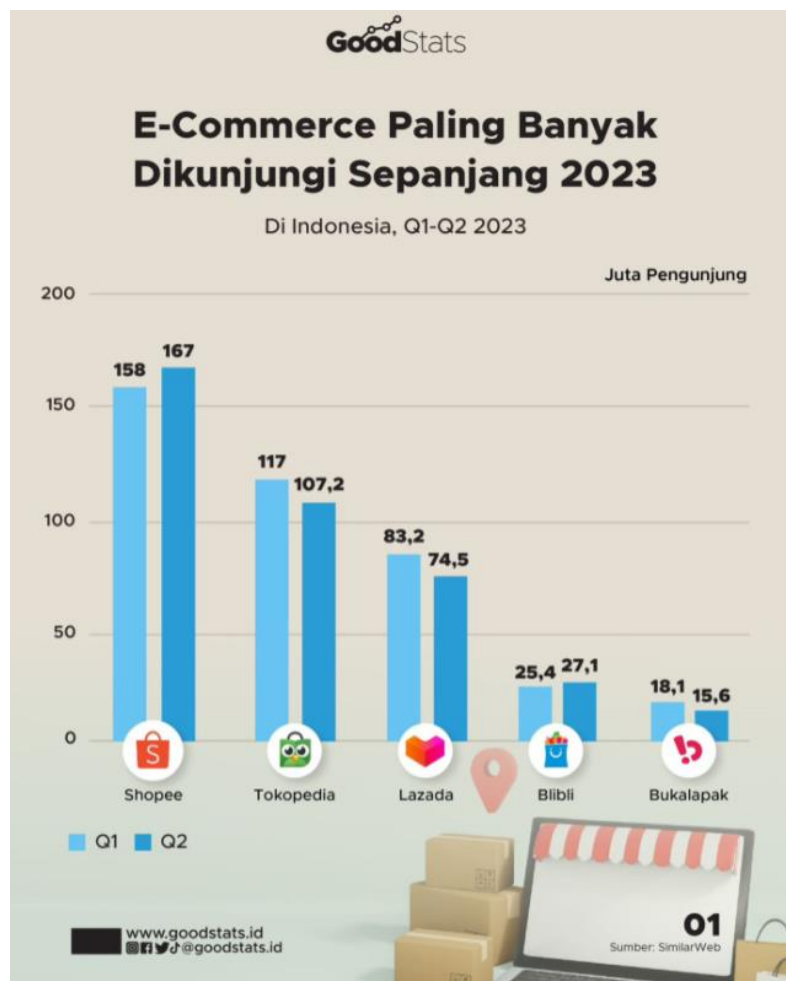


Source: <https://www.statista.com/statistics> (2022)

In this modern era, everyone wants to get something practical and fast. Therefore, online shopping through e-commerce has become very popular all over the world, including in Indonesia. There are many benefits that consumers get from shopping on e-commerce applications. There are various interesting features in e-commerce applications so that consumers are interested in making purchases and also efficient shipping services so that they don't take long, easy and practical. One of the most popular e-commerce in Indonesia is Shopee.

According to a survey by the Indonesian Internet Service Providers Association (APJII), Shopee is the online store with the most domestic customers in early 2023. Shopee has succeeded in attracting the interest of the Indonesian people, because of the many conveniences felt by the consumers when shopping at Shopee, there are many advantages such as being able to buy daily necessities easily, quickly and safely so that they can save time. Another advantage as a consumer is being able to obtain more information about a product they want to buy, making it possible to obtain the best quality product (Sudha & Sheena, 2017).

**Figure 2.**  
*Indonesian People Preferred E-Commerce Platform (2023)*



Source: <https://goodstats.id>

Until mid-2023, the Shopee shopping application still maintains its dominance in the Indonesian e-commerce market. Collecting SameWeb data, Shopee was visited by 158 million visitors in Q1 2023 and 167 million visitors in Q2 2023. However, is Shopee e-commerce the right media to decide on purchases and how much influence does it have on consumer satisfaction amidst tight business competition? Therefore, this study is important to find out the best e-commerce and the reasons behind it.

One of the media used to market products on the e-commerce platform is digital marketing. One way to communicate according to Tarigan et al, (2023) with the public as potential consumers without having to meet in person is digital marketing. Effective communication will strengthen good relationships with consumers. Marketing management strategies with optimal digital marketing are very important in business so that company goals can be achieved (Masruroh, 2023).

This will indirectly be a satisfaction for consumers because consumers feel the attention. When consumers are satisfied, consumers will provide positive verification and then recommend it to others (Jang et al., 2018).

Consumers will feel satisfied when buying a product by looking at the physical form and benefits of the quality of the product. Product quality is a factor that will determine whether consumers will feel satisfied after the purchase occurs. Consumers will usually compare the quality of the product that has been consumed or used with consumer expectations (Dailey & Ülku, 2018). Previous research has been conducted on the effect of price and product quality on purchasing decisions (Muliasari, 2020). According to (Pranasakya Ananda Gilang Umbara & Rinawati, 2023), social media and mobile marketing influence consumer purchasing decisions. Then according to the results of the study (Chaerudin & Syafarudin, 2021), product quality has a positive and significant effect on purchasing decisions, and service quality has a positive and significant effect on consumer satisfaction. Furthermore, (Alwan & Alshurideh, 2022) examined the effect of digital marketing on purchase intentions: the moderating effect of brand equity, social media marketing results greatly influence purchasing decisions.

Based on this description, this study aims to analyze and explain the results of :

1. Digital marketing on customer satisfaction;
2. Product quality on customer satisfaction;
3. Digital marketing on purchasing decisions through customer satisfaction;
4. Product quality on purchasing decisions through customer satisfaction;
5. Customer satisfaction on purchasing decisions.

## **LITERATURE REVIEW**

### **Purchasing decision**

Purchasing decisions are a process in which consumers recognize their problems, then seek information related to a product or brand. Therefore, consumers can determine whether to buy the product or brand or not.

According to (Indrasari, 2019) product choice, brand choice, distributor choice, purchase time, and purchase amount are indicators of purchasing decisions. Purchasing decisions are part of consumer behavior, namely how individuals, groups, and organizations choose, buy, use, and how goods, services, ideas, or experiences satisfy their needs and wants (Kotler & Armstrong 2016).

### **The Customer satisfaction**

Customer satisfaction is very important to get the company's marketing strategy. Customer satisfaction refers to the feeling of satisfaction when the performance of using a product is in accordance with or higher than what consumers expect, and vice versa. Consumer satisfaction from a product, both goods and services, can be influenced by several factors, including human resources or employees, service comfort, and the ongoing service process provided by service providers to consumers (Felix, 2017).

According to (Hamdat, 2020), customer satisfaction is the level of impression of a person comparing what he feels according to his goals. Consumers can feel one of three levels of general satisfaction (Surahman et al., 2020). There are three indicators of customer satisfaction according to (Indrasari, 2019), namely conformity to expectations, interest in returning, and willingness to recommend.

### **The Correlation Digital Marketing to Customer satisfaction**

Digital marketing is one way to market and promote a company's products or services by utilizing online media. (Leonhardt, 2015) in the digital era like today, digital marketing through online buying and selling applications and social media is rampant, consumers can easily find out information or directly buy the desired product. Social media can attract consumers with a good and attractive appearance so that consumers feel happy to visit it (Lazuardi et al., 2020)

The results of research conducted by Fadhli and Pratiwi (2021); Loh et al., 2024 showed that digital marketing has a significant effect on consumer satisfaction. (Bachri et al., 2023) a consumer usually feels satisfied because of the online experience and digital transactions they have made. Therefore digital marketing influences consumer satisfaction.

Hypothesis 1: digital marketing has a significant effect on customer satisfaction.

### **The Correlation between Product Quality with Customer Satisfaction**

Product quality affects customer satisfaction. This means that a product offered has good quality, so it will attract the attention of consumers so that consumers feel satisfied with the product. Product quality is a group of features and characteristics of goods to be sold and have met basic requirements, and can be controlled by the manufacturer to meet consumer expectations (Tzeng & Ertz, 2020).

Product and service quality as an undeniable important factor in competitive success. Consumers will be satisfied if their assessment of the use of the product is at a high level of quality. The results of research by Saputra et al., (2024), Linardi (2019) found that product quality has a significant effect on customer satisfaction.

Hypothesis 2 : product quality has a significant effect on customer satisfaction

### **The Correlation Digital Marketing with Purchasing Decision Through Customer Satisfaction**

Digital marketing strategies provide a variety of benefits, including campaigns created in a digital environment (Alhelali, 2023). Digital marketing is a form of marketing that uses digital channels to reach consumers in relevant, personalized, and cost-effective ways. Digital marketing can be represented through marketing content, ease of access, information sources and social media (Dahiya, 2017). This can be interpreted, if a company's content marketing is very interesting, it can reach the intended community and encourage them to become consumers, and ultimately can improve purchasing decisions and have an impact on customer satisfaction.

The results of Digdowiseiso & Sari (2022) research found that through purchasing decisions, service quality has a positive and significant impact on customer satisfaction.

Hypothesis 3 : Digital Marketing Significantly Influences Purchasing Decisions Through Customer Satisfaction.

### **The Correlation between Product Quality and Purchase Decision Through Customer Satisfaction**

Product quality is a product or service that have met consumer expectations, thus forming consumer satisfaction because it has a good assessment. Consumer purchasing decisions are based on their experience in studying and choosing to buy the product. Meanwhile, customer satisfaction

is the stage where consumers can make a decision to buy a product. This is in accordance with research by Rezal et al., (2022). Good quality will create customer satisfaction which will ultimately make consumers loyal to the product (Wijetunge, 2016). The results of research by Pardede & Haryadi (2017) and Cesariana et al., (2022) found that product quality has a significant effect on purchasing decisions mediated by customer satisfaction.

Hypothesis 4 : Product Quality Significantly Influences Purchasing Decisions Through Customer Satisfaction.

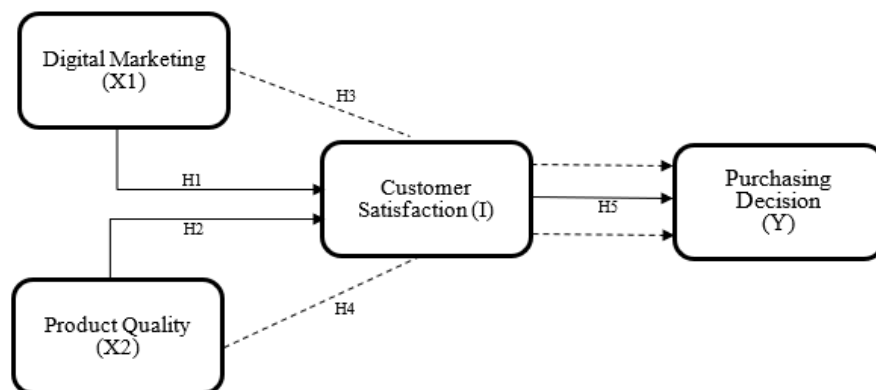
### The Correlation between Customer satisfaction and Purchasing Decision

Customer satisfaction is very important to build consumer loyalty. Companies benefit greatly from high levels of customer satisfaction, including increased customer loyalty, lower prices, lower marketing, failure costs, and increased corporate brand (Kotler et al., 2019). The results of research by (Oktaviani & Hernawan, 2022; Simanjuntak et al., 2020) found that customer satisfaction has a significant effect on purchasing decisions.

Hypothesis 5: Customer satisfaction has a significant effect on purchasing decisions

The following is an image of the conceptual framework for this research :

**Figure 3.**  
*Conceptual Framework*



Source: Authors Work, 2024

## RESEARCH METHOD

Descriptively, this research aims to obtain a systematic overview of exogenous variables (digital marketing and product quality), mediating variables (customer satisfaction), and endogenous variables (purchasing decisions). Verifiably, this research aims to test the hypothesis with statistical

What affects customer satisfaction evidences Indonesia online customer calculations. In this research, the population is users of the Shopee application to make purchases. Therefore, it is known that the population number in this study is not certain or not arrived at. Considering that the population size is not known with certainty, determining the number of samples to be used in this research uses the Lemeshow (1997) formula in (E. Sari & Mangoting, 2014). A total of 383 were chosen as samples because of considerations to anticipate the occurrence of outliers. The sampling technique for this research uses a nonprobability sampling technique with a purposive sampling technique. In this research sample, those used must meet the following criteria: have the Shopee application and have shopped using the Shopee application. Research Instruments:

**Table 1.**  
*Indicators variables*

Variable	Indicators
<b>Digital Marketing (X1)</b>	<ul style="list-style-type: none"> <li>• look for information</li> <li>• read other people's experiences and opinions</li> <li>• look up people's comment</li> </ul>
<b>Product Quality (X2)</b>	<ul style="list-style-type: none"> <li>• find and discover people's recommendations</li> <li>• reviewed before they are produced and marketed</li> <li>• coordinated manner in the product development process</li> <li>• product is emphasized, compared with other objectives, such as cost or schedule</li> <li>• product specifications and procedures for new products are clear</li> </ul>
<b>Customer satisfaction (I)</b>	<ul style="list-style-type: none"> <li>• Implementation and producibility are considered in the process</li> <li>• Service quality of e-commerce</li> <li>• expectations before use the e-commerce</li> <li>• advise other consumers to utilize of E-Commerce</li> <li>• The introduction of E-Commerce</li> <li>• E-commerce has done all that I expect to solve my complaint</li> <li>• The problem has been handled as well as it should have been</li> </ul>
<b>Purchasing Decision (Y)</b>	<ul style="list-style-type: none"> <li>• How the e-commerce handled my problem</li> <li>• Respond faster than competitor</li> <li>• React fast to changes in the competitive environment</li> <li>• Can move faster than competitor</li> <li>• Important decisions we make faster than our competitors</li> </ul>
	Purchasing is known as being very decisive

Source: Reviewed from several sources, 2024

This research scale technique uses a Likert scale. The data collection technique in this research is by distributing questionnaires to Shopee application users to make purchases. The questionnaire distributed uses a Likert scale with an answer scale applied according to what is measured in each question item. Meanwhile, the data analysis technique in this research will use the Structural Equation Modeling (SEM) analysis tool from the IBM



What affects customer satisfaction evidences Indonesia online customer SPSS AMOS 22 statistical software package in modeling and testing hypotheses. The reason for using SEM in this research is because it is able to test a series of relationships between relatively complex constructs simultaneously.

## FINDINGS AND DISCUSSION

### Findings

#### Respondent Description

Respondents in this study were 383 questionnaire users of the Shopee application. The characteristics of the respondents in this study are shown in the following table:

**Table 2.**  
*General Description of Respondents*

		Gender			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Men	49	12,8	12,8	12,8
	Woman	334	87,2	87,2	100,0
	Total	383	100,0	100,0	
		Age			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	17 - 25 y.o	197	51,4	51,4	51,4
	26 - 35 y.o	107	27,9	27,9	79,4
	36 - 45 y.o	71	18,5	18,5	97,9
	Up 46 y.o	8	2,1	2,1	100,0
	Total	383	100,0	100,0	
		Job			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	freelancer	38	9,9	9,9	9,9
	private sector employee	70	18,3	18,3	28,2
	Student	39	10,2	10,2	38,4
	government employees	63	16,4	16,4	54,8
	Staff	33	8,6	8,6	63,4
	businessman	140	36,6	36,6	100,0
	Total	383	100,0	100,0	

Source: Authors Work, 2024

Based on the table above, the characteristics of respondents can be obtained that there are 12.8% male respondents and 87.2% female respondents. The age with the largest percentage filling out the questionnaire was 17-25 years old at 51.4% and the majority of respondents' occupation was entrepreneurship at 36.6%.

### Validity and Reliability Test

In order for this research to be representative, it needs validity analysis. Validity test is a measure to show levels of validity of an instrument in a research. This research uses Confirmatory Factor Analysis (CFA) in AMOS. CFA is used to test the capabilities of the indicators (questionnaire question) which is used to inform a variable. a tool for measuring the extent to which the items in an instrument cover all aspects of the concept being measured. This validity is usually tested through the assessment of experts or experts in the related field (Hair et al, 2022). According to (Space, 2013) underscore the importance of content validity, construct validity, and external validity in ensuring reliable and generalizable results. An instrument is said to be valid if the individual factor loading must be above 0.5 for each item in the instrument (Hair et al, 2022). Based on the validity test using CFA AMOS 2 from 7 indicators on customer satisfaction variable can be concluded that it is not valid and need to be removed because customer satisfaction 4 and customer satisfaction 6 have value (factor loading  $< 0.50$ ). On the other hand, the rest of the indicators have value (factor loading  $> 0.5$ ), therefore the indicator are valid and can be used for the next test.

**Table 3.**  
*Variable and Reliability*

Variabel	CR	Cut of Values	AVE	Cut of Values	Keterangan
<b>Digital Marketing</b>	0,796	$\geq 0,7$	0,831	$\geq 0,5$	Valid & Reliable
<b>Product Quality</b>	0,789	$\geq 0,7$	0,910	$\geq 0,5$	Valid & Reliable
<b>Customer Satisfaction</b>	0,806	$\geq 0,7$	0,868	$\geq 0,5$	Valid & Reliable
<b>Purchasing Decision</b>	0,819	$\geq 0,7$	0,875	$\geq 0,5$	Valid & Reliable

Source: Authors Work, 2024

Table 3 shows that construct reliability value (CR) on each variable is greater than 0.7 and Average Variance Extracted (AVE) is greater than 0.50. It means, latent variable in this research is realible and can be tested using SEM.

### SEM Assumption Test



### Modeling Based on Theoretical

**Figure 4.**  
*Conceptual model*

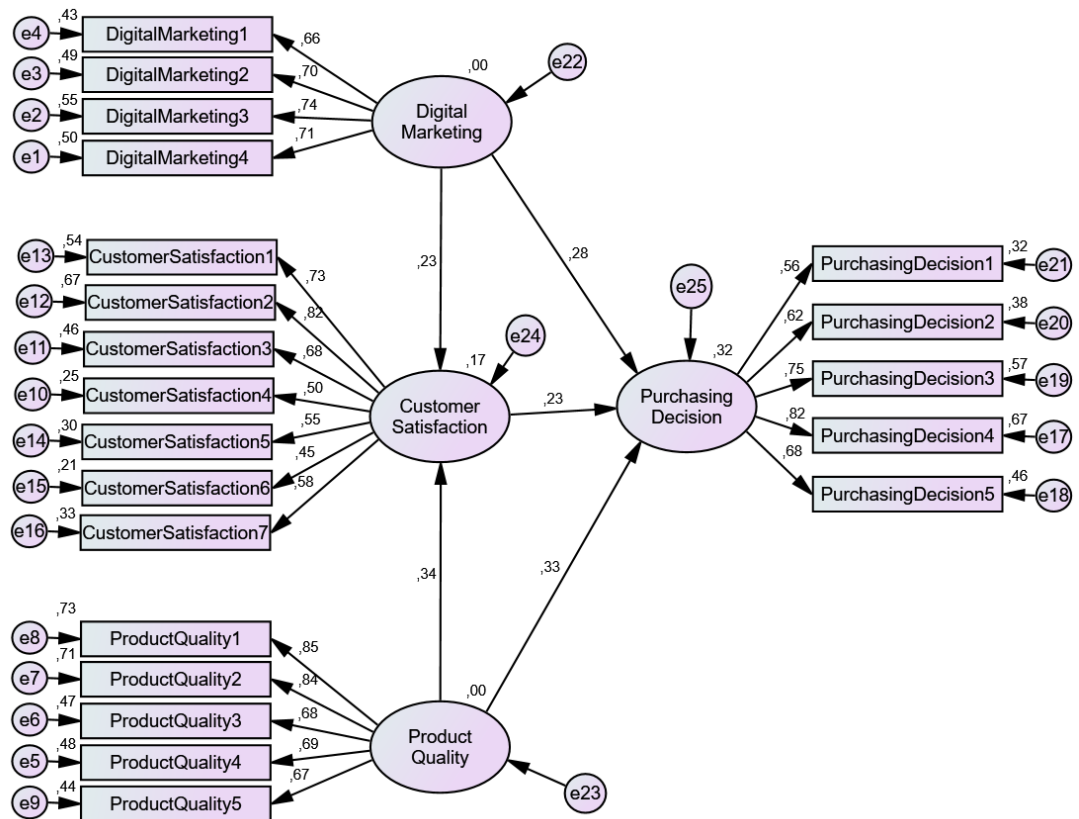
Source : Authors Work, 2024

On Figure 4, generally this model consist of 2 independent variables and 2 dependent variables. Independent variables are digital marketing and product quality. While dependent variables are customer satisfaction and purchasing decision.

### Development of Path Diagram

Theoretical model that has been made will be constructed into a path diagram, to make researcher see the causal relationships easily. Path diagram is a visual representative of a model which is an overview all the connection of each variables in it (Parandani & Budiman, 2014). The development of path diagram can be seen on this picture:

**Figure 5.**  
*Model SEM*



Source : Authors Work, 2024

### Sample Size

The number of data sample has meet the SEM asumption, which are 150 data and according to the recommendation, 100-200 data.

### Data Normality

Normality test is done by comparing the C.R value (critical ratio) on assessment of normality with the critical  $\pm 2.58$  on level 0.01. According to normality test that has been done, it shows normality test univariate the majority are normally distributed because the critical ratio value (C.R) for kurtosis or skewness, in range  $\pm 2.58$ . Based on the evaluation result, it can be known that multivariate model is normally distributed. Meanwhile, univariate there are several indicators that are not normally distributed. (Ngwabebhoh et al., 2020) said that even though there is data which can be categorized as abnormal, the data will still be included in the data process. For example, how big is the bias of the respondent opinions it is still a fact that needs to be considered as a findings. Normality Test can be seen on appendix 1.

### **Outliers**

In outlier analysis, multivariate can be tested with chi-square statistic against the mahalanobis distance square value on significance level  $p < 0.001$  with 19 indicators degree of freedom. Mahalanobis distance value  $(19; 0.01) = 43.82$ . This means all the case which mahalanobis distance bigger than 43.820 is multivariate outliers. Based on the outlier test that has been done, there is one observation number value that has mahalanobis distance square value bigger than 43.82 so it is certain that the observation number consist an outlier. Basically, every observation number that consist outlier in a research needs to be removed. The reaseon is that it will affect the result of univariate normality or multivariate normality that are not fulfilled.

### **Identifying the Structural Model**

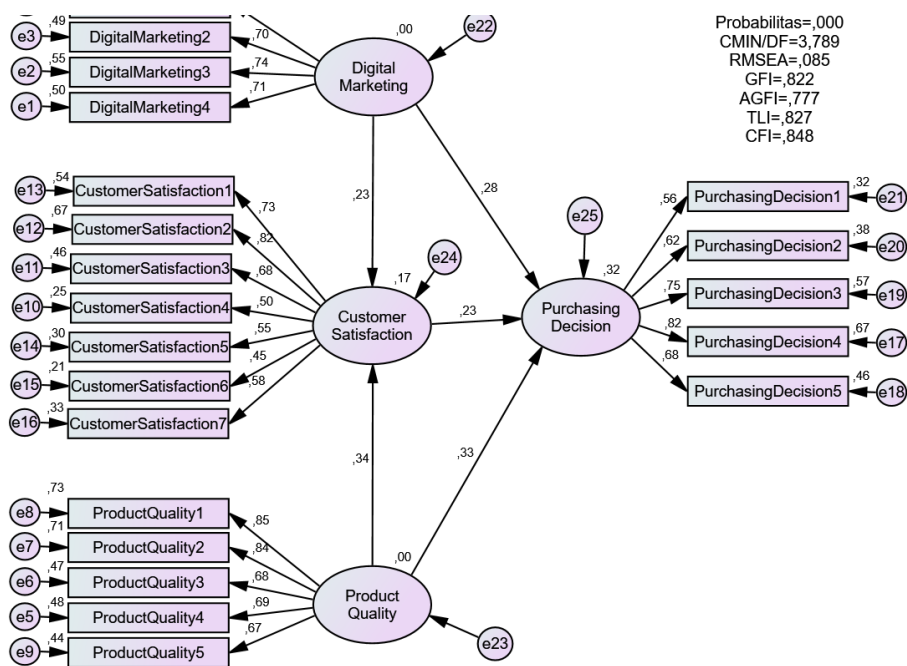
The one way to see if there is an identification problem is to see the estimated result. SEM Analysis can only be done if the indentification model result shows that the model can be categorized as over-identified. Identification is done by viewing the df value from the model made (Nurkhin, 2017). The result shows that df value from the model is 184. This thing indicates that the model is categorized as over identified because the df value is positive. Therefore, data analysis can proceed to the next step. Structural model can be seen on appendix 2.

### **Assessing The Goodness Of Fit**

Assessing the goodness of fit is the main goal in SEM, it is to know how far the hypothesis model is "Fit" or suitable with the data sample. The result of goodness of fit is show on appendix 3.

Based on appendix 3, it can be known that several model eligibility criterias are not fit. Referring to the principle of parsimony, if there are one or two criterias fulfilled, then the model as a whole is a good model. Thus the result of goodnes of fit in the structural equation model in this research is fulfilled and will proceed to the next step . Hyphothesis test can be seen on appendix 4.

**Figure 6.**  
*Model SEM*



Source : Authors Work, 2024

The partial test is done by looking at the C.R value and the p-value on each independent variable (exogenous latent) to the dependent variable (endogenous latent) Based on appendix 4, the partial test can be explained below:

1. Digital marketing (DM) partially has significant influence on Customer Satisfaction (CS). It can be seen in the C.R value of 3.243 bigger than 1.96 dan the p-value of  $0.001 \leq 0.05$ , so  $H_0$  is rejected and  $H_1$  is accepted. Therefore, Hypothesis 1 in this research is accepted.
2. Product Quality (PQ) partially has significant influence on Customer Satisfaction (CS). It can be seen in the C.R value of 4.264 bigger than 1.96 and the p-value of  $0.000 \leq 0.05$ , so  $H_0$  is rejected and  $H_1$  is accepted. Therefore, Hypothesis 2 in this research is accepted.
3. Digital marketing (DM) partially has significant influence on Purchasing Decision (PD). It can be seen in the C.R value of 4.421 bigger than 1.96 and p-value of  $0.000 \leq 0.05$ , so  $H_0$  is rejected and  $H_1$  is accepted. Therefore, Hypothesis 3 in this research is accepted.
4. Product Quality (PQ) partially has significant influence on Purchasing Decision (PD). It can be seen in the C.R value of 5.204 bigger than 1.96 and p-value of  $0.000 \leq 0.05$  so  $H_0$  is rejected and

What affects customer satisfaction evidences Indonesia online customer  
H1 is accepted. Therefore, Hypothesis 4 in this research is  
accepted.

5. Customer Satisfaction (CS) partially has significant influence on Purchasing Decision (PD). It can be seen in the C.R value of 3.571 bigger than 1.96 and p-value of  $0.000 \leq 0.05$ , so H0 is rejected and H1 is accepted. Therefore, Hypothesis 5 in this research is accepted.

## Discussion

Partial influence between digital marketing, quality product, and customer satisfaction to purchasing decision by the customer on Shopee.

1. Digital marketing (DM) partial influence on Customer Satisfaction (CS) shows the CR value of 3.243 with the probability of 0.001. Since the probability value  $< 0.05$  it means that Digital marketing (DM) directly influence Customer Satisfaction (CS). It is supported with the research done by Bakri (2020) and Windarsari et al., (2022) which found that digital marketing has a significant effect on customer satisfaction.
2. Product Quality (PQ) partial influence on Customer Satisfaction (CS) shows the CR value of 4.264 with the probability of 0.000. Since the probability value  $< 0.05$  it means that Product Quality (PQ) directly influence Customer Satisfaction (CS). It is supported with the research done by Ibrahim & Thawil (2019) and Chaerudin & Syafarudin (2021), which found that product quality significantly influence customer satisfaction.
3. Digital marketing (DM) partial influence on Purchasing Decision (PD) shows the CR value of 4.421 with the probability of 0.000. Since the probability value  $< 0.05$  it means that Digital marketing (DM) directly influence Purchasing Decision (PD). It is supported with the research done by Hendrawan & Suarjana (2019) which found that viral marketing has positive and significant influence on customer satisfaction and viral marketing has positive and significant influence on purchasing decision.
4. Product Quality (PQ) partial influence on Purchasing Decision (PD) shows the CR value of 5.204 with the probability of 0.000. Since the probability value  $< 0.05$  it means that Product Quality (PQ) directly influence Purchasing Decision (PD). It is supported with the research done by Pardede & Haryadi (2017) and Cesariana et al., (2022), which found that product quality significantly influence purchasing decision and mediated by customer satisfaction.
5. Customer Satisfaction (CS) partial influence on Purchasing Decision (PD) shows the CR value of CR sebesar 3.571 with the probability of 0.000. Since the probability value  $< 0.05$  it means that Product Quality (PQ) directly influence Purchasing Decision

What affects customer satisfaction evidences Indonesia online customer (PD). It is supported with the research done by Chi (2018) and Djan & Adawiyyah (2020), which found that customer satisfaction significantly influence purchasing decision..

## CONCLUSIONS

This research gives empiric proves about the factors affecting the customer satisfaction and purchasing decision in Shopee e-commerce platforms. Based on the analysis result, it is found that digital marketing, product quality, and customer satisfaction have an important role in influencing purchasing decision. In more detail, all findings are:

1. Digital Marketing Influence on Customer Satisfaction  
Digital marketing is proven significantly increase customer satisfaction. Digital marketing strategy which include online promotion, advertisement on social media, also interactive experience which Shopee offered play an important role in attracting customer interest and creating a satisfying experience. Consumer who feels connected with the digital marketing tend to have a positive perception on the serviec given, so it will increase the satisfaction.
2. Product Quality influence on Customer Satisfaction  
Product quality has a stronger influence compared to digital marketing on increasing customer satisfaction. Shopee customers tend to be satisfied when they received a product as compatible as their expectation, in term of quality, durability, and functionality. This proves that the product quality is the main factor which lead to loyalty and customer satisfaction in online market, where product visualization might not reflect the real quality.
3. Digital marketing influence on Purchasing Decision  
Other than influencing customer satisfaction, digital marketing also significantly influence purchasing decision. Marketing with creativity and effectively through several digital channels will not only be able to build brand awareness, but also directing consumers to do a purchase immediately. This reflects that structured marketing strategy can increase consumers interest to purchase a product, mainly when there are attractive promotions or special offers.
4. Product Quality influence on Purchasing Decision  
Product quality does not only influence on satisfaction, but also significantly influence on purchasing decision. When the product that consumers received are high quality, it will increase their trust in the brand and Shopee platform, in its turn motivate the recurring purchase or same brand purchase. This shows the importance for seller to maintain the product quality to be competitive and attractive.
5. Customer Satisfaction influence on Purchasing Decision  
Customer satisfaction plays an important role in influencing purchasing decision. Satisfied customers are not only tend to recurring purchase, but have the potention to recommend the product or platform to others.



What affects customer satisfaction evidences Indonesia online customer Customer satisfaction which is a result from a positive shopping experience, good product quality, and right marketing support, contribute greatly in sustaining purchasing decision in the future.

The success of e-commerce, such as Shopee, in influencing purchasing decision affected by three major factors: digital marketing, product quality, and customer satisfaction. Product quality is proven to be the main factor which significantly increasing customer satisfaction and purchasing decision, while digital marketing plays an important role on creating attractiveness and influencing consumer purchasing behavior. To be able to compete in a competitive market, e-commerce companies need to look out two main things:

1. Optimizing digital marketing strategy by being more personal, interactive, and relevant to the audience.
2. Keeping and increasing the product quality that is offered to build trust and loyalty.

Overall, this research offers an important knowledge for business owner and also seller in Shopee that the combination from effective digital marketing and high product quality has a very high potential to increase customer satisfaction and purchasing decision, which in the end will be a sustainable profit for the company.

## **LIMITATION & FURTHER RESEARCH**

### **Limitation**

Even though this research gives valuable knowledge about digital marketing, product quality and customer satisfaction in Shopee, there are few limitations need to be look out for:

1. Limited Sample  
This research only use 383 sample from all around Indonesia. Although the numbers is pretty significant, the sample distribution might not reflect the real demographic Shopee customer in term of age, income, and geographic area. This will affect the generalization of the result.
2. Use of SEM Model  
Even though SEM (Structural Equation Modeling) is a strong method to measure connection on each variables, the result might be influenced by the linearity assumption between variables. The model cannot capture the non linear connection that might exist between digital marketing, product quality, and purchasing decision.
3. The Context of a Single E-commerce Platform  
This research only focus on Shopee as e-commerce platform. The result might not be applicable on other e-commerce platforms which have business model, features, and different marketing strategy, such as Tokopedia, Lazada, atau Bukalapak.
4. Does not measure other intervening variables  
This research does not measure the influence of other variables that might influence the customer satisfaction and purchasing decision, such as price,

What affects customer satisfaction evidences Indonesia online customer brand loyalty, platform trust, or user experience. These factors are also very important affecting purchasng decision in e-commerce.

#### 5. Changing Trends in Digital Marketing

Given the dynamic of digital marketing, an effective strategy that works now might not work in the future. The trend like the social media algorithm, new technology adoption, or the shifting of consumers preference might generate a different result in the upcoming days.

#### **Further research**

To overcome the limitations above and enrich the knowledge in this topic, here are the few suggestions for future research:

##### 1. Cross-Platform E-commerce Study

Future research can expand the coverage by checking several e-commerce platform, such as Tokopedia, Lazada, or Bukalapak, to understand the difference of digital marketing, product quality, and customer satisfaction influence in different platforms. This thing will help to understand the specific factors which is relevant to particular platform

##### 2. Non-Linear Influence Measurement

The next research can use a more complex statistic method or machine learning to explore the posibilites of non-linear connection between linears, so resulting a better understanding on consumers purchasing behavior.

##### 3. Addition of Moderation and Mediation Variables

A deeper research can add more moderating or mediating variables or such as price, brand loyalty, trust, or customer reviews. This will enrich the understanding of the factors influencing the variables whic are digital marketing, product quality, customer satisfaction and purchaisng decision.

##### 4. Longitudinal Approach

Given that consumer behavior and digital marketing continues to grow, future research can use the longitudinal approach, which involves customer view continuoesly in a long period. This will give a good dinamic view on the consumer behavior change and marketing strategy efectivity from time to time.

##### 5. Use of Qualitative Data

Other than quantitative, next research should use qualitative approach, like deep interviews or focus group dicussion, to get a clear understanding and shopping experience in e-commerce.

By considering the limitation in this research and expand the scope of study of future research, it is expected the result of future will give more comprehensive insights on how e-commerce can increase the customer satisfaction and influence purchasing decision in digital age.

## **AUTHOR CONTRIBUTION**

**Author:** Conceptualisation and Research Design, Data Collection, Methodology, Supervision, Writing Entire Paper, Conceptualisation, Data Collection and Analysis, Editing and layouting. All Authors have read the final version of the paper.

## **Declaration of interest**

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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## Appendix 1.

### Normality Test

Variable	min	max	Skew	c.r.	kurtosis	c.r.
DigitalMarketing1	5	9	0,378	3,023	0,47	1,877
DigitalMarketing2	5	8	0,217	1,736	-0,063	-0,25
DigitalMarketing3	5	9	0,795	6,35	1,093	4,366
DigitalMarketing4	5	9	0,561	4,486	1,246	4,978
ProductQuality1	4	9	0,856	6,837	1,448	5,784
ProductQuality2	5	9	1,079	8,62	1,277	5,101
ProductQuality3	5	9	0,486	3,88	-0,375	-1,497
ProductQuality4	5	9	0,822	6,568	0,652	2,606
ProductQuality5	6	9	1,245	9,945	1,206	4,817
CustomerSatisfaction1	5	8	0,251	2,008	-0,284	-1,136
CustomerSatisfaction2	5	8	0,297	2,374	-0,256	-1,024
CustomerSatisfaction3	5	8	0,491	3,92	-0,278	-1,112
CustomerSatisfaction5	5	8	0,655	5,233	-0,531	-2,122
CustomerSatisfaction7	5	8	0,985	7,872	0,427	1,708
PurchasingDecision1	6	8	0,197	1,578	-0,601	-2,401
PurchasingDecision2	5	8	0,404	3,227	-0,159	-0,637
PurchasingDecision3	5	9	0,723	5,773	0,305	1,217
PurchasingDecision4	5	9	0,58	4,635	0,016	0,062
PurchasingDecision5	5	9	0,419	3,352	0,481	1,922
Multivariate					75,563	23,79

Source : Authors Work, 2024

## Appendix 2.

### Structural Model

Number of distinct sample moments:	231
Number of distinct parameters to be estimated:	47
Degrees of freedom (231 - 47):	184

**Appendix 3.**  
*Goodness of Fit Index Test*

Goodness of fit Index	Cut-of value	Estimasi	Keterangan
<b>Chi-square</b>	diharapkan lebih kecil dari Chi - Square ( $\chi^2$ tabel) = 216,6492 (df = 184)	697,089	Tidak Fit
<b>Significant probability</b>	$\geq 0.05$	0	Tidak Fit
<b>RMSEA</b>	$\leq 0.08$	0,085	Marginal Fit
<b>GFI</b>	$\geq 0.90$	0,822	less fit
<b>AGFI</b>	$\geq 0.90$	0,777	less fit
<b>CMIN/DF</b>	$\leq 2.00$	3,789	Good fit
<b>TLI</b>	$\geq 0.95$	0,827	less fit
<b>CFI</b>	$\geq 0.95$	0,848	less fit

Source : Authors Work, 2024

**Appendix 4.**  
*Hypothesis Test*

			Estimate	S.E.	C.R.	P	Label
<b>CS</b>	<---	DM	0,122	0,038	3,243	0,001	par_18
<b>CS</b>	<---	PQ	0,210	0,049	4,264	***	par_22
<b>PD</b>	<---	DM	0,275	0,062	4,421	***	par_19
<b>PD</b>	<---	PQ	0,387	0,074	5,204	***	par_20
<b>PD</b>	<---	CS	0,432	0,121	3,571	***	par_21

Source : Authors Work, 2024