

Consumer Preference Analysis of using Shopee Application with Conjoint Method

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Abstract: This study examines the Analysis of Consumer Preferences in Using Shopee Applications with Conjoint Method. The population in this study are Shopee application users as an online shopping platform in Batam city in particular, with a total sample of 300 respondents. The sampling technique in this study uses the purposive sampling method with a formula that refers to the theory of sample size from Hair et al (2010). In this study data were collected through a questionnaire distributed online to respondents. Analysis of the data used is conjoint analysis. The results of this study are the highest level of consumer preference for the concept of using Shopee application with conjoint method in general is the attribute of product features with the delivery charge subsidy feature as the highest preference and ShopeePayLater feature as the lowest preference. Product quality attribute occupies the second level with products at affordable prices as the highest preference and safety in transactions as the lowest preference. Product design attribute occupies the last level with easy-to-use application as the highest preference and attractive visual design as the lowest preference.

1 INTRODUCTION

Kotler & Armstrong (2012) explains that e-commerce is a set of technologies, applications, and business processes are dynamic linking businesses, consumers and the public through electronic transactions and the exchange of goods, services, and electronic information. E-commerce (Electronic Commerce) also known as electronic commerce or trade via the Internet, refers to the buying and selling of goods or services using the Internet, and transfer money and data for this transaction. The advent of e-commerce platforms is a significant form of retail therapy and online shopping has emerged as a different trend. Customer shopping preferences is driven by convenience and range of products offered by the business operator of e-commerce. Large segments of customers prefer shopping through e-commerce portals because the scope is wider and can be accessed anytime and anywhere as long as they have a supported internet network. Katawetawarak & Wang (2013) explained that the ease of marketing communication provided by the online market or e-commerce greatly affected consumers' decisions in choosing to shop online.

There are several considerations when consumers decide to buy a product. A product attribute has a role in shaping consumer preferences and will have an impact on consumers' decisions to buy a product. This matter supported by research conducted by Zamhir (2014) which states that product attributes have a positive and significant effect on consumer preferences. Kotler and Armstrong (2012) explains that there are three important elements in product attributes, namely: the quality of the product (product quality), product features (product features) and product design (product design).

Based on data from eMarketer, the number of e-commerce transactions in Indonesia continues to increase every year, starting from 2014, as can be seen in Figure 1.2 below. In 2014, Indonesia's e-commerce transactions hit a figure of Rp. 25.1 trillion. And increased in 2016 to Rp 69.8 trillion, with the rupiah exchange rate of Rp 13,200 per US dollar. Until 2018, the number of Indonesian e-commerce transactions have reached more than Rp 140 trillion.

Below are the Ten Countries with the Fastest Growth in E-commerce released by Databoks in 2019:

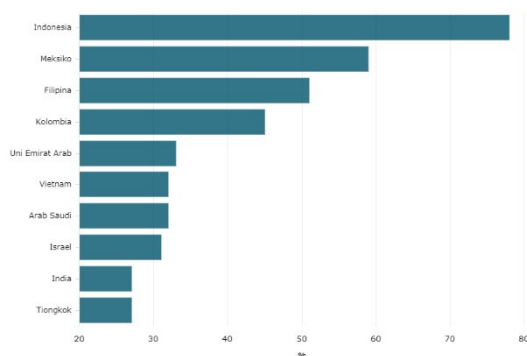


Figure 1: Ten countries with the fastest growth in e-commerce.

Shopee is an electronic commerce platform headquartered in Singapore and under the SEA Group which was founded in 2009 by Forrest Li. Shopee was first launched in Singapore in 2015, then expanded its reach to Malaysia, Thailand, Taiwan, Indonesia, Vietnam and the Philippines. Shopee was first started as a market for customers (C2C) but has switched to the C2C and Business for Customers (B2B) hybrid models since the launch of Shopee Mall which is an online shop platform for distribution of well-known store brands.

In 2017, Shopee recorded 80 million app downloads. Even in Malaysia, Shopee became the third (3) most visited e-commerce portal in the 4th quarter of 2017. Based on a survey conducted by TheAsianParent I, Shopee is the most visited platform in Indonesia with a percentage of 73%. Along with the intense competition in the marketplace in Indonesia, Shopee was able to rank in the top 5 in Indonesia

According to a report by iPrice, Shopee has taken the first position of most visited e-commerce platform in Southeast Asia. Shopee defeated Lazada in the second place and Tokopedia in the third place, with an average total of 184.4 million visits. Based on a research the was hell by App Annie and iPrice Group, Shopee has experienced an increase in total visits of 5%, mainly driven by increased visits in Thailand and Indonesia. This is as a proof that Shopee was able to maintain its growth momentum from the previous quarter even though Q1 2019 was considered a non-peak period.

Based on above description, the researcher were interested in knowing how consumer preferences are in using Shopee application as a platform of online shopping by using the theory of product attributes by Kotler and Armstrong (2012), namely the product quality, product features and product designs by conducting a research which is entitled "Analysis of

Consumer Preferences in Using Shopee Application with Conjoint Method".

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2 LITERATURE REVIEW

2.1 Theoretical Review

Kotler and Keller (2016) explained that consumer behaviour is the study of how individuals, groups and organizations choose, buy, use, and dispose of goods, services, ideas or experiences to meet their needs and desires. Consumers are faced with a myriad of marketing and other external stimuli every day where marketers must consider the characteristics of consumers and consumer psychology to successfully position a product or service. Consumer characteristics include; cultural, social and personal factors and consumer psychology including motivation, perception, learning and memory.

According to Kotler (2009) the consumer purchasing decision process is a systematic stage to see how consumers make the decision to buy a product or service. The consumer purchasing decision process intervenes between marketing strategies and results. That is, the outcome of an organization's marketing strategy is determined by its interaction with the consumer decision making process.

According to Kotler and Armstrong (2014) product attributes can be defined as something that is able to provide benefits offered by products and can add value to customers. Developing a product involves determining the benefits that the product will offer. Consumers can evaluate these attributes in terms of their own values, beliefs, and past experiences.

Indarto (2011) defines consumer preferences as the subjective tastes of individual consumers, measured by their satisfaction with these items after they buy them. This satisfaction is often referred to as utility. Whereas Frank (2011) assumes that consumer preferences enable consumers to rank various bundles of goods according to the level of utility, or total satisfaction from consuming goods or services.

2.2 Research Accomplished

Research from Wibisono and Indrawati, Ph.D. (2019) under the title “Analysis of Consumer Preferences in Using Flight Ticket Provider Applications & Online Hotel Booking” and the result of this research is product quality in the form of ease of use is the preference which holds the highest position for consumers, while speed in transactions is the quality of products that are the lowest preference for consumers. Product features in the form of airplane ticket and hotel booking are the highest preferences for consumers, while e-ticket is the product feature that is the lowest preference for consumers. Product style and design in the form of user-friendly appearance is the highest preference for consumers, while attractive appearance is the style and product design that is the lowest preference for consumers.

Research from Anugraheni and Kusdiartini (2018) under the title “Consumer Preference for Social Media in Finding and Buying Products Online”. The result of this research is that the security attribute is the attribute that has the highest preference, followed by the ease attribute as the second preference, then the feature attribute as the third preference, and the follower attribute is the attribute with the lowest preference.

Research from Liu et al (2018) under the title “A study on Chinese consumer preferences for food traceability information using best-worst scaling” and the result of this research is this study call for direct involvement of the Chinese government in the food safety information sharing system as follows. First, with diverse consumer preferences, various types of information that can be tracked must be recorded into an information sharing platform depending on the type of food. Second, the government can promote the gradual development of the platform based on priority consumer preferences. Third, new technology must be applied to ensure the reliability of traceable information. Finally, local preferences in terms of how consumers receive and understand information must be considered.

Research from Batavio, Amani, and Tripiawan, (2017) under the title “Consumer Preferences in Using Bukalapak Website Services Using the Conjoint Method” and the result of this research is consumer preferences in the use of Bukalapak site services in the city of Bandung Bukalapak site are ranked from the highest importance level, namely:

- Payment method
- Display Website
- Product
- Features

Research from Ghassani and Wardhana (2016) under the title “Analysis of the Factors Forming Go-Jek Consumer Preference in the City of Jakarta” and the result of this research is There are six initial factors that become consumers' preferences in using Go-Jek services in Jakarta, including: practicality, tariffs, speed, security, trustworthiness, comfort and also formed a new factor called Go-Jek's competitive advantage factor and the most dominant factor. The consumer's preference for using Go-Jek services is comfort factor.

Research from Sinaga, Safitri, and Rusgiyono (2015) under the title Analysis of Consumer Preferences of Airline Service Users for the Semarang-Jakarta Route with Choice-Based Conjoint Method (Full Profile). The result of this research is that the price attribute is the highest preference which is very influential in the decisions of airline service consumers. Then followed by airport tax, as the second preference, class attribute occupied the third preference and facility attribute as the fourth or lowest preference.

Research from Chang et al (2012), under the title “Consumer Preferences for Service Recovery Options After Delivery Delay When Shopping Online” and the result of this research is the greatest importance is in the compensation attribute. Then followed by the second response speed response attribute. Attributes Apology occupies the position of third importance and is followed by contact attribute as the last attribute interest.

2.3 Conceptual Framework

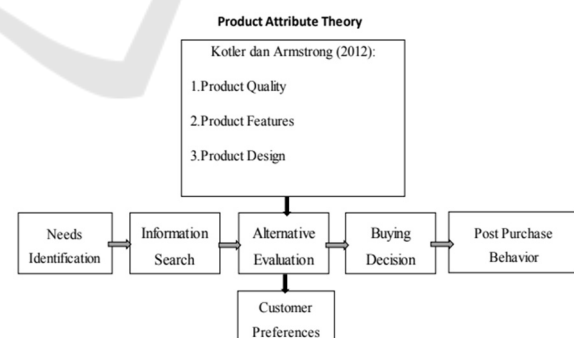


Figure 2: Conceptual framework.

This study used product attributes as variables that would later determine consumer preferences. Where in the product attributes there are 3 indicators: product quality, product features, and product design. Product attributes have a role in shaping consumer preferences. Where in the purchasing decision stage,

preferences are at the evaluation stage and will have an impact on consumers' decisions to buy a product.

3 RESEARCH METHOD

3.1 Research Design

This study used quantitative analysis methods. According to Sugiyono (2011), quantitative research studies are used to measure problems by producing numerical data or data that can be converted into statistics that can be used. This research is descriptive research. According to Sugiyono (2015) descriptive research is research used to describe the characteristics of a population or phenomenon that is being studied. In this study, researchers wanted to find out how consumer preferences in using the Shopee application in particular in the city of Batam.

3.2 Population and Sample

Shopee application users in the city of Batam are the population in this study with 300 respondents. The sampling method used in this study is nonprobability sampling. Then the sampling technique used was purposive sampling. According to Sugiyono (2017) purposive sampling is a technique for determining research samples with certain considerations aimed at making the data obtained later more representative.

3.3 Data Collection Techniques

This study uses a questionnaire as a tool or data collection technique. In general, the technique in scoring used in the research questionnaire is a Likert scale technique. According to Sugiyono (2013) Likert scale is used to measure the attitudes, opinions and perceptions of a person or group of people about social phenomena. Sugiyono (2013) also suggested that the measurement scale can be: nominal scale, ordinal scale, interval scale, and ratio scale, from the measurement scale, nominal, ordinal, interval, and ratio data will be obtained.

3.4 Operational Variables

This study is using product attributes as the operational variables and using the elements of product attributes by Kotler and Armstrong (2012) as indicators of product. Because the product attribute theory by Kotler and Armstrong (2012) is considered too general for this study, the levels of each product attribute indicator will be developed according to the

object under study which is Shopee, by referring to the most advanced research and development of the Shopee application itself, namely:

Table 1: Operational variables.

Attribute	Level
Product Quality	Security in transactions
	Complete product information
	Ease of transaction
	Products at affordable prices
Product Features	Delivery charge subsidy feature
	ShopeePay feature
	ShopeePayLater feature
	Easy Payment Methods
Product Design	Easy-to-use applications
	Simple application interface
	An attractive visual application design

3.5 Data Analysis Methods

Conjoint analysis is a technique specifically used to understand how consumers' desires or preferences for a product or service by measuring the level of usefulness and the relative importance of various attributes of a product. This analysis is very useful to help design new product characteristics, create new product concepts, help determine price levels and predict sales levels. This analysis is a multivariate analysis used specifically to understand how respondents build preferences for a product or service.

4 RESULT AND DISCUSSION

4.1 Model Description

The discrete model shows that the level of factors is categorical and no assumptions are made for the relationship between factors and values or ranking. Following are the number of levels and relationships of each attribute studied:

Table 2: Model description.

	N of Levels	Relation to Ranks or Scores
Product_Quality	4	Discrete
Product_Features	4	Discrete
Product_Design	3	Discrete

All factors are orthogonal.

4.2 The Result of Overall Utility Value Analysis of All Attributes

The utility value explains explaining the respondents' choices of the attribute levels used in this study, namely product quality, product features, and product design. A utility value that is positive states that the respondent chooses the level of an attribute, while a utility value that is negative states that the respondent does not choose or reject the level of an attribute. If the value of the attribute is zero, then at the level of the attribute each other is neutral or it can be said that the level of the attribute does not affect the respondent. The overall utility value of attributes could be seen in Table 3. below:

Table 3: The result of overall utility value analysis of all attributes.

Attributes	Level	Utility Estimate
Product Quality	Security in transactions	-0.014
	Complete product information	0.000
	Ease of transaction	0.004
	Products at affordable prices	0.011
Product Features	Delivery charge subsidy feature	0.205
	ShopeePay feature	-0.049
	ShopeePayLater feature	-0.270
	Easy Payment Methods	0.114
Product Design	Easy-to-use applications	0.034
	Simple application interface	-0.008
	An attractive visual application design	-0.025

From Table 3. it can be seen that in general respondents choose the level of products at affordable

prices on product quality attributes, delivery charge subsidy features on product feature attributes, and easy-to-use application on product design attributes as the level of attributes preferred or chosen by respondents where these level attributes determine consumer preferences in using the Shopee application as an online shopping platform. Then, in the following order are the levels of attributes that are preferred or chosen by the respondent as a whole from the highest utility values as the most liked levels to the lowest utility values as the most disliked levels:

Table 4: Ranking attributes level based on overall utility value.

Ranking	Attribute Level	Utility Estimate
1	Delivery charge subsidy feature	0.205
2	Easy Payment Methods	0.114
3	easy-to-use applications	0.034
4	Products at affordable prices	0.011
5	Ease of transaction	0.004
6	Complete product information	0
7	Simple application interface	-0.008
8	Security in transactions	-0.014
9	An attractive visual application design	-0.025
10	ShopeePay feature	-0.049
11	ShopeePayLater feature	-0.27

4.3 the Result of Overall Importance Value Analysis of All Attributes

Table 5: The result of overall importance value analysis of all attributes.

Importance Value	
Attributes	Nilai
Product Quality	30.781
Product Features	46.878
Product Design	22.341

Overall, product feature attributes have the highest importance in determining consumer preferences with importance value 46,878. Furthermore, product quality attributes have the second order of importance with an importance value of 30,781. while product design attributes occupy the last importance level position with importance value 22,341.

4.4 Ideal Alternative Profile

The ideal alternative profile for consumers in using the Shopee application of each product attribute based on their level of importance and attention to its utility value can be seen in Table 6. below:

Table 6: Ideal alternative profile.

Importance Value	Attributes	Level	Utility Estimate
46.878	Product Features	Delivery charge subsidy feature	0.205
		Easy Payment Methods	0.114
		ShopeePay feature	-0.049
		ShopeePayLater feature	-0.270
30.781	Product Quality	Products at affordable prices	0.011
		Ease of transaction	0.004
		Complete product information	0.000
		Security in transactions	-0.014
22.341	Product Design	easy-to-use applications	0.034
		Simple application interface	-0.008
		An attractive visual application design	-0.025

From Table 8. above it can be seen that the product feature attribute occupies the first position with an important value of 46,878 and delivery charge subsidy feature as the most preferred level with a utility value of 0.205. The product quality attribute ranks second with an importance value of 30,78 and products at affordable prices as the most preferred level with a utility value of 0.011. And product design attributes occupy the last position with an importance

value of 22,341 and easy-to-use as the most preferred level with an importance value of 0.034.

4.5 Prediction Accuracy Test

Measurement of correlation both Pearson and the predictive accuracy test for conjoint results is a testing process to find out whether the prediction that has been made has a high accuracy. In this prediction accuracy test, Pearson and Kendall will measure output correlation. The measurement will reveal how strong the relationship between estimates and actual is or how high the predictive accuracy is (Sari et al., 2010). Measurement of correlation both Pearson and Kendall produce relatively strong numbers that are above 0.5. This proves the existence of a strong relationship between the actual value, or there is a high predictive accuracy of the conjoint process. This can be seen from the correlation values in the table below:

Table 7: Correlation value.

	Value	Sig.
Pearson's R	0.984	0.000
Kendall's tau	0.891	0.000

From Table 7. above it can be seen that the correlation value on Pearson and Kendall for 300 respondents each has a correlation value of 0.984 for Pearson and 0.891 for Kendall. The guidelines used for significance tests with nth respondents, with n constitute respondents 1 to 300 are:

Ho: There is no strong correlation between the estimation variable and nth respondent

H1: There is a strong correlation between the estimation variable and nth respondent

If the probability (significance) > 0.05 then Ho is accepted. If the probability (significance) < 0.05 then Ho is rejected. Based on Pearson and Kendall's calculations, both of them significantly below 0.05 (0,000 and 0,000), so Ho is rejected. This shows that there is a strong correlation between the results of the conjoint with the opinions of respondents. That way it can be concluded in general that respondents really want a product with an affordable price, delivery charge subsidy features and application that is easy to use in using the Shopee application to shop online.

5 CONCLUSIONS

Based on the results of research on the analysis of consumer preferences in using the Shopee application

with the conjoint method, the conclusion is product feature attribute is the highest level with the delivery charge subsidy feature as the highest preference and the ShopeePayLater feature which is the lowest preference. Product quality attribute occupies the second level with products with affordable prices as the highest preference and security in transactions as the lowest preference. Product design attribute occupies the third or lowest level with easy-to-use applications as the highest preference and attractive visual design as the lowest preference.

Based on the characteristics of respondents in general, there is no difference in the structure of consumer preferences for product attributes in terms of importance or importance. Where the product feature attribute is an attribute that is the main concern of respondents in using the Shopee application followed by product quality attributes in the second position, and product design attributes in the last position.

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