



Analysis of Factors Affecting Consumer Purchase Behavior: Study in Muslim communities who shop online through the Shopee Application

Usep Deden Suherman

FEBI UIN Sunan Gunung Djati Bandung

Email: usepds@uinsgd.ac.id

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ABSTRACT

This study aims to determine and analyze what factors influence consumer buying behavior in the era of citizen 4.0 and the most dominant influences on consumer buying behavior in citizen 4.0. This research uses descriptive and explanatory survey methods. Sampling was carried out using the Accidental Sampling sample technique. The data analysis technique used is factor analysis. The findings of this study are factors such as availability and price factors, promotion factors, comfort factors, varieties and comparison factors, after-sales service factors, and connectivity factors that influence consumer purchasing behavior in the era of citizen 4.0. Besides that, variety and comparison factors are the most dominant factors affecting consumer buying behavior in the age of citizen 4.0, followed by availability and price factors, comfort factors, promotion factors, after-sales service factors, and connectivity factors.

1. Introduction

Industrial Revolution 4.0 is a form of technological progress that integrates the physical, digital, and biological world to make fundamental changes in human life. Industry 4.0 continues from the previous revolution era, Industry 3.0, where existing technology is increasingly developing and integrated. Industry 4.0 emerged from Germany when the Hannover Fair was held in 2011 (Kagerman et al., 2011). In the Big Indonesian Dictionary, transformation is a change in form, both in structure, nature, function, etc. So, digital transformation is a change in the field of digital technology. In the process of revolution, something must change according to innovation and the needs of human life. According to Ray

Wang, Founder and Principal Analysis of Constellation Research Inch, at least five digital technologies are the basis of digital transformation, including Mobile, Social, Cloud, Big Data, and Unified Communications. Some forms of digital technology include artificial intelligence (AI), the Internet of Things (IoT), and chatbots. Technology in the industrial revolution era 4.0 can create and facilitate jobs and take over jobs.

In the digital age, the level is even higher. Customer satisfaction is not the only concern but the human spirit. It involves more dimensions of humanism, describing customers as "whole people," no longer just a source of the company income. Because the digital era changes the landscape of world community relations from vertical, exclusive, individualist to horizontal, inclusive, social, this information is the realm of service for human and social issues.

Consumer purchasing behavior at this time began to shift from the usual buying behavior to online buying behavior such as online shopping. Consumers realize that online shopping is an easy solution for busy life in the world today. The way customers spend money has changed dramatically over the past decade. Although consumers continue to shop in physical stores, users or shoppers are very comfortable shopping online. Shopping online saves vital time for modern people because they are so busy that they cannot or do not want to spend much time shopping. Based on data published by marketeers.com, there are five cities in Indonesia with the most significant number of online shoppers in Indonesia. The five cities are Jakarta, Surabaya, Medan, Bandung and Makassar. For three years in a row, the composition of the city's name that became the primary source of the visit has not changed at all.

Table 1.1
Online Buyer Amount Data

City	Year		
	2015	2016	2017
Jakarta	24,57%	37,41%	41,94%
Surabaya	12,36%	17,42%	20,90%
Medan	6,60%	6,73%	7,76%
Bandung	3,09%	6,72%	7,72%
Makassar	2,79%	2,47%	4,42%

Sources: Marketeers.com

For three consecutive years, the composition of the city's name that became the primary source of the visit has not changed at all, namely Jakarta, Surabaya, Medan, Bandung, and Makassar. This composition is almost consistent in this order as well. There were a few exceptions in 2016 when Bandung managed to get Medan in third place, albeit with a tiny difference. Finally, it is interesting to note that the order of these cities also reflects the population size. These are the five largest cities in Indonesia by population, also ranked uniformly in terms of the cities with the most online shoppers. This information also shows that internet penetration in major cities in Indonesia is relatively high and evenly distributed. According to the Indonesian Association of Internet Service Providers (APJII), Internet penetration in urban areas was 72.4% in 2017. In addition, there is an upward trend from year to year in the five cities. In 2015, these cities accounted for less than 50 per cent of total visits. In 2017 the conditions changed drastically, with more than 80 per cent of visits coming from the largest cities in Indonesia. From these data, it can be interpreted that visitors from smaller

towns or villages have drowned compared to the central city. This finding is in line with the APJII survey, which found internet penetration in new urban and rural areas was almost 50%.

Several factors influence consumer buying behavior, namely trust, lifestyle, convenience, and quality of information. According to Pavlou and Gefffen in Baskara and Hariyadi's (2014) research, trust is a significant factor that can influence online purchases. Trust is a critical factor in every online transaction. Thus, online merchants must maintain consumers' trust in the quality of goods sold to consumers. Lifestyle becomes a trend for consumers to make purchases of goods and services to consumers. A person's lifestyle will affect consumer buying behavior. Ease is also a determining factor in one's buying behavior. In the sense that consumers can quickly get the goods they want through online media, choose and click the items they want so that there is ease in obtaining the goods and services desired by consumers. The last is the quality of information. Complete and quality information is a factor that can make it easier for consumers to carry out online buying behavior. The more quality information provided to online shoppers, the higher the online shoppers' interest in buying these products (Park and Kim, 2003). Meanwhile, Kumar (2017: 62) explains that six factors influence online consumer buying behavior, namely availability and price factors, promotion factors, comfort factors, varieties and comparisons, after-sales service factors, and connectivity factors. These six factors influence consumer buying behavior in shopping through online media.

Although online shopping can make it easier for consumers to get the desired goods online, the interaction between sellers and buyers becomes less. This finding aligns with Huseynov and Yildirim (2014). They stress that the lack of physical interaction is a critical barrier to online retail sales, followed by personal information and the security of financial transactions via the Internet. Demangeot and Broderick (2010) also showed that perceived usability does not affect behavior patterns but is somewhat affected by security and privacy issues. There is no relationship between the customer and the online shop and the perceived online risk, even if the customer spends hours on the Internet (Zuroni & Goh, 2012). Based on the theory proposed above, the researcher is interested in knowing the factors influencing consumer purchasing behavior in the Citizen 4.0 age.

2. Literature Review

Purchasing Behavior

Consumer buying behavior is the total number of attitudes, preferences, intentions, and choices consumers make about consumer behavior in the marketplace when purchasing a product or service. Consumer buying behavior results from consumer attitudes, preferences, definitions, and decisions in the market before buying a product. Investigating consumer buying behavior is an interdisciplinary field of study primarily composed of sociology, psychology, anthropology, and other areas. Buying behavior is the decision-making process and actions of people involved in purchasing and using products. As quoted by Kertawetawaraks and Cheng (2011), Liang and Lai stated that sometimes consumers have a problem or concern about the product or want to or want to return the product they purchased. Therefore, exchanges and exchange services become more and more critical in this phase. When consumers want to buy a product, they see its features as some products cannot

quickly be sent online. Two factors usually determine consumers' attitudes towards online shopping. One is trusting, and the other benefits can be felt (Hoque, Ali & Mahfuz, 2015). Therefore, trust and perceived benefits seem to be critical accusations of consumer behavior towards online shopping (Al-Debei, Akroush & Ashouri, 2015; Hajli, 2014). Meanwhile, Kumar (2017: 62) explained that six factors influence online consumer buying behavior, namely availability and price factors, promotion factors, comfort factors, varieties and comparisons, after-sales service factors, and connectivity factors.

Online shopping

According to Anisur Rahman (2018: 3), online shopping suggested e-commerce to buy products or services directly from sellers over the Internet. Turban et al. (2004), Katawetawaraks and Wang (2011) explain that online shopping is a product buying activity (both goods and services) through connectivity media. Online shopping activities include business-to-business (B2B) and business-to-consumer (B2C) activities. As Javadi et al. (2012) cited, Yu and Wu, define online shopping as more satisfactory for modern consumers looking for convenience and speed. Consumer preferences for buying from online stores are also related to their income and innovation.

According to eBay (2013) and Jain (2016), there are benefits to be gained if you do online shopping as follows:

1. Save time

When a person has a list of specific orders they want to buy, they can immediately buy from the website with just a few clicks of the mouse and move on to other important work. This plan will save you time.

2. Save energy

Shopping online saves energy as someone does not have to go to a physical store to purchase power.

3. Compare prices

Simple and easy price comparisons from one online shopping site to another. You can check and compare all costs with advanced search engine innovations with just a few clicks.

4. Availability around the clock

Online shopping offers the freedom to shop quickly and easily, as online shopping shops are open around the clock, seven days a week and 365 days a year.

5. Remove waiting time

Every online shop has a unique individual order function that must be purchased to avoid long queues when buying online. So online shopping reduces the lousy habit of long lines and waiting.

6. Overcoming geographical boundaries

Anyone can buy the desired product or service from anywhere in the world without being physically present there through online shopping. So online shopping helps to overcome the geographical problem of purchasing restrictions.

7. Save fuel

You don't have to move anywhere to shop online to don't need a vehicle. So shopping online saves fuel and costs related to energy.

As for the losses if shopping online (eBay (2013) and Hub pages (2015) are as follows:

1. Inability to touch and feel

The online shop only displays photos and product descriptions. Anyone who wants to touch, see and test the product before buying it cannot do so when shopping online.

2. Fraud and Security Issues

Retailers deceive high-risk consumers because they cannot inspect goods before buying them.

3. Privacy

Privacy is a significant concern for some consumers. Many consumers want to avoid spam and telemarketing because they can provide contact information to online merchants.

4. Failure to disclose total costs

It is easy to compare the best prices of goods online, but it is not easy to find the total cost (including surcharges, shipping, taxes, etc.) of an item online. The lack of full disclosure of the total cost is one of the problems when shopping online.

5. Reduced instant satisfaction

People can start using the product immediately after purchasing a physical store, which can be satisfactory. However, online purchases require patience to wait for goods to arrive (around 6/7 hours or even longer), decreasing satisfaction. The framework for this paper is as follows:



Figure: Research Conceptual Framework

3. Research Method

The research method used is descriptive and explanatory survey methods. Data collection techniques used are using questionnaires. The objects in this study are the factors that influence purchasing behavior: availability and price factors, promotion factors, comfort factors, varieties and comparison factors, after-sales service factors, and connectivity factors, which are independent variables—meanwhile, buying behavior is a dependent variable. Furthermore, the data analysis technique used in this research is factor analysis.

4. Result & Discussion

Factor Analysis

1. Assessing the Eligible Variables

Evaluating a feasible variable is analyzed by factor analysis using the Kaiser-Meyer-Olkin (KMO) measure of adequacy and the Bartlett Test of sphericity. The output of the SPSS Program for KMO and Bartlett's Test can be seen in table 2:

Table 2
KMO dan Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,840
Approx. Chi-Square		175,985
Bartlett's Test of Sphericity	df	15
	Sig.	,000

The table shows KMO and Bartlett's Test for the K-M-O Measure of Sampling Adequacy (MSA) value is 0.840. Thus the MSA value is already above 0.500, so it can be concluded that the group of attributes for the components that influence purchasing behavior can be done in the following process. Similar conclusions can be reviewed on the KMO and Bartlett's Test value, which is shown from the Chi-Square value of 175,985 with a significance of 0,000. Then will be analyzed which attributes can be carried out following the process and which attributes must be issued. Thus factor analysis is feasible.

2. Factoring and Rotation

a. Communalities Analysis

Communalities analysis is the total variance of the initial variables that existing factors can explain. The SPSS output from the commonalities analysis can be seen as follows:

Table 3
Communalities Analysis

	Initial	Extraction
X1	1,000	,944
X2	1,000	,872
X3	1,000	,913
X4	1,000	,930
X5	1,000	,470
X6	1,000	,986

Eigen Value is the total variance described by each factor and determines the total factor that appears. This Eigen Value can be reviewed in the total variance explained, which

illustrates the value of each variable analyzed. Analysis of Total Variance Explained can be carried out in two ways, Initial Eigenvalues, where the study describes the formed factors, or Extraction Sums of Loadings whose meanings represent the total factors that can be formed. This research uses Initial Eigenvalues analysis on Total Variance Explained with six variables so that there are six components analyzed.

The data shows that the X1 variable or the availability and price factor variables have a communalities value of 0.944, which means that 94.4% of the availability and price factor variables can be interpreted by the factors formed and the other variables. Based on the data above, it can be seen that the variables can be construed from the factors included, with the determination of the more significant commonalities, the closer the correlation of variables associated with the factors formed. Therefore it can be concluded that all variables can make sense of factors.

b. Total Explained Variance

SPSS output results from Total Variance Explained can be seen in the following table:

Table 4
Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4,102	68,363	68,363	4,102	68,363	68,363	4,087	68,125	68,125
2	1,013	16,888	85,251	1,013	16,888	85,251	1,028	17,126	85,251
3	,629	10,482	95,733						
4	,131	2,181	97,915						
5	,083	1,378	99,293						
6	,042	,707	100,000						

Extraction Method: Principal Component Analysis.

The table illustrates the factor has an eigenvalue of 4.102 or 68.36%. The table above also shows that the analyzed variables can be grouped into one factor, namely eigenvalues, representing values > 1.

c. Factor Loadings

Factor loadings are the magnitude of the relationship between variables with factor 1, factor 2, factor 3, factor 4, factor 5, and factor 6. The variables included in each factor are determined by comparing the relationship values in each row. Correlation values below 0.5 illustrate the characteristics of a weak relationship, while above 0.5 illustrates a strong relationship. This data is shown in the following table:

Table 5
Component Matrix(a)

	Component	
	1	2
X1	,971	,044
X2	,934	,012
X3	,955	-,024
X4	,950	,164
X5	,677	-,107
X6	-,116	,986

Extraction Method: Principal Component Analysis.
a. two components extracted.

d. Rotated Component Matrix

Although the six variables have been formed factors, rotation must be carried out to explain the variables included in each factor. The loading factor will experience many changes after experiencing rotation to be smaller or larger. The results of rotation can be reviewed in Table 6.

Table 6
Rotated Component Matrix(a)

	Component	
	1	2
X1	,972	-,022
X2	,932	-,051
X3	,952	-,089
X4	,959	,099
X5	,668	-,153
X6	-,049	,992

The table above shows the magnitude of the correlation of each forming factor. X1 has the most significant correlation with a correlation value of 0.972, then X4 correlates 0.959, followed by an X3 value with a correlation of 0.952 and X2 with a correlation value of 0.932. Meanwhile, X6 has a slight correlation, which is -0.049.

3. Determine the Factor Label

Based on the Component Score Coefficient Matrix and the Covariance Matrix Component Score in the following two tables, the equation or mathematical model of the purchase behavior can be determined.

Table 7
Component Score Coefficient Matrix

	Component	
	1	2
X1	,239	,028
X2	,228	-,004
X3	,231	-,039
X4	,242	,145
X5	,157	-,117
X6	,038	,973

Tabel 8
Component Score Covariance Matrix

Component	1	2
1	1,000	,000
2	,000	1,000

Based on the table, the mathematical model is obtained as follows:

$$Y = 0.239X1 + 0.228X2 + 0.231X3 + 0.242X4 + 0.157X5 + 0.038X6$$

Where:

Y = Consumer buying behavior
X1 = Availability and price factor
X2 = promotion factor
X3 = comfort factor
X4 = Varieties and comparison factors
X5 = After sales service factor
X6 = connectivity factor

Based on the mathematical model that can be arranged, factors that influence purchasing behavior, ranging from the most dominant to the less prevalent, are varieties and comparison factors, availability and price factors, comfort factors, promotion factors, after-sales service factors, and connectivity. These factors influence the buying behavior of Muslim consumers in the city of Bandung.

Variety and comparison factors show the diversity of products and services offered through online media and the comparison factor, which is the basis for consumers to buy goods or services. Therefore, these factors are the most dominant in purchasing behavior, with a factor component value of 0.242. Furthermore, the availability and price factors are the second factors influencing purchasing behavior with a component value of 0.238. The availability and price factors indicate whether or not the goods and services offered to consumers are available and how much price is shown in online media. Consumers will choose goods or services of their interest according to taste, and no less important is the price factor, where consumers can buy the desired goods or services according to their income.

The third factor is the comfort factor, with a factor value of 0.231. The comfort factor is to provide prospective consumers with the sale and purchase transactions undertaken. This factor is one factor that consumers desire in carrying out buying and selling transactions. Consumers want a sense of comfort in making transactions. Furthermore, the fourth promotion factor that influences purchasing behavior is a promotion factor with a factor value of 0.228. This promotion factor attempts to offer goods and services to attract potential customers to buy goods and services through online media. The more intense the promotion, the higher the consumer's intensity to carry out the purchase. Then the after-sales service factor is the fifth factor that influences purchasing behavior with a component value of 0.157. The after-sales service factor is the service that is carried out after the seller carries out the purchase to the buyer. The post-sales service factor becomes the customer's consideration for a repeat product purchase. Thus the post-purchase service factor becomes a factor that needs to be considered by the seller to maintain customer loyalty.

Meanwhile, the last factor affecting purchasing behavior is connectivity, with a factor value of 0.038. For consumers who like to shop online, this connectivity factor is significant because consumers buy goods online, so the internet factor becomes the main thing in the consumer's business to select goods or services he wants. And in the era of citizen 4.0, people tend to use a lot of internet media to carry out their daily activities, including shopping. The people of era 4.0 depend on online media to support their activities. Therefore, the behavior of online shopping is currently rife. According to Anisur Rahman (2018), online shopping shows e-commerce to buy products or services directly from sellers over the Internet. As Javadi et al. (2012) cited, Yu and Wu, define online shopping as more satisfactory for modern consumers

looking for convenience and speed. Consumer preferences for buying from online stores are also related to their income and innovation (Javadi, 2012).

Consumer behavior research identifies standard buying behavior models and describes consumers' purchasing decisions (Vrender, 2016). Jarvenpaa, Todd, Jarvenpaa, and Todd (1997) propose a model for attitudes, behavior, and intention to shop generally towards online shopping. The design includes several indicators grouped into four broad categories: B. Product value, quality services offered through the website, shopping experience, and risk perception when shopping online. Chang, Cheung, and Lai (2005) examine variable categories that encourage online shopping activities. In their study, they divided the traits into three broad categories. The perception of the characteristics of web sales channels is the first to cover risk, online shopping experience, excellence, quality of service, and trust. The second category is a website and product characteristics: risk mitigation measures, website characteristics, and product characteristics. And the last group is consumer properties. Different types of traits, demographic variables, consumer buying orientation, consumer innovation, psychological variables, computers, knowledge, connectivity, and usage determine consumer characteristics. Two factors usually determine consumers' attitudes towards online shopping. One is trusting, and the other benefits can be felt (Hoque, Ali & Mahfuz, 2015). Therefore, trust and perceived benefits seem to be critical accusations of consumer behavior towards online shopping (Al-Debei, Akroush & Ashouri, 2015; Hajli, 2014). In addition, the quality of the information, the goods attributes, the website design, the transaction functions, the payment, the security or privacy, the shipping, the confidence, the state of mind, the tastes of the consumers, and the customer service are essential for the online business of high forecast. Koufaris (2002) found that shopping pleasure and perceived benefits (website) were significantly predictive of online buyback intent.

In contrast, Lee and Lin (2005) find that shopping pleasure can increase new customer intent but not affect customer return. Jun & Jaafar (2011) suggested that the factors influencing buying behavior are perceived usefulness, security, perceived privacy, perceived sales service, perceived marketing mix, and perceived reputation for analysis. His research shows that there are some relationships between all of these aspects. Marketing mix and importance have significantly impacted consumer attitudes towards online shopping. Then Popli & Mishra (2015) found variables that influence purchase decisions during purchase, namely finance, privacy, time, performance, products, online transactions, health, quality, delivery, after-sales, and social risk. Based on these theories, many factors influence consumer buying behavior in the Citizen 4.0 age.

5. Conclusion

Based on the research results on the analysis of factors that influence consumer purchasing behavior in the Citizen 4.0 era and the discussion described previously, some conclusions can be drawn as follows: 1. Factors such as availability and price factors, promotion factors, convenience factors, varieties and comparison factors, after-sales service factors, and connectivity influence consumer buying behavior in the era of citizen 4.0. 2. Variety and comparison factors are the most dominant factors influencing consumer buying behavior in the age of citizen 4.0, followed by availability and price factors, comfort factors, promotion factors, after-sales service factors, and connectivity factors.

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