

## ANALYSIS OF E-COMMERCE CONSUMER SATISFACTION LEVEL WITH THE TECHNOLOGY ACCEPTANCE MODEL (TAM) APPROACH

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**Abstract:** The presence of online shopping or e-commerce applications in Indonesia in the era of the covid-19 pandemic is very helpful to meet all needs and avoid crowds and direct contact. The increase in the number of e-commerce users can be seen from the level of visits to e-commerce applications which is almost close to the total population of Indonesia of 270 million visits. This research was conducted on 100 respondents consisting of XYZ University students in the city of Semarang to measure the level of satisfaction in the use of e-commerce with the Technology Acceptance Model approach. Using a Likert scale with an indicator rating of 1-5, the researcher wants to know student satisfaction in the use of e-commerce in everyday life. The result is the majority of students answered strongly agree on average about 70%.

**Keywords:** *Technology Acceptance Model, Consumer Satisfaction, E-Commerce*

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### 1. Introduction

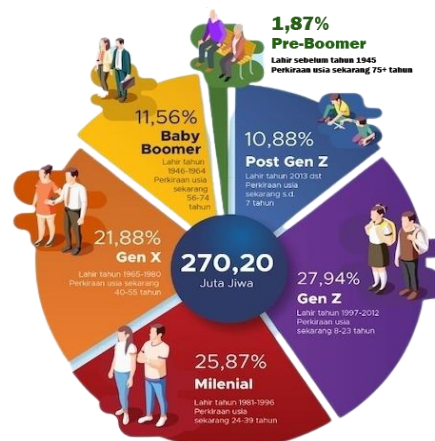
The development of online commerce or e-commerce is very rapid, supported by the increasing use of social media and the internet among the people of Indonesia. In the era of the covid-19 pandemic, the number of e-commerce users greatly increased because many people could not shop directly with the PPKM (Enforcement of Community Activity Restrictions) policy to suppress the spread of the covid-19 virus in Indonesia.

Based on CNN Indonesia data, Indonesia ranks at the top as internet users who also like to shop through e-commerce in 2020. Based on a report on the topic 'Digital 2021' from We Are Social, a marketing company, it was found that 87 Indonesians shop online. %, then England with 85%, followed by Thailand at 83.6%, Malaysia at 82.9%, and Germany at 81.6%. Based on data from a CNN Indonesia article, e-commerce revenues in Indonesia on average reached nearly 3 trillion rupiah in 2020 (CNN, 2021).

The development of e-commerce in Indonesia is very much dominated by Gen Z and the millennial generation with the contribution of the number of transactions amounting to 85% and divided by Gen Z as much as 36% and millennial generation as much as 49% (Muazam, 2020). This is not surprising because the younger generation is technology literate, especially the use of digital payments in transactions. The Financial Services Authority also conveys a fact that the young generation aged 18-35 years have a higher level of financial literacy than other age groups (Muazam, 2020).

Data from the Central Bureau of Statistics Indonesia's population based on the 2020 Population Census is 270.20 million people. The Central Bureau of Statistics divides into 6

categories, including Post Gen Z (age 1-7 years) as much as 10.88%, Gen Z (age 8-23 years) as much as 27.94%, Millennials (age 24-39 years) as many as 25.87%, Gen X (age 40-55 years) as much as 21.88%, Baby Boomers (age 56-74 years) as much as 11.56%, and Pree-Boomers (age over 75 years) as much as 1.87%.



**Figure 1.** Indonesian Population Composition  
 (Source: BPS data as of September 2020)

With this large number of market shares in electronic commerce or e-commerce, it is hoped that online service providers or e-commerce applications will further increase product and service innovation in order to maintain their existence. Consumer satisfaction is one of the main keys to increase sales and demand. There are so many e-marketplaces operating in Indonesia targeting millennials and Gen Z to buy their products through online applications.

This is in accordance with the results of research by Wachyuni and Wiweka (2020) which examined tourist satisfaction in the use of the AGODA e-commerce application in hotel reservations by using several indicators to measure consumer satisfaction using Repurchase, Brand Image, Word of Mouth, Price, Product Quality, Service Quality and Emotional Factor are calculated using a Likert scale (with a scale of 1 to 5). The sampling technique used is simple random sampling with 100 respondents. With a quantitative descriptive approach, the research results show that almost all tourists are satisfied with AGODA's services in hotel reservations.

Then the research results of Sudirman, Halim, and Pinem (2020) related to Gojek's consumer satisfaction related to the relationship between image and brand with the number of respondents being 100 students and students of the Sultan Agung College of Economics. This study uses the SEM model which is preceded by an analysis of validity and reliability. The results showed that trust can mediate the relationship between brand image variables on consumer satisfaction.

Similarweb released data in Q1 (first quarter) of 2021, there were 10 most popular marketplaces with the most visited sites on the internet by Indonesian consumers, including Tokopedia, Shopee, Bukalapak, Lazada, Blibli, Bhinneka, Orami, Ralali, JD ID, and Zalora. Tokopedia took first place with a total of 147,790,000 visits, followed by Shopee in second place with a total traffic share of 126,996,700 visits. This data can be seen in figure 2 regarding the Top 10 E-commerce in Indonesia in Q1 2021.



**Figure 2.** Top 10 E-commerce in Indonesia in Q1 2021  
 (Source: finance.detik.com)

## **2. Literature Review**

### **2.1. Consumer Satisfaction**

Consumer satisfaction can be defined as the result of an evaluation after consumers use a product or service and whether a product can fulfill a consumer's expectations and desires (Wilujeng, Rembulan, Andreas, & Tannady, 2019).

Meanwhile, according to Kotler and Keller, customer satisfaction can be interpreted as feelings of disappointment or pleasure arising from the comparison of the perceived performance of a product against customer expectations (Febriyani, Manullang, & Novika, 2021).

According to Kotler & Keller (2009) in the research journal Wachyuni & Wiweka (2020), the formation of consumer satisfaction is influenced by several factors, including :

#### **1. Re-purchase**

Re-purchase is a repurchase made by consumers which indicates a consumer's confidence in purchasing a product or service. Some research results also show Re-purchase to be an indicator used in digital marketing.

#### **2. Word of Mouth**

Word of Mouth (WOM) is a classic and very conventional technique which is still used and is still considered effective in influencing the choices or decisions of other consumers, both satisfied and dissatisfied consumers.

#### **3. Brand Image**

Brand image is a reputation or can also be referred to as the image of a brand, where this greatly affects the marketing strategy, sales strategy, strategy for determining market segmentation and strategy in determining targets.

#### **4. Product Quality**

Product Quality is a match between consumer expectations for the quality of a product so that consumers feel satisfied and will make repeat purchases.

#### **5. Price Price**

Price is a number of values that become a medium of exchange to get a product, where for some consumers a low price is a sensitive satisfaction so that they get high value for money.

## **6. Service Quality**

Service quality is a service that is felt by consumers as expected, if it exceeds expectations, consumers will feel satisfied and the service will be considered quality or not.

## **7. Emotional Control**

Emotional factor is a factor that has a relationship between an individual's life style, where emotions are volatile feelings and have an influence on customer satisfaction, especially in service companies.

## **2.2. E-commerce**

E-commerce is part of electronic business that has a relationship with the activity of buying and selling goods or services through the Internet network (Ayu & Lahmi, 2020). E-commerce also includes activities that support various transactions, such as advertising, marketing, consumer support, security, delivery, and payment (Laudon & Laudon, 2015).

Meanwhile, Karyatiningsih defines e-commerce as a technique in which there are offers, sales, to purchases, be it products/services, or all information based on electronics media or by optimizing the role of the internet network (Wachyuni & Wiweka, 2020).

Based on the nature of the user, e-commerce is divided into three parts including:

### **a. Business to consumer (B2C)**

E-commerce transactions with the Business to consumer (B2C) model are carried out by business actors to consumers such as buying and selling transactions in general involving retail products and services to individual consumers. Consumers are given a product offer and make a purchase through an online application. Examples of Business to consumer (B2C) in Indonesia such as Bhinneka.com which sells electronic products and Tiket.com which sells travel tickets for holidays.

### **b. Business to Business (B2B)**

E-commerce transactions with the Business to Business (B2B) model that occur between business people who have mutual business needs in selling goods and services. Both parties understand each other and understand the business they are running and usually use Electronic Data Interchange (EDI) in the buying and selling process. Examples of Business to Business (B2B) such as Bizzy.co.id which is engaged in logistics distribution to meet the supply needs of several companies online. Another example is Ralali.com, which is engaged in selling Maintenance, Repair, and Operational (MRO) products to corporations.

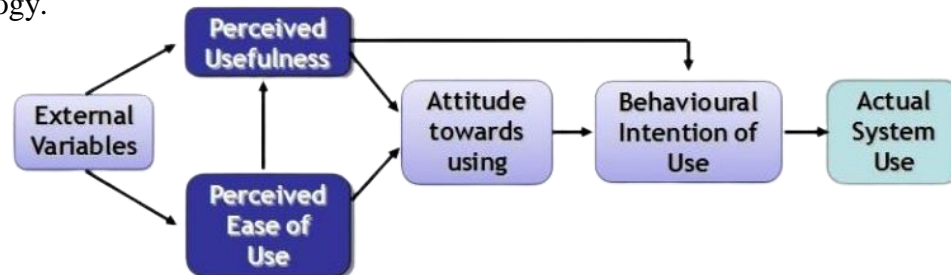
### **c. Consumer to Consumer (C2C)**

E-commerce transactions with the Consumer to Consumer (C2C) model involve consumers who sell directly to other consumers. Consumer to consumer (C2C) is usually done through online applications provided by third parties as the platform. Examples of C2C e-commerce models in Indonesia such as Shopee, Tokopedia, Bukalapak and others.

## **2.3. Technology Acceptance Model (TAM)**

TAM is a model that replaces research related to TRA by using two approaches to a technology, namely ease of use and usefulness (Suyanto & Kurniawan, 2019). Technology Acceptance Model (TAM) is often used to predict the attitude of technology users on the acceptance factor and its use. User perception in understanding the ease of using a technology

will determine user intentions in technology development and influence decisions in using a technology.



**Figure 3.** Technology Acceptance Model (TAM)

There are five constructs or dimensions in the Technology Acceptance Model (Santoso & Zusrony, 2020), among other :

**a. Perceived Ease of Use**

Perceived ease of use is a measure of a technology for individuals who believe in the ease of use and understand the use of computers. There are several indicators in measuring perceived ease of use, including easy to learn, flexible, and able to control a job.

**b. Perceived Usefulness**

Perceived usefulness can be interpreted as a stage of a person in using a certain system that is trusted and can help improve work performance and individual performance. Based on the above understanding, a conclusion can be drawn regarding the benefits of using Information and Communication Technology (ICT) can help improve work performance and performance of someone who uses it.

**c. Attitude Toward Using**

Attitude Toward Using is a concept of rejection or acceptance as a result of individuals using technology in their work. Attitude Toward Using can also be interpreted as an individual attitude consisting of cognitive and affective elements as well as various components that are interconnected with individual behavior.

**d. Behavioral Intention of Use**

Behavioral Intention is a desire or interest of an individual to perform an action, where the interest has a relationship with various actions or various behaviors that can change over time.

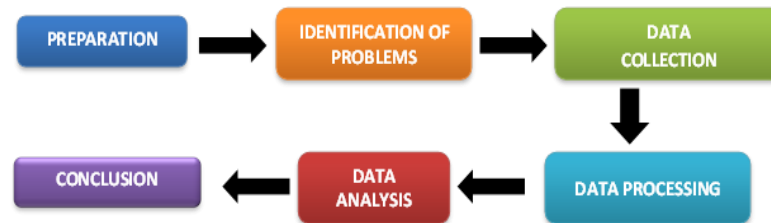
**e. Actual System Use**

Actual system usage is a form of external psychomotor response which is measured in individuals with real use. Actual system usage has an indicator concept of the frequency and duration of the use of a technology. The measurement is by using technology repeatedly.

### **3. Research Method**

A case study approach is used in this research with a quantitative descriptive type of research with respondents from all XYZ University students in the city of Semarang. The sampling technique used the convenience sampling method and then 100 respondents were found who were willing to spend their time in filling out the questionnaire. E-commerce user satisfaction is measured using the Technology Acceptance Model with a Likert scale as a measuring tool.

Value 1 (strongly disagree), score 2 (disagree), score 3 (neutral), score 4 (agree), and score 5 (strongly agree).

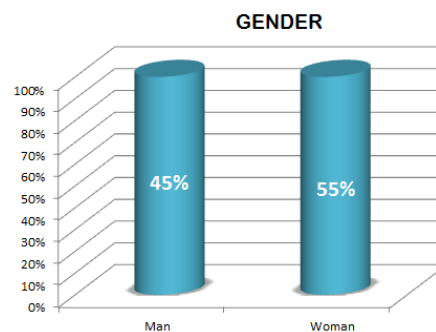


**Figure 4.** Research Stages

## 4. Results and Discussion

### 4.1. Characteristics of Respondents by Gender

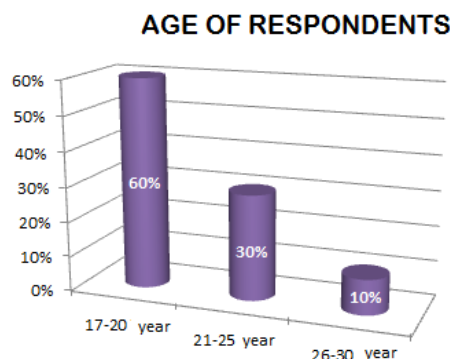
Based on Figure 5 below, it can be seen that the majority or majority of respondents are female by 55%, and male respondents by 45%.



**Figure 5.** Gender of Respondents

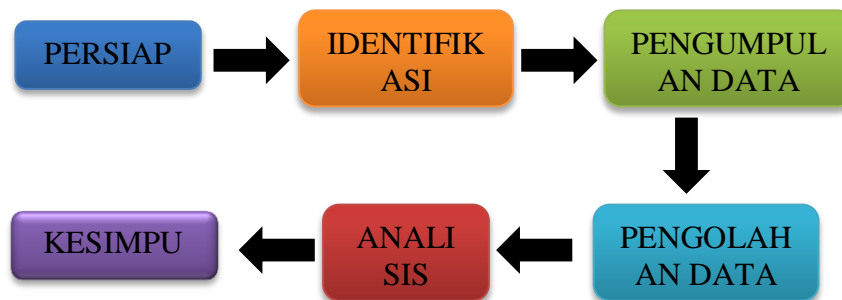
### 4.2. Characteristics of Respondents by Age

Based on Figure 6 below, it can be seen that the most respondents or the majority are between the ages of 17-20 years by 60%, followed by respondents aged 21-25 years by 30% and respondents aged between 26-30 years by 10%.



**Figure 6.** Age of Respondents





#### 4.3. Characteristics of Respondents by Type of E-commerce

Meanwhile, based on Figure 7 below, it can be seen that the most dominant respondents use the Shopee e-commerce application by 52%, then those who use the Tokopedia e-commerce application by 38% and those who use other e-commerce applications by 10%.

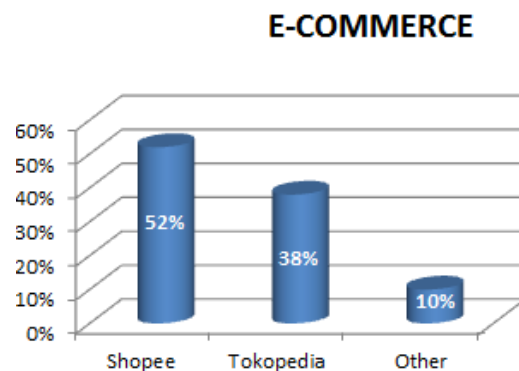


Figure 7. Type of E-commerce

#### 4.4. Analysis of Perceived Ease of Use Dimensions

The results of the recapitulation of the Perceived Ease of Use dimension can be seen in Figure 8, where respondents who chose the answer strongly agreed that e-commerce was easy to use as much as 70%. Then those who answered agreed were 25% and respondents who answered neutral were 5%.

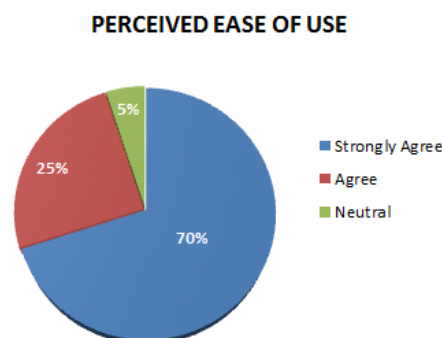


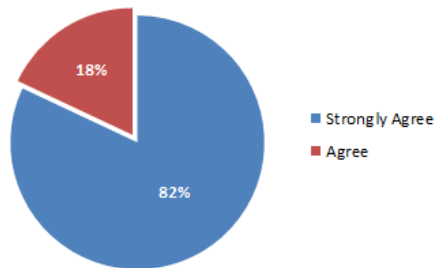
Figure 8. Assessment of Perceived Ease of Use Dimensions

#### 4.5. Analysis of Perceived Usefulness

Figure 9 shows the results of the recapitulation of the Perceived Usefulness dimension, where respondents who chose the answer strongly agreed that transactions in e-commerce were

easy, practical and uncomplicated as much as 82%. Then those who answered agreed by 18%.

#### PERCEIVED USEFULNESS

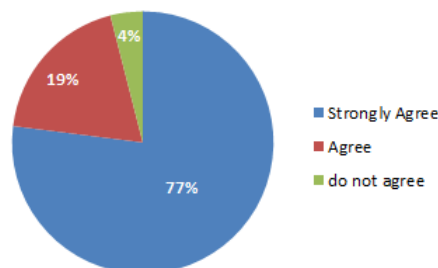


**Figure 9.** Assessment of Perceived Usefulness

#### 4.6. Analysis of Attitude Toward Using

It can be seen in Figure 10 on the results of the recapitulation of the Attitude Toward Using dimension, where respondents who chose the answer strongly agreed that e-commerce in its use was very easy, effective and efficient as much as 77%. Then those who answered agreed by 19% and respondents who answered disagreed by 4%.

#### ATTITUDE TOWARD USING

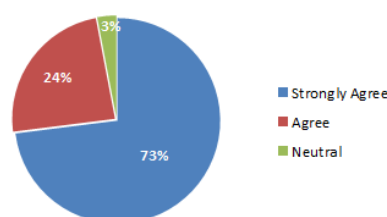


**Figure 10.** Assessment of Attitude Toward Using

#### 4.7. Analysis of Behavioral Intention of Use

It can be seen in Figure 11 on the results of the recapitulation of the Behavioral Intention of Use dimension, where respondents who chose the answers strongly agreed that e-commerce would be promoted to other users (word of mouth) as much as 73%. Then those who answered agreed were 24% and respondents who answered neutral were 3%.

#### BEHAVIORAL INTENTION OF USE



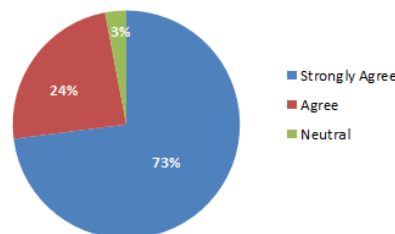
**Figure 11.** Assessment of Behavioral Intention of Use



#### 4.8. Analysis of Actual System Use

It can be seen in Figure 12 on the results of the recapitulation of the Actual System Use dimension, where respondents who chose the answers strongly agreed that e-commerce was easy to use as much as 73%. Then those who answered agreed were 24% and respondents who answered neutral were 3%.

**ACTUAL SYSTEM USE**



**Figure 12.** Assessment of Actual System Use

#### 5. Conclusion

The results of research conducted on respondents who use e-commerce applications, who are on average the millennial generation and Gen Z, use the five-dimensional Technology Acceptance Model (TAM) approach and get an average result that answers strongly agree about 70%. This proves that users of e-commerce applications are very satisfied with the presence of online shopping applications that are increasingly present in the era of the covid-19 pandemic. The development of internet users in Indonesia, which has grown rapidly in the last 5 years, has had an influence on the shopping behavior of most people, which are dominated by the millennial generation.

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