

## Online Buying Behavior During Covid-19 Pandemic: A Descriptive Analysis Study

Retno Dyah Kusumastuti<sup>1\*</sup>, Siti Maryam<sup>2</sup>, Ana Kuswanti<sup>3</sup>,  
Airlangga Surya Kusuma<sup>4</sup>

<sup>1234</sup>Fakultas Ilmu Sosial dan Ilmu Politik Universitas Pembangunan Nasional Veteran,  
Jakarta, 12450, Indonesia

### ABSTRACT

Since its first inception during the 1990s, electronic commerce (e-commerce) has revolutionized costumers buying behavior and caused the costumers to shift from traditional brick-and-mortar stores into online stores. In Indonesia, e-commerce market has enjoyed rapid growth around 60 to 70 percent annually since 2014. On the other hand, the Covid-19 pandemic is still ravaging Indonesia. This pandemic caused concerns among costumers in Indonesia, due to the higher risk of Covid-19 transmission during buying activities in traditional brick-and-mortar stores. Thus, buying from online stores became more convenient and safer option for customers. The purpose of this research is to investigate about customers online buying behavior during the Covid-19 pandemic. This research utilized quantitative and descriptive approach, with 200 respondents participated during the survey. The findings of this research are that the majority of respondents might have shifted from offline buying to online buying, albeit not significantly. On the other hand, the majority of respondents chose to not spend a large amount of money for online buying activities. The majority of respondents also bought fashion and beauty care products from online platforms, and because of Covid-19 pandemic, a large number of respondents also bought healthcare equipment from online platforms. The implication of this research is that it would be better if traditional brick-and-mortar retailers start transitioning to e-commerce, since customers might permanently shift to online buying, even after the Covid-19 pandemic has been contained.

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\*Corresponding Author E-mail:

retnodyah@upnvj.ac.id



## **INTRODUCTION**

Since its first inception during the 1990s, electronic commerce (e-commerce) has revolutionized customers buying behavior. The rise of e-commerce caused the customers to shift from traditional brick-and-mortar stores into online stores (Shia et al., 2015; Lestari, 2014). The e-commerce itself offers several advantages for customers, namely time efficiency, bypassing the crowds, 24 hour shopping accessibility, more purchasing options, more competitive prices, and environmentally friendlier than traditional brick-and-mortar stores (Dewi et al., 2019; Musyifah & Simanjuntak, 2016). In Indonesia, it is expected that the e-commerce market will become the third largest in Southeast Asia region (Kshetri, 2018). E-commerce market in Indonesia itself has grown rapidly, around 60 to 70 percent annually since 2014. This market is also forecasted to rise from \$8 billion in 2016, to \$60 billion by the end of 2022 (Macquarie Research, 2017). There are several large players in Indonesia's e-commerce market, both local companies (Tokopedia, Bukalapak, and Blibli), and foreign companies (Shopee, Lazada, and JD.ID). Currently as of 2020, Shopee is the largest e-commerce player in Indonesia, followed by Tokopedia, Bukalapak, Lazada, Blibli, and JD.ID (Goodnewsfromindonesia, 2020).

On the other hand, the Covid-19 pandemic is still ravaging Indonesia. As of February 2021, Indonesia has recorded around a million Covid-19 cases, with around thirty thousand deaths (Kompas, 2021). Although Indonesia is still fared better compared with other countries with large population, such as India, United States, and Brazil, the pandemic still causes concerns among customers in Indonesia. This is because, the pandemic has made buying activities in traditional brick-and-mortar stores riskier, due to contact with crowds in stores that might have been infected with Covid-19 (Desai & Aronoff, 2020). Thus, buying from online stores through e-commerce providers become more convenient and safer option for customers, and more customers start shifting from traditional brick-and-mortar stores into

online stores (Kim, 2020). According to the survey of 711 respondents in Indonesia by McKinsey and Company from 25<sup>th</sup> to 26<sup>th</sup> April 2020, 80% of respondents decided to buy regularly from online apps, with 36% of respondents preferred to buy more from online apps. Another 78% of respondents also decided to buy regularly from e-commerce platform, with 40% of respondents preferred to also buy more from from e-commerce platform. On the other hand, only 31% of respondents decided to buy regularly from traditional brick-and-mortar stores (such as grocery stores), and another 69% of respondents decided to limit the visit into traditional brick-and-mortar stores. Around 16% of respondents would also spent more to buy from online apps and e-commerce platform, and another 16% of respondents also decided to buy from online apps and e-commerce platform, even after the pandemic has been contained (Indraswari, 2020; Kompas 2020). This findings clearly showed that a lot of customers decided to shift from traditional brick-and-mortar stores into online stores due to the pandemic. Even during the economic downturn, customers still willing to spend a lot of money to buy from e-commerce platform. This could be seen during National Online Shopping Day (also known as Harbolnas or *Hari Belanja Online Nasional*) from 11<sup>th</sup> to 12<sup>th</sup> December 2020. During that event, customers spent around 11,6 trillion rupiah (around \$828 million), or increased 28% from previous year (Judith, 2020). Therefore, it would be interesting to investigate further about customers online buying behavior, especially during the Covid-19 pandemic.

In general, we intend to investigate about customers online buying behavior during the Covid-19 pandemic. To reach this main objective, the following research questions have been constructed and they are:

1. How many times the customers buy from online stores during the Covid-19 pandemic?
2. How much money the customers spend for online buying activities during the Covid-19 pandemic?
3. What kind of items that customers buy from

online stores during the Covid-19 pandemic?

We claim two main contributions. Firstly, the contributions towards online buying literature. The findings from this study is expected to enhance the literature available in the context of the online buying behavior in Indonesia. Secondly, we also claim contributions towards customers behavior during the pandemic. The findings from this study is also expected to enhance the literature available in the context of customers behavior during a pandemic, especially during the Covid-19 pandemic. The remainder structure of the paper takings as follows. Section 2 provides a theoretical foundation for this research. Section 3 demonstrates the research method of this research. Section 4 explains the results, and section 5 gives exposure on the conclusions of this research.

## **LITERATURE REVIEW**

### **E-Commerce**

Electronic commerce (E-commerce) is an activity of buying or ordering goods through the Internet for a customer's consumption, regardless of whether the goods are paid later (mainly through cash on delivery), or the goods are paid straightaway through electronic banking, credit card, or electronic payment. E-commerce consists of orders either through online apps or online stores, in which those online stores could operate independently, or operate through e-commerce platforms (such as Amazon, Ebay, or Alibaba) (Lignell, 2014). One of the main business models of e-commerce is Business-to Consumer (B2C) model. In this model, a business sells its product directly to customers, either through online apps or online stores. The customers could view, choose, and order the products that they want. The products that have been ordered would be send immediately to the costumers (Namyslowska, 2013). This model has several issues, mainly related to trust between businesses and costumers, and vice versa. This is because there are several uncertainties, such as the security and privacy risks, and the lack of face-to face interactions between businesses and costumers. Businesses could simply do not

send the products that have been ordered by costumers, or the customers could withhold the payment for the products that have been ordered (Shia et al., 2015). To solve these problems, e-commerce platforms was introduced in order to act as mediator in B2C model. These e-commerce platforms played a great role in rapid growth of e-commerce, since these platforms reduced uncertainties and increase the reliability of e-commerce. Currently as of 2020, there are several e-commerce platforms in Indonesia, both local companies (Tokopedia, Bukalapak, and Blibli), and foreign companies (Shopee, Lazada, and JD.ID) (Goodnewsfromindonesia, 2020).

### **Online Buying Behavior**

Online buying behavior refers to the costumers behavior during the process of purchasing products or services through the Internet (Musyifah & Simanjuntak, 2016). This process consists of four steps, which are: (1) Potential costumers recognize a need for a product or service; (2) Potential customers visit the Internet and search for information about the product or service associated that they want; (3) Potential customers evaluate several products or services in the online apps or online stores, and choose the one that best fits their need; (4) The customers purchase and order the products or services (Javadi et al., 2012). Online buying behavior is affected by several factors, namely customers' online buying attitude, customers' online buying experiences, and customers' online buying risk perception. Customers' online buying attitude is the costumers' psychological state in terms of making purchases through the Internet (Li and Zhang, 2002). Customers' online buying experiences refer to the customers positive or negative encounter with online buying (Dillon, 2004). Customers' online buying risk perception is the subjectively-determined expectation of loss by the customers during online buying activities. There are several perceived risk from online buying activities, such as financial risk and product performance risk. Financial risk is a risk that customers pay too much for a product or not getting enough

value for the money spent, while product performance risk is a risk that the performance of the product that has been purchased online is underdelivered or not aligned with customers expectations (Jusoh & Ling, 2012).

### **Covid-19 Pandemic and Online Buying Behavior**

COVID-19 is an infectious disease caused by the novel coronavirus SARS-CoV-2. This infectious disease is first found in Wuhan, China, and has spread rapidly across the globe. SARS-CoV-2 is primarily transmitted through respiratory droplets that enter the mouth, nose, or eyes by contaminated hands, thus make this disease very easy to spread (Desai & Aronoff, 2020). As of February 2021, more than 100 million cases have been recorded worldwide, with over 2 million deaths due to Covid-19 (Johns Hopkins University, 2021). Several countries with large population has been badly affected by this pandemic, with United States as the worst affected country (with more than 27 million cases), followed by India (with more than 10 million cases), and Brazil (with more than 9 million cases) (Johns Hopkins University, 2021). In Indonesia, there were over a million Covid-19 cases, with around 30 thousand deaths (Kompas, 2021). Although Indonesia is still fared better compared with other countries with large population, such as India, United States, and Brazil, the pandemic still causes concerns among costumers in Indonesia. This is because the pandemic has made buying activities in traditional brick-and-mortar stores riskier. Since this disease is primarily transmitted through respiratory droplets, customers could get infected with Covid-19 through several means, such as due to contact with other customers or stores employees that have been infected with Covid-19 (this risk is exacerbated with large cases of asymptomatic carriers, thus people that have contracted Covid-19 could still pass infrared thermometers screening and enter the store). Customers could also get infected by touching a surface or object (such as grocery items) with active Covid-19 particles (Desai & Aronoff, 2020). To decrease the risk of Covid-19

infection, customers must take several prevention steps when buying in traditional brick-and-mortar stores, such as wearing masks, maintaining social distancing, avoiding physical contacts with other people, frequently wiping touched surfaces like grocery carts or basket handles with disinfectant wipes, and also frequently washing their hands either with soap or hand sanitizer (Desai & Aronoff, 2020). These prevention steps decrease the comfort of buying activities in traditional brick-and-mortar stores for customers. Thus, buying from online stores through e-commerce providers become more convenient and safer option for customers. As a result, more customers start shifting from traditional brick-and-mortar stores into online stores, facilitating the change of customers buying behavior (Kim, 2020). According to the survey of 711 respondents in Indonesia by McKinsey and Company from 25<sup>th</sup> to 26<sup>th</sup> April 2020, 80% of respondents decided to buy regularly from online apps, with 36% of respondents preferred to buy more from online apps. Another 78% of respondents also decided to buy regularly from e-commerce platform, with 40% of respondents preferred to also buy more from from e-commerce platform. In contrast, only 31% of respondents decided to buy regularly from traditional brick-and-mortar stores, such as grocery stores, and another 69% of respondents decided to limit the visit into traditional brick-and-mortar stores (Kompas, 2020). This findings clearly showed that a lot of customers decided to change their buying behavior, from frequently visiting traditional brick-and-mortar stores, into frequently buying from online apps or online stores.

### **RESEARCH METHOD**

This research used quantitative and descriptive approach. Thus, the aim of this research is to describe the characteristics of variables of interest, namely customers online buying behavior during the Covid-19 pandemic (Sekaran & Bougie, 2016; Kuncoro, 2013). This research utilized survey for data collection. For time horizon, this research is cross-sectional research, and data is only collected once for a given time

period (Sekaran & Bougie, 2016). The unit of analysis of this research is at individual level. For data collection, this research utilized personally administered questionnaire. Personally administered questionnaire is a set of questions that has been arranged by researchers and respondents independently filling the answers for those questions (Sekaran & Bougie, 2016).

For sampling method, this research employed nonprobability sampling method. In nonprobability sampling, the probability of an element of population to be chosen as sample for a research it is not known (Sekaran & Bougie, 2016). This research utilized one of the type of nonprobability sampling, namely purposive sampling. Purposive sampling is a sampling method in which the respondents that are selected are knowledgeable and have informations that researchers want, or the respondents fit the requirements from researchers (Sekaran & Bougie, 2016). The requirements for respondents of this research is anybody that has heard about online buying. This is because this research is intended to investigate further about customers online buying behavior during the Covid-19, and only those who has heard about online buying that could provide the information that is needed for this research. For data analysis, this research utilized the descriptive statistic method, in order to describe customers online buying behavior during Covid-19 pandemic.

## RESULT AND DISCUSSION

### Profiles of Respondents

For this research, questionnaires were administered through online means (through Microsoft Forms). There were 200 respondents who filled the questionnaires. The questionnaires were administered between 16<sup>th</sup> November 2020 until 26<sup>th</sup> November 2020. The respondents profiles could be seen from table 1 below.

From gender profiles, the majority of respondents in this research are female. Female respondents account for 69,5% of respondents (139 respondents), while only

30,5% respondents of this research are male (61 respondents) (Figure 1.). From age profiles, the majority of respondents in this research are fairly young, and could be considered as part of Gen Z (Kasasa, 2021), with 76% of respondents (152 respondents) still between 15 to 20 years old, and another 23,5% of respondents (47 respondents) are between 21 to 25 years old. Only 1 of respondent that in his fifties, and could be considered as part of Gen X

**Table 1.** Profiles of Respondents

<b>Profiles</b>	<b>Frequencies</b>	<b>Percentages</b>
<b>Gender</b>		
Male	61	30,5%
Female	139	69,5%
<b>Age</b>		
15 Years Old - 20 Years Old	152	76%
21 Years Old - 25 Years Old	47	23,5%
51 Years Old - 55 Years Old	1	0,5%
<b>Education Level</b>		
Senior High School	176	88%
Undergraduate/Bachelor's Degree	23	11,5%
Doctoral Degree	1	0,5%
<b>Occupation</b>		
College Student	199	99,5%
Employee of State-Owned Enterprise	1	0,5%
<b>Place of Residence</b>		
Java	170	85%
Sumatra	16	8%
Kalimantan	4	2%
Papua	4	2%
Bali	2	1%
Nusa Tenggara	2	1%
Sulawesi	1	0,5%
No Answered	1	0,5%
<b>Monthly Income</b>		
Less Than Rp. 1.000.000	135	67,5%
Rp. 1.000.000 - Rp. 3.000.000	60	30%
Rp. 3.000.001 - Rp. 5.000.000	4	2%
Rp. 5.000.001 - Rp. 8.000.000	1	0,5%
<b>Monthly Spending</b>		
Less Than Rp. 1.000.000	157	78,5%
Rp. 1.000.000 - Rp. 3.000.000	41	20,5%
Rp. 3.000.001 - Rp. 5.000.000	1	0,5%
Rp. 5.000.001 - Rp. 8.000.000	1	0,5%

Source: Authors Own Analysis

(Kasasa, 2021) (Figure 2.). From education level profiles, the majority of respondents (88% or 176 respondents) are senior high school graduates, while only 23,5% of respondents (23 respondents) have earned bachelor's degree, and only 1 of respondent has doctoral degree (Figure 3.). The reason why the majority of respondents are still only senior high school graduates is because the majority of respondents (99,5% or 199 respondents) are also still study either in undergraduate programs or postgraduate programs, and only 1 of respondents that has occupation as employee in a state-owned enterprise (Figure 4.). From place of residence profiles, the majority of

respondents live in Java Island (85% or 170 respondents), and another respondents live in other islands in Indonesia, such as Sumatra (8% or 16 respondents), Kalimantan (2% or 4 respondents), Papua (2% or 4 respondents), Bali (1% or 2 respondents), Nusa Tenggara (1% or 2 respondents), and Sulawesi (0,5% or 1 respondents).

Only 1 of respondent who declined to answer her place of residence (Figure 5.). From monthly income profiles, the majority of respondents (67,5% or 135 respondents) earned less than 1 million rupiah, while another 30% of respondents (60 respondents) earned around 1 million to

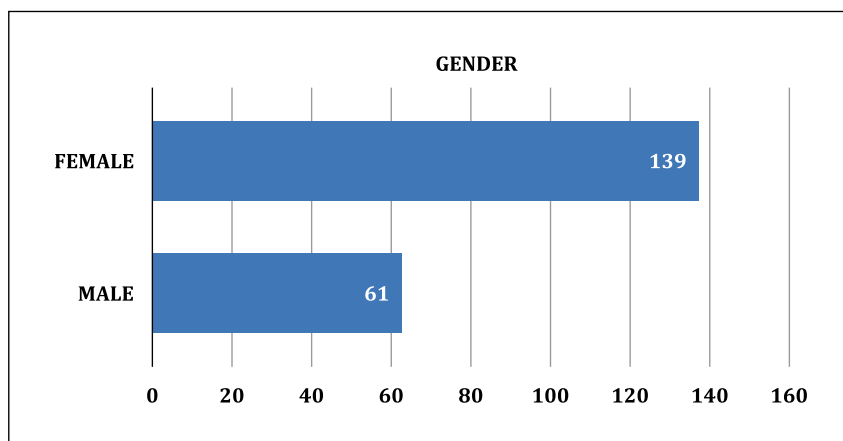


Figure 1. Respondents' Gender

Source: Authors Own Analysis

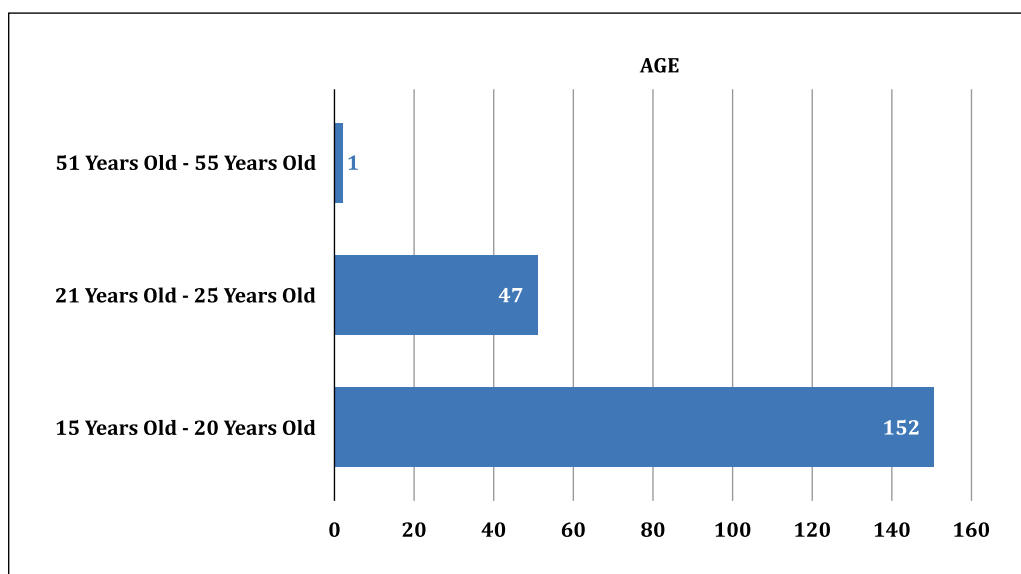


Figure 2. Respondents' Age

Source: Authors Own Analysis

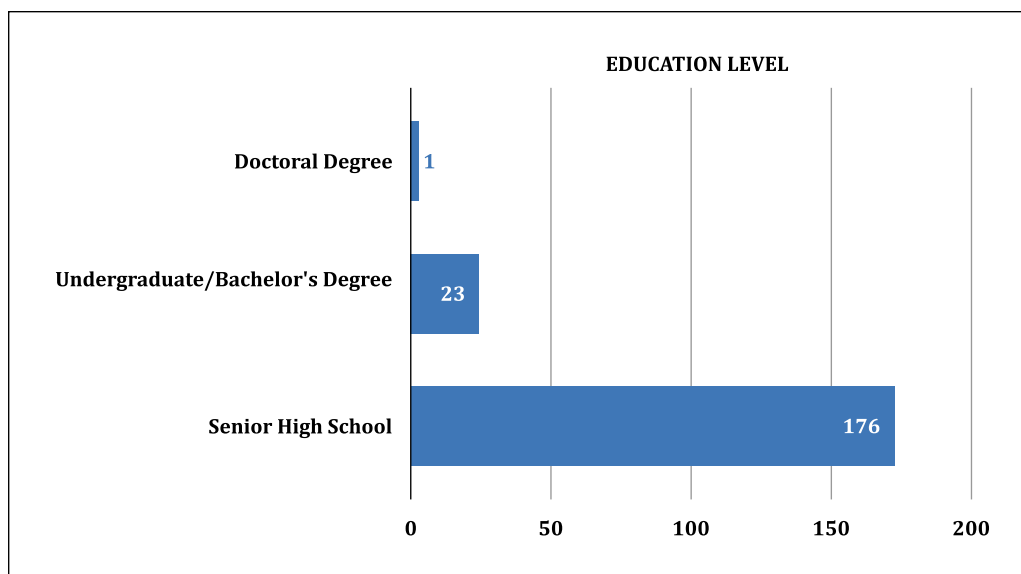


Figure 3. Respondents' Education Level

Source: Authors Own Analysis

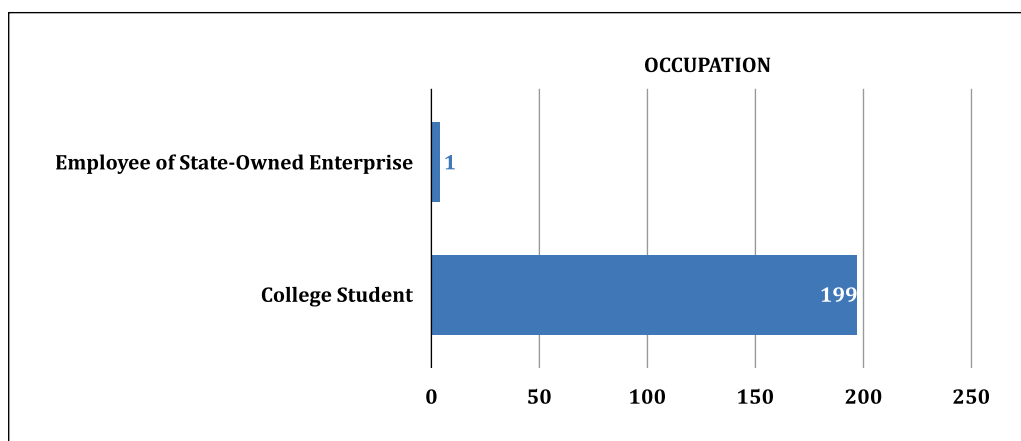


Figure 4. Respondents' Occupation

Source: Authors Own Analysis

3 million rupiah. Only 4 of respondents who earned around 3 million rupiah to 5 million rupiah, and only 1 of respondents who earned more than 5 million rupiah (Figure 6.). From monthly spending profiles, the majority of respondents (78,5% or 157 respondents) spent less than 1 million rupiah, while another 20,5% of respondents (41 respondents) spent between 1 million to 3 million rupiah. Only 1 of respondent who spent around 3 million to 5 million rupiah, and another 1 of respondent who spent more than 5 million rupiah (Figure 7).

There were several questions that were asked from online buying behavior perspectives. During

the Covid-19 pandemic (from the first time that Covid-19 pandemic case was announced in March 2020 until this research was conducted during November 2020), the majority of respondents only bought from online platforms between 1 to 5 times (40,5% or 81 respondents). Another groups of respondents stated that they bought from online platforms more often, with 26,5% of respondents (53 respondents) bought from online platforms between 6 to 10 times, 13,5% of respondents (27 respondents) bought from online platforms between 11 to 15 times, another 2,5% of respondents (5 respondents) bought from online platforms between 16 to 20 times, and 13% of respondents

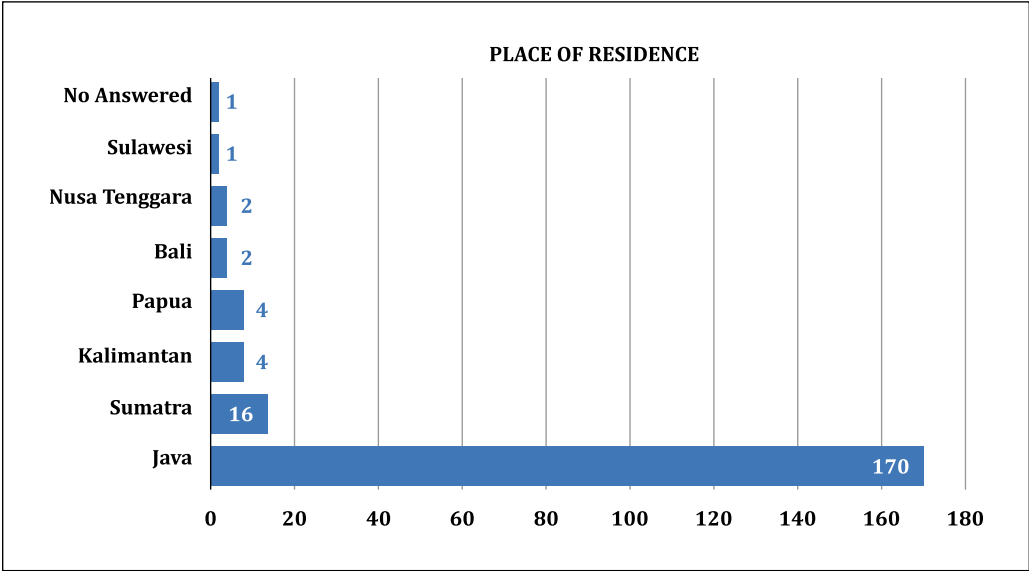


Figure 5. Respondents' Place of Residence

Source: Authors Own Analysis

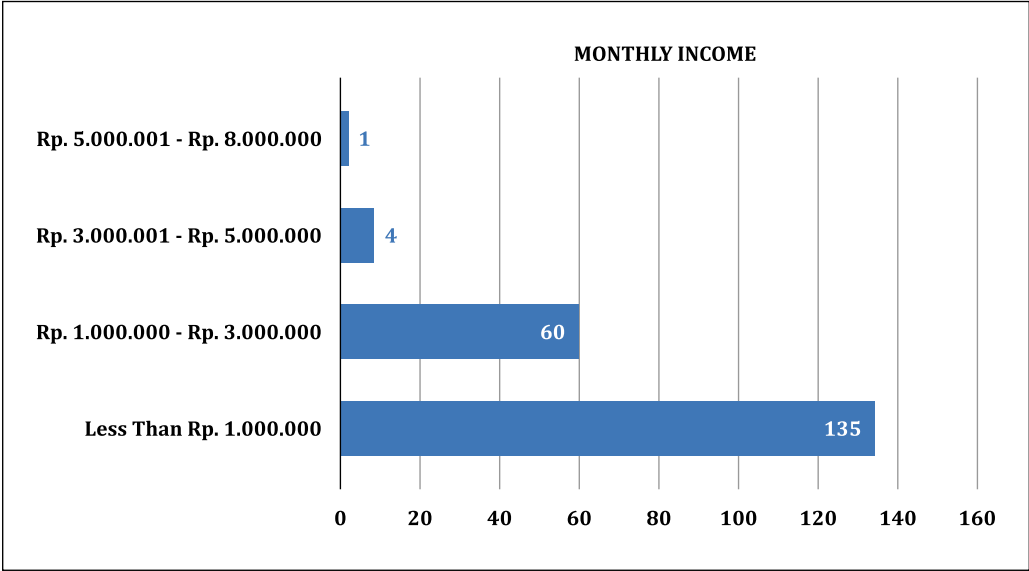


Figure 6. Respondents' Monthly Income

Source: Authors Own Analysis



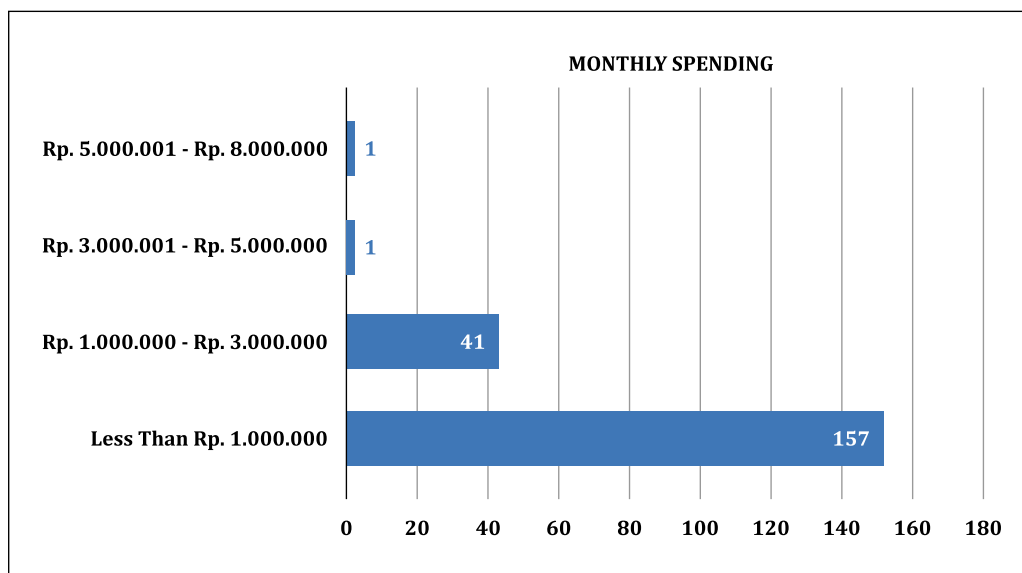


Figure 7. Respondents' Monthly Spending

Source: Authors Own Analysis

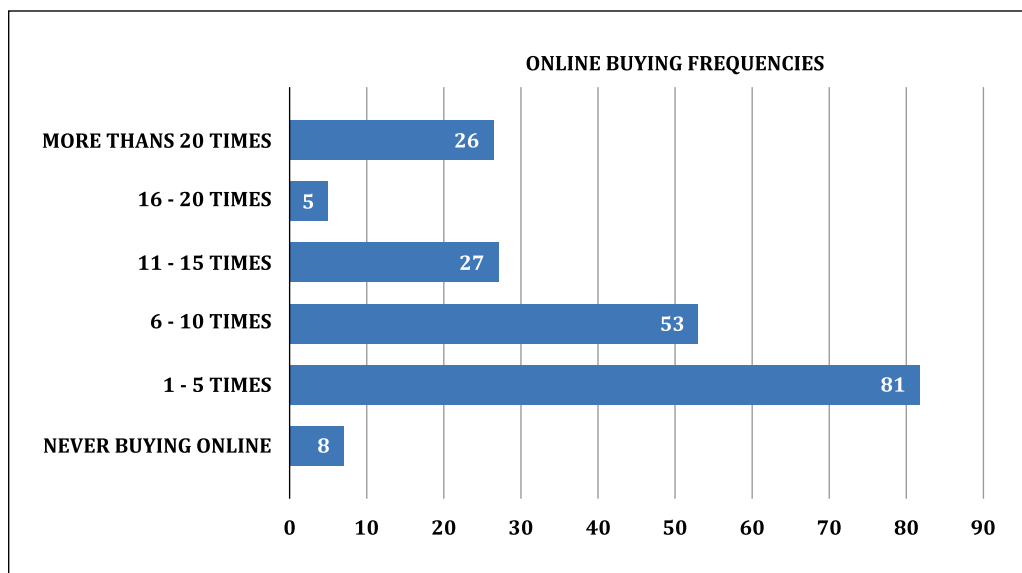


Figure 8. Respondents' Online Buying Frequencies During The Pandemic  
(March 2020 – November 2020)

Source: Authors Own Analysis

(26 respondents) bought from online platforms more than 20 times. Only 4% of respondents (8 respondents) who never bought from online platforms (Figure 8.). Since the majority of respondents (55,5% or 111 respondents) bought from online platforms more than 5 times during the pandemic, it could be concluded that there was a shift from offline buying to online buying for majority of respondents, albeit not significant (since only 29% or 58 respondents who bought from online platforms more than 10 times, or on average more than 1 time once a month). During the Covid-19 pandemic, the majority of respondents spent less than 1 million rupiah during online buying activities (65% or 130 respondents). Another 20,5% of respondents (41 respondents) spent around 1 million to 3 million rupiah for online buying activities, 3,5% of respondents (7 respondents) spent around 3 million to 5 million rupiah for online buying activities, and 4% of respondents (8 respondents) spent around 8 million to 10 million rupiah for online buying activities. Only 1 of respondents who spent around 10 million to 15 million rupiah for online buying activities, and another 1 of respondents who spent more than 15 million rupiah for online buying activities. On the other hand, only 4% of respondents (8 respondents) who never

bought from online platforms (Figure 9.). Since the majority of respondents (85,5% or 171 respondents) only spent less than 3 million rupiah for online buying activities, it could be concluded that even though there was a shift from offline buying to online buying, majority of respondents did not spend a large amount of money for online buying activities. Lastly, for the types of goods that respondents have purchased from online platform during Covid-19 pandemic, the majority of respondents bought fashion and beauty care products (69% or 138 respondents), 38% of respondents (76 respondents) bought electronic or gadget products, 35% of respondents (70 respondents) bought healthcare equipments, 31% of respondents (62 respondents) bought food and beverage products, and 19% of respondents (38 respondents) bought household goods. Only 4% of respondents (8 respondents) who never bought from online platforms (Figure 10.). Since the majority of respondents of this research are women, it is not surprising that the majority of respondents also bought fashion and beauty care products from online platforms. Because of the Covid-19 pandemic, there were also a large number of respondents (35% or 70 respondents) who bought healthcare equipments from online platform.

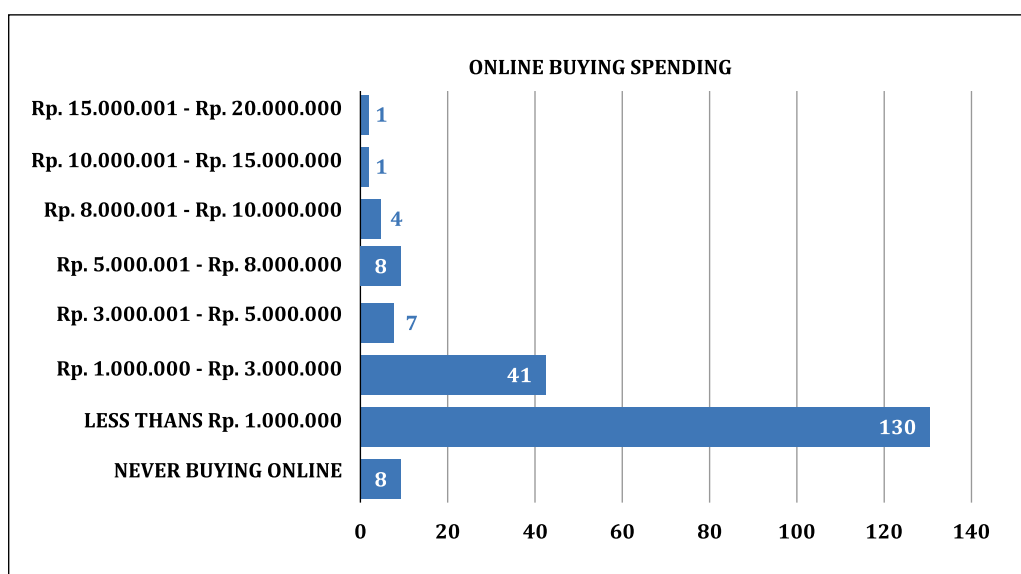
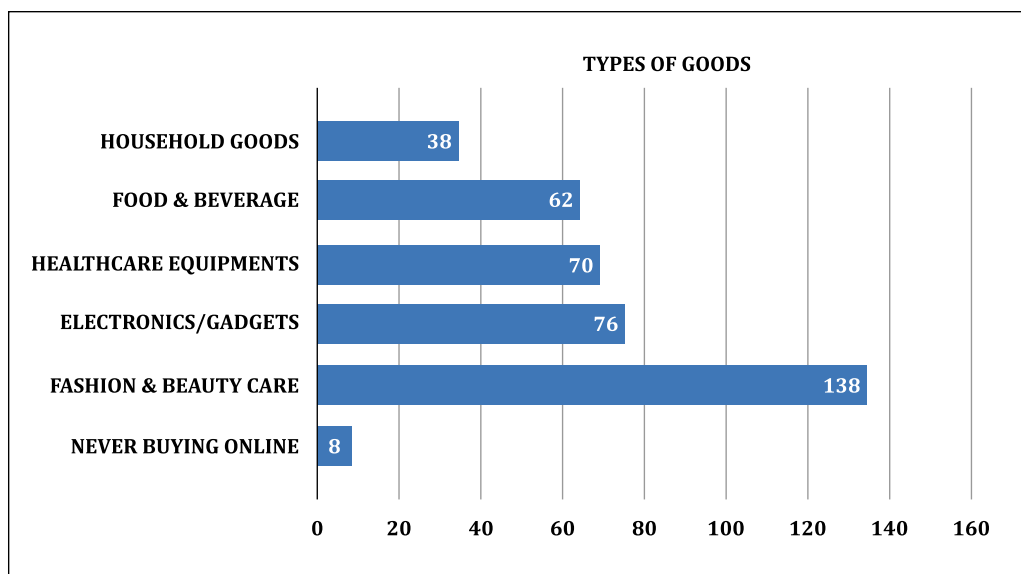


Figure 9. Respondents' Online Buying Spending During The Pandemic (March 2020 – November 2020)

Source: Authors Own Analysis



**Figure 10.** Respondents' Types of Goods That Have Been Purchased Online During The Pandemic (March 2020 – November 2020)

Source: Authors Own Analysis

## CONCLUSION

Since its first inception during the 1990s, electronic commerce (e-commerce) has revolutionized customers buying behavior and caused the customers to shift from traditional brick-and-mortar stores into online stores (Shia et al., 2015; Lestari, 2014). In Indonesia, it is expected that the e-commerce market will become the third largest in Southeast Asia region, with e-commerce market enjoying rapid growth around 60 to 70 percent annually since 2014 (Kshetri, 2018; Macquarie Research, 2017). This enable the rise of several large e-commerce players in Indonesia, both local companies (Tokopedia, Bukalapak, and Blibli), and foreign companies (Shopee, Lazada, and JD.ID) (Goodnewsfromindonesia, 2020). On the other hand, the Covid-19 pandemic is still ravaging Indonesia, with around a million Covid-19 cases and more than 30 thousand deaths due to Covid-19 (Kompas, 2021). This pandemic causes concerns among costumers in Indonesia due to the higher risk of Covid-19 transmission during buying activities in traditional brick-and-mortar stores (Desai & Aronoff, 2020). Thus, buying from online stores through e-commerce providers became more convenient and safer option for customers, and more customers start shifting from traditional

brick-and-mortar stores into online stores (Kim, 2020). This is proven during the McKinsey and Company survey from 25<sup>th</sup> to 26<sup>th</sup> April 2020 with 711 respondents (Kompas, 2020). Since it would be interesting to investigate further about customers online buying behavior, especially during the Covid-19 pandemic, the purpose of this research is to investigate about customers online buying behavior during the pandemic with quantitative and descriptive approach. The respondents of this research are predominantly female (69,5% of respondents), between 15 to 20 years old (76% of respondents), have graduated from senior high school (88% of respondents), currently still college students (99,5% of respondents), reside in Java (85% of respondents), with monthly income and monthly spending less than 1 million rupiah (67,5% of respondents and 78,5% of respondents, respectively). The findings of this research are that the majority of respondents might have shifted from offline buying to online buying (55,5% or 111 respondents), albeit not significantly. On the other hand, the majority of respondents chose to not spend a large amount of money for online buying activities, and only spent less than 3 million rupiah (85,5% or 171 respondents). The majority of respondents also bought fashion and beauty care products from

online platforms (69% or 138 respondents), and because of Covid-19 pandemic, a large number of respondents also bought healthcare equipment from online platforms (35% or 70 respondents). The limitations of this research is that this research does not investigate the costumers' online buying behavior prior the pandemic, and this research also does not investigate the customers' buying behavior in traditional brick-and-mortar stores. The implication of this research is that Covid-19 pandemic could change customers behavior, especially buying behavior, since more customers shifted from buying from traditional brick-

and-mortar stores into buying from online platforms. Since buying from online platforms has several advantages (time efficiency, bypassing the crowds, 24 hour shopping accessibility, more purchasing options, more competitive prices, and environmentally friendlier), it is therefore even after the Covid-19 pandemic has finally been contained, customers could still prefer to buy from online platforms rather than visit traditional brick-and-mortar stores. Thus, it would be better if traditional brick-and-mortar retailers start transitioning to e-commerce rather than stick only on traditional brick-and-mortar stores.

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