



Chapter 3

An Unexpected Surge in E-Commerce and Accelerated Digital Transformation: A Blessing in Disguise from COVID-19

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A. Introduction

The COVID-19 pandemic has had a significant impact on all aspects of life. To reduce the spread of COVID-19, governments worldwide have taken aggressive steps that are beneficial to preventing the spread of the virus. The government's two most crucial steps are social distancing rules and staying-at-home regulation. According to the United States Centers for Disease Control and Prevention, social distancing can be achieved by maintaining safe spaces between people. The stay-at-home regulation has forced many food services, shopping malls, and airlines to close their businesses. For example, in the food service industry, the business model has been massively changed from dine-in to online takeaway orders. Furthermore, international borders were

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closed to prevent the spread of the virus from inbound sources. The lockdown implementation in many countries has exacerbated the situation, making the economy paralyzed.

In Indonesia, the recommendation from WHO is implemented by imposing lockdowns partially in big cities and small towns. Due to the COVID-19 pandemic, people mobilization has become limited and drastically shifted the economic condition, including a shift in the digital world. Shifts occurred in the digital world cause both positive and negative impacts. One example of the negative impact early in the pandemic was the travel industry, where many airlines went bankrupt and closed their businesses (i.e., Air Italy and Alitalia). In addition, hotel occupancy rates at every accommodation type have also decreased dramatically due to the absence of tourists because of travel restrictions. Meanwhile, the positive impact of the digital world is the unexpected growth in e-commerce, food delivery services, online education, and digital marketing (Santoso, 2020).

Following the government regulations, restaurants have changed their business models from dine-in to taking away and prioritizing online orders. The food industry is transforming rapidly to online ordering in the pandemic era. This change was made possible by advances and developments in electronics, as an “offline to online” (O2O) model. O2O refers to a platform allowing customers to purchase products or services online from companies (Zanetta et al., 2021). The concept of O2O initially emerged from an e-commerce service provider, then developed into a Food Delivery Application (FDA). The FDA acts as a bridge connecting restaurants and markets with their consumers, making it possible to receive food at home. In addition, according to Zanetta et al. (2021), the online shopping method can reduce stress levels and the risk of being exposed to viruses due to traveling.

Concerning e-commerce transactions during the COVID-19 pandemic, some extraordinary facts were also found on major e-commerce sites. Several world retail websites such as Amazon and e-Bay have shown significant growth during the COVID-19 pandemic. In 2020

sales, the highest record was recorded by Amazon.com, as much as \$4.059 billion, followed by Ebay.com with sales of \$1.227 billion (Bhatti et al., 2020). However, this condition was the opposite in travel and tourism, especially in the airline industry. Within 2020–2021, major airlines such as Air Italy and Alitalia filed for bankruptcy. Philippine Airlines has already left the business, and Thai Airways is struggling to prevent airlines from bankruptcy in South-East Asia. Meanwhile, Indonesia's leading airline, Garuda Indonesia, was also plagued by enormous debt and attempted to avoid bankruptcy.

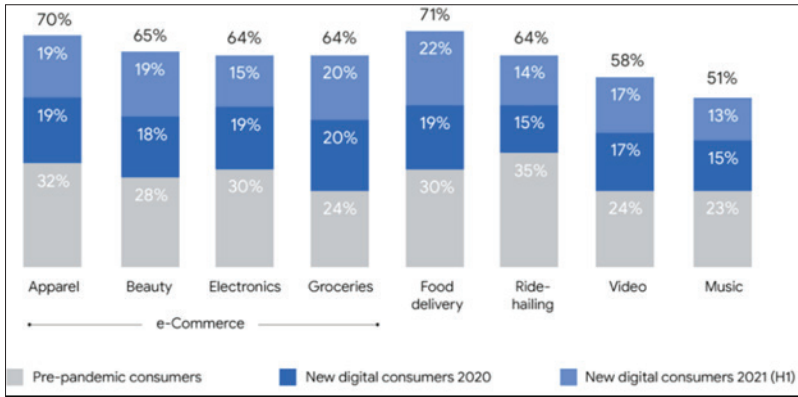
As the airline industry weakened and e-commerce boomed, one crucial issue must be discussed. Has the digital shift accelerated the restitution of Indonesia's national economy amidst the COVID-19 pandemic? Using three emphasized curative summaries: e-commerce, the travel industry, and online food ordering, the authors describe the problems and effects that have emerged in Indonesia. This chapter mainly discusses the rise of digital adoption and consumption in driving the wheels of the national economy. Eventually, the author hopes that the issues raised can be used as a source of knowledge and contribution to global society.

B. Google Perspective: Indonesia Has Potential Growth in Digital Consumers in 2025

Google has predicted that Indonesia will experience exponential digital customer growth in 2025. Based on Sea e-Conomy Research 2021¹ report, the number of new digital services in Indonesia has rapidly increased by 21 million new digital customers since the beginning of the COVID-19 pandemic. A 'digital consumer' is defined as any internet user who has paid for an online service in any vertical business before or after the pandemic (Baijal et al., 2021). A vertical is a business opportunity where a vendor fulfills a specific request for a particular customer. Pre-pandemic users who used the services

¹ SEA e-Conomy Research Report is a report produced by Google, Temasek, Bain. The reported data includes insight for e-Commerce, transport & food, online travel, online media, financial services.

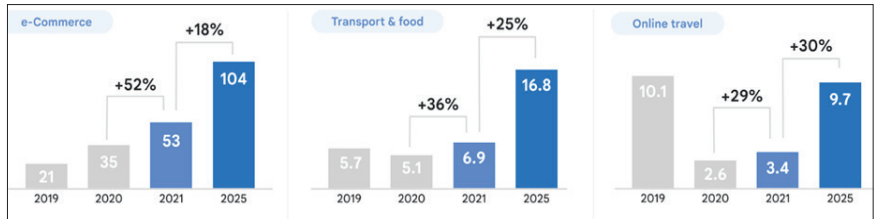
before the pandemic had increased the usage of their digital services by roughly 3.6 higher services since the pandemic. 96% of customers had digital services, and 99% continue to use digital applications. The highest category in e-commerce reported in apparel (70%), and outside the e-commerce is food delivery (71% depicted in Figure 3.1).



Source: Adopted from Baijal et al. (2021)

Figure 3.1 Percentage of Internet Users Across Digital Services Year to Year, based on Southeast Asia (Including Indonesia)

Resilience gives way to resurgence. In 2021, Indonesia's Gross Merchandise Value (GMV) reached \$70 billion and got a 49% year-over-year (YoY) surge. This number was based on signifying the growth of the population. Overall, all segments in digital will bounce back with YoY development. For instance, based on Figure 3.2, by 2021, 52% growth in e-commerce supports digital services rises. All sectors are predicted to double growth by 2025, with e-commerce as the digital service leader. Accordingly, by that respective year, Indonesia will be the most aggressive digital financial services hub for fintech and digital platforms (Baijal et al., 2021). The development of fintech positively affects all e-commerce and other digital services.



Source: Baijal et al. (2021)

Figure 3.2 Indonesia GMV per Sector (\$B)

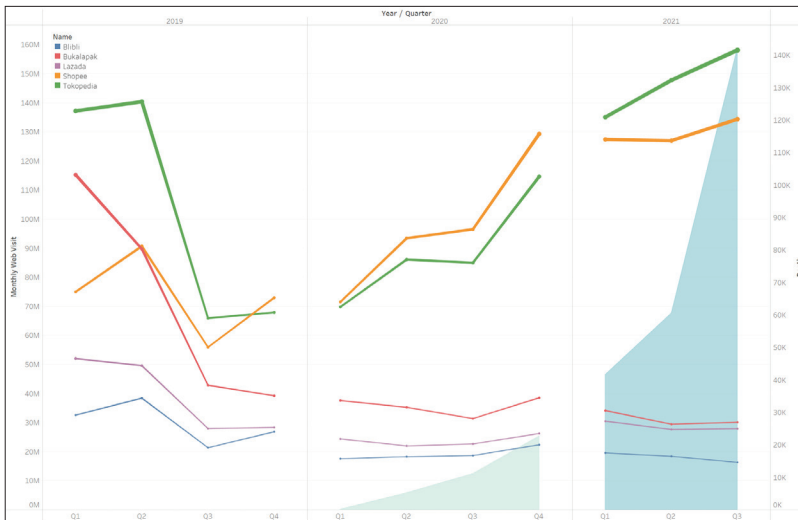
C. Indonesia's Economic Transformation through E-Commerce Penetration during the COVID-19 Pandemic

The internet is the primary device for selling or buying products in this digital era. Goods trading, traditionally done face-to-face, is now recommended to be done online. As a result, the rise of the digital economy is increasing very rapidly. Daily business activities such as buying and selling, advertising, marketing, consumer support, shipping, and payments extensively utilize websites and internet applications as their primary medium. Companies with suppliers or business partners use technology to trade and professionally do their business. Companies can reduce operational costs for trading activities through e-commerce, and buyers can choose suitable logistic methods to receive faster delivery.

Since the beginning of the COVID-19 pandemic in Indonesia, the utilization of e-commerce has experienced a rapid increase to meet daily needs (Rakhmawati et al., 2021). Data from iPrice, a company that compiles product prices from several e-commerce sites in South-east Asia, provides insight into Indonesian e-commerce sites. Figure 3.3 shows the e-commerce data with more than 10 million visitors. After combining the data with the COVID-19 cases, the data shows increasing e-commerce traffic during the pandemic.

However, according to the Central Bureau of Statistics (BPS), efforts to inhibit the spread of the COVID-19 virus have been hampered

economic activity, and society feels its impact on the level of social welfare. 72.39% of e-commerce business owners suffer decreased business income. In comparison, around 9.72% felt income increases. Only 17.89% of business practices claimed not to be disturbed by the COVID-19 pandemic, or their revenue remained unaffected as before the pandemic (BPS, 2021). Furthermore, e-commerce industries experienced decreased transaction volume of 71.83%. 18.40% had the same transaction volume as the volume of transactions before the COVID-19 pandemic. 9.77% of business owners experienced an increase in volume during the pandemic (BPS, 2021). The unseen impact of the pandemic is the transformation of the business from offline to e-commerce (online), digital service satisfaction level increases, massive adoption of internet technology, and the massive use of digital marketing (Santoso, 2020). Businesses that use the internet and digital marketing as a base are experiencing significant growth, such as online entertainment, food delivery, online education, and remote work (Orinaldi, 2020).



Source: Processed Data from iPrice insights (2019–2021)

Figure 3.3 Indonesia E-Commerce Site Monthly Visit and COVID-19 Cases

In addition to data from the Central Bureau of Statistics and iPrice, another data report that uses cumulative data based on Statista reports a significant increase in the number of people buying consumer goods via the internet (Kemp, 2022). The number of people purchasing goods online is reported as follows: (1) January 2020: 168.3 million people, (2) January 2021: 138.1 million people, and (3) February 2022: 158.6 million people. Thus, this data indicates an e-commerce trend that started going down in the pandemic and is slowly moving up. Based on the trend, it might be possible to reach higher in 2023 and come back to the trend of 2020 (before the pandemic).

From the data presented by the Central Bureau of Statistics, e-commerce increased sharply between the 2021 period during the pandemic. However, this increase was not necessarily distributed evenly throughout Indonesia and at all levels of society. Small Medium Enterprises (SMEs) that can use digital platforms will prevail, but conventional SMEs will more likely go out of business and bankrupt. There is another factor; customers in specific locations have different preferences. For example, researchers found that on Java Island, purchase preference is mainly based on hedonic motivation, convenience, and economic motive. Meanwhile, on Sumatra Island, the only factors that impact purchase preference are social forces and facilitating needs (Alfanur & Kadono, 2019).

Another essential factor described by the Central Bureau of Statistics is that the reach and internet access of households in Indonesia are not evenly distributed. The World Bank states that the use and proportion of internet usage for business activities depend on household income. The use of the internet is much higher for wealthy households than for low-income families. However, the internet is not the only factor that can recover Indonesia's economy. Another critical factor is the ease of transportation for logistics and delivery of goods (KEMENPERIN RI, 2018). Delivery costs significantly affect the worth of an item in an area and cause the price of goods to be unequal on every island in Indonesia. Nevertheless, the Indonesian government can strengthen logistics by developing infrastructures

such as toll roads (Business Sweden, 2018). As the e-commerce market continues to grow and logistics infrastructure is advancing, Indonesia can emerge from the COVID-19 pandemic in the future.

D. What Shifts Have Occurred in the Tourism Industry due to COVID-19?

This section explores the challenges of the economy in the Indonesian tourism industry—particularly in travel agencies, airlines, and hotels—due to the COVID-19 pandemic. Tourism is generally divided into four major categories: transportation, accommodation, ancillary services, sales, and distribution (Camilleri, 2018). Transportation assists tourists in reaching a particular destination using a means of transport. Accommodation helps to house tourists while staying in a destination. Additional services include activities and attractions that entertain and engage tourists while on their visit. Lastly, sales and distribution—i.e., travel agencies—provide support services. The sales distribution system helps sell the tourism product to the prospective buyer through intermediaries, including service providers, wholesalers, and retailers.

Transportation is crucial in the operation and availability of support services in the international tourism industry. In addition, transport links tourists and tourism experiences in determining travel preferences. Travel accommodation selection greatly varies in quality and budget range to attract different travelers. Choices include family hotel, budget hotel, bed and breakfast, leisure activity hotel (farmhouse, camping, or educational accommodation), and Air BnB shared accommodation model. In selecting the accommodation, price and facilities are important factors. For example, backpackers prefer cheaper accommodations that only provide the essentials—compared to families that request more high-end accommodation with many amenities and services. It is also important to note the additional services encompassing tourist publications, public service, financial service, food and beverage, entertainment, retail facilities, tourist guides, and courier services.

Today’s consumers search for information and buy travel products from online travel agents. Travel agencies that provide online services compete better than those that sell face-to-face (offline) services. With the online condition, customers can easily choose the package that fits their budget, allowing them to have online discussions in advance. Nevertheless, due to COVID-19, Indonesia’s travel industry is quite problematic. COVID-19 damaged Indonesia’s airline business, one of the essential tourism factors. Based on the Central Bureau of Statistics (BPS, n.d.), depicted in Table 3.1, the number of international visitor arrivals has significantly declined from Q1 2020—where COVID-19 fears started—and continued to drop in the following quarters. The most significant dip was between Q1 2020 and Q2 2020, when the average number of international arrivals dropped by approximately 99.66%. As a result of the pandemic, there have been no visible signs of recovery in the airline business as the number of international arrivals is still not fully recovered.

Table 3.1 Indonesia International Visitor Arrivals from Q1 2019 to Q4 2021

Year	Q1	Q2	Q3	Q4
2021	21.693	48.600	13.532	53.417
2020	1.639.068	2.752	19.788	51.964
2019	2.197.042	2.312.334	2.853.312	2.472.018

Source: Processed Data from BPS (2019–2021)

The COVID-19 pandemic affected international arrivals into Indonesia and produced a sizeable impact on domestic departures. Bali is chosen as a case study to benchmark Indonesia’s tourism performance as the spearhead of tourism in Indonesia. Table 3.2 explain the four main Indonesian airports. The data clearly shows the decline in departures from 2019 to 2020, with Ngurah Rai Airport (Bali) experiencing the steepest decline—a 64% reduction in departures. Despite the performance in 2020 and 2021 not showing a good trend, the rate of decline across all airports has slowed, which offers an encouraging sign for the airline industry’s recovery—and continued vaccination efforts might trigger more travel demand shortly.

Table 3.2 Indonesia’s Main Airport Domestic Departures

Airports	2019	2020		2021	
	Domestic	Domestic	YoY Change (%)	Domestic	YoY Change (%)
Soekarno Hatta	19.265.062	8.621.796	-55	7.945.377	-8
Juanda	6.288.591	2.747.248	-56	2.471.367	-10
Ngurah Rai	4.955.803	1.775.528	-64	1.825.064	3
Hasanuddin	3.353.765	1.797.572	-46	1.763.972	-2

Source: Processed Data from BPS (2019–2021)

On the airline business side, the pandemic affected the airline industry, with Garuda Indonesia facing severe challenges due to the COVID-19 pandemic. Data from Garuda’s 2020 annual report (Garuda Indonesia, n.d.), indicates that total domestic passengers have significantly dropped from 15.4 million passengers in 2019 to approximately 4.54 million in 2020. It means a 54.46% downfall. While total international passengers also exhibited a similar downward trend from 4.27 million to 0.77 million over the same period—approximately 69.44% decrease in international passengers. As a result, Garuda Indonesia’s financial performance declined in 2020.

Despite the airline industry suffering a massive blow in flights due to the COVID-19 pandemic, low-cost airline shows resistance to the pandemic. Indonesia National Air Carriers Association (INACA) reported that Lion Air Group (Wings Air, Batik Air, Lion Air), which is a leading Indonesia low-cost airline group, shows a Seat Load Factor (SLF) well above 50%, especially for the domestic market (INACA, 2021). Additionally, in the pandemic era, a new flight provider—Super Air Jet—entered the Indonesian market in March 2021. Super Air Jet’s business model revolves around the low-cost carrier model and explicitly targets the millennial or young generation. As of March 2022, Super Air Jet currently had 16 aircraft in total in service. Based on Garuda Indonesia, Lion Air, and Super Air Jet case, in sum, the Indonesian airlines business looks sluggish but slowly recovered the market.

E. What Shift Arose in the Hotel Industry due to Pandemics?

As shown in Table 3.3, the national hotel occupancy rate has significantly dipped in 2020 relative to previous years due to the pandemic. The hotel room occupancy rate reached 15.61% in Q2 2020—its lowest point in the last five years. This illustrates the devastating impact COVID-19 has on the hotel industry. Despite the record low occupancy rate in Q2 2020, the occupancy rate managed to increase to 31.04% in Q3 2020 and provided a dose of optimism for recovery. The recovery trend continued until Q3 2021 when the occupancy rate dipped below 30% again since Q2 2020 but was halted due to the delta variant outbreak. Nevertheless, the hotel occupancy rate bounced back strong in Q4 2021 at 48.34%, the highest point since the outbreak.

Table 3.3 Room Occupancy Rate of Classified Hotels from 2016 to 2021 (%)

Year	Q1	Q2	Q3	Q4
2021	32,94	35,05	28,03	48,34
2020	43,54	15,61	31,04	39,47
2019	52,26	49,9	54,8	58,25
2018	55,07	54,44	59,42	59,59
2017	52,64	54,08	57,98	58,11
2016	51,45	52,82	54,38	56,13

Source: Processed Data from BPS (2016-2021)

When speaking about the tourism industry, Bali is crucial for Indonesia. Bali has a role in increasing foreign exchange from the tourism sector, creating a potential market for local goods and services (Antara & Sumarniasih, 2017). Nevertheless, the COVID-19 pandemic greatly affected Bali's tourist arrivals. Table 3.4 depict the devastating international arrivals during a pandemic. The most severe decline was during Q2 2020—where arrivals declined from 1,058,709 to 317 or a 99.97% reduction, signifying the harsh hit to Bali's tourism sector. Arrival statistics in 2021 emphasized the crushing effect of COVID-19

on the tourism business—indicated by only 43 international arrivals in 2021—and provided a bleak picture of the current state of Bali.

Table 3.4 International Arrivals to Bali

Year	Q1	Q2	Q3	Q4
2021	17	18	0	8
2020	1.058.709	317	36	136
2019	1.329.681	1.509.515	1.796.751	1.603.596
2018	1.273.842	1.582.886	1.751.531	1.417.501

Source: Processed Data from BPS (2018–2021)

The lack of international arrivals due to the COVID-19 pandemic also negatively affected Bali hotel occupancy rates, as shown in Table 3.5. Before the pandemic, hotel occupancy rates rose around 60–65% from 2017 to 2019 and dropped to around 13–15% from 2020 to 2021. The most significant drop-off occurred in Q2 2020, when hotel occupancy rates reached a record low of 2.45%, equivalent to a 94.37% decrease compared to Q1 2020. Although hotel occupancy rates slightly increased to around 12% in Q4 2020, the recovery in subsequent quarters has been sluggish and dropped below 10% in Q3 2021—coinciding with the delta variant outbreak—but results in Q4 2021 provide room for hope as hotel occupancy rates reached its highest point since the COVID-19 outbreak.

Table 3.5 Occupancy Rate in Bali Hotel (%)

Year	Q1	Q2	Q3	Q4
2021	10,13	12,37	6,49	23,02
2020	43,56	2,45	3,84	12,62
2019	55,06	57,42	64,01	61,77
2018	60,27	67,13	72,58	60,53
2017	59	62,39	73,27	56,89

Source: Processed Data from BPS (2017–2021)

F. Hidden Opportunity: Indonesia Food Services Business Growth

Indonesia's GMV growth from quartile 1 2021 has been surpassing the deal values of each of the last four years of Indonesia's GMV. Indonesia will rise at an exponential rate of growth in digital consumers and the population. GMV of Indonesian Food Delivery Services was \$3.7 billion in 2020, the highest in Southeast Asia (Jayani, 2021). 74.4% of internet users in Indonesia used food delivery applications in 2020, and this percentage is the highest in the world (Lidwina, 2021).

Grab Food and Gojek's Food are the two most extensive food delivery services in Southeast Asia and exist in Indonesia. GMV of Grab's food delivery service reached \$7.6 billion or around Rp109,4 trillion in 2021, an increase of 28.8% from the previous year of \$5.9 billion, thus making Grab Food the best food delivery service in Southeast Asia (Rizaty, 2021). Meanwhile, Gojek's GMV rank is third in Southeast Asia at \$2 billion or Rp28.8 trillion. According to Rizaty (2021), a food delivery service has three strengths: lower costs, local leadership with product localization, and strong relationships with local governments.

Several aspects affect users in using the FDA, especially in Southeast Asia. Two countries from Southeast Asia, Indonesia, and Thailand are compared because these countries employ food delivery services from the same company: Grab Food and Go Food (GET in Thailand). As shown in Table 3.6, researchers used the Unified Theory of Acceptance and Use of Technology (UTAUT) based on the planned behavior theory to explain the customer experience when using the FDA (Chotigo & Kadono, 2021; Purnamaningsih et al., 2019; Widanengsih et al., 2022). The use of technology can be measured by UTAUT, which comprises four main determining dimensions (performance, effort, social, and facilities (Macedo, 2017).

Table 3.6 Comparison of Studies on Food Delivery Services.

	Indonesia	Thailand
Sources	Purnamaningsih et al., 2019 Widanengsih et al., 2022	Chotigo & Kadono, 2021
Before the Pandemic	100 respondents Cost and benefit are constant problems when it comes to business. Additionally, competitive prices to the user and new customers must be offered as a competitive advantage (Purnamaningsih et al., 2019).	220 respondents Before the pandemic, price value is the essential feature of user satisfaction. Someone will have a habit of using the FDA if they are entirely pleased with the application (Chotigo & Kadono, 2021).
During the pandemic	100 respondents User intentions when they use the food delivery services are highly affected by the easiness of the FDA and usage behavior. (Widanengsih et al., 2022).	250 respondents When using FDA, user satisfaction is affected by convenience, social influence, trust, and application quality. Interestingly, the price of a product does not have any impact. However, findings from user satisfaction when using the FDA during the COVID-19 describe a similar experience before the COVID-19. (Chotigo & Kadono, 2021).

Based on the findings in Table 3.6, both in Thailand and Indonesia, contactless food delivery has become a top priority for consumers in the pandemic era (Chotigo & Kadono, 2021; Widanengsih et al., 2022). Customers cherish food delivery safety factors such as handling, preservation, packaging, and logistics (Chotigo & Kadono, 2021). Before the pandemic, the FDA was influenced by price value in Indonesia, but not during the pandemic (Widanengsih et al., 2022). Before the pandemic, a person's habits did not affect the change in the type of food ordered, but during the pandemic, boredom caused someone to change food every time they ordered. Additionally, orders from online food delivery are highly determined by human emotions,

such as sophisticated food packaging and unboxing experiences. Chotigo & Kadono (2021) pointed out that amidst the COVID-19 pandemic, food delivery businesses using online services were highly popular among food lovers who were easily tempted by premium offers. Interestingly, customers showed a higher desire to order food for a meal or dinner at home when inviting friends.

G. Conclusion

The pandemic that has occurred worldwide is causing concerns about economic growth. The economy, which should grow every year, has turned upside down. The impact of the pandemic is the closure of international logistics and transportation, which significantly affects export and import trade relations between countries. This trade relationship immediately stopped and caused a country's balance sheet to experience a decline due to the pandemics. For Indonesia, economic resilience is proven by the growth rate of e-commerce. Fortunately, demand for domestic goods has not been affected during the pandemic. Another good thing is the high rate of FDA adoption of online food ordering. Other factors such as stay-at-home regulation have played a role in suppressing the spread of COVID-19 and increasing food orders online.

The current situation for tourism has not improved. Central Bureau of Statistics reported that Indonesia's tourism industry had not shifted, especially visitors from foreign countries. However, although the hotel occupancy rate has not increased for the hotel industry, there has been a shift in the business model. The business model that previously rented hotels to guests has now become a quarantine place for COVID-19 patients without symptoms or with symptoms. Thus, this encouraged them to create a new business model to maintain resilience in the hotel industry.

A report published by PWC—a public accounting firm—in 2015 (Hawksworth & Chan, 2015) predicts that Indonesia 2050 will become the fourth largest economy globally. Although the information was published when there was no indication of a worldwide

pandemic, Indonesia still has strong potency in the future with the 2045 Golden Generation program. Indonesia has both great power and great substantial capital to achieve mutual prosperity. The youths building Indonesia today will become dynamic leaders in the future who will synergize with each other, producing wealth and glory for all Indonesian people.

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