

# Coronavirus Disease 19: Business Shift and Switch in the Age of Digital Data

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**Abstract-** This study aims to understand the implications of the Coronavirus Disease (Covid 19) pandemic for technology-based companies. The research data was obtained from the Statqo Analytics website in the form of visual data from the results of analytic data using machine learning applications available at the provider. The approach used is interpretive, where any visual data that is successfully obtained will be enriched with explanations and reveal the meaning contained in each visual data in this research. The results of the visual data interpretation describe that the emergence of a new virus which is virologically called Corona Virus Disease or Covid 19 has disturbed the world community, including the people of the archipelago. The social distancing, physical distancing and large-scale social restrictions (PSBB) policies that have been enforced in all regions have resulted in religious activities and social activities from the community that cannot run normally which has an impact that extends to hampering business activities in Indonesia. Online-based transportation companies, namely Gojek and Grab, online ticket sales (Traveloka.com, Pegipegi.com, Tiket.com, Trivago.co.id, and Nusatrip.com), the domestic aviation industry, and domestic E-commerce services (Shopee, Tokopedia, Lazada, Bukalapak, Blibli) are experiencing a turnover crisis as a result of the implementation of government policies to anticipate the spread of Corona Virus Disease 19.

**Keywords:** Covid 19, digital data, online companies, transition.

## Introduction

The growth of the country's economic activity is an important measure to assess the success of the government in processing its resources. Economic growth is marked by the operation of business sectors in producing goods or services on a domestic scale. Micro-scale economic activities will be the basis for economic development at a macro scale. Micro-scale businesses such as the industrial sector will open up job opportunities for the community. The development of business in this sector means that it has an impact on increasing labor absorption. The involvement of workers in industry brings economic value to workers which is then used to fulfill household needs. Likewise, the implications given from service sector activities will produce the same economic impact. Therefore, if economic activity goes well on a micro scale it will be a positive signal for the economy at a macro scale.

The absorption capacity of labor in each industry has different capacities. The absorption capacity of labor is determined by the use of technology and production power resulting from a particular industry. The textile industry, which processes cotton raw materials into semi-finished products, is then further processed into fabric products, mostly done with the help of technology. Even so, the density of technology utilized in this industry does not exclude the industry's need for human-based labor. PT. Kahatex is a textile industry located in West Java, to be precise operating in Sumedang Regency. The company with the largest

production scale in Southeast Asia is dense with technology utilization. However, this company still places a large number of workers. Apart from these industries, the pharmaceutical industry is also in the production of drugs using technology which is supported by skilled workforce who have standard competences in the pharmaceutical industry. This is also seen in the automotive industry when it operates to produce motorized vehicles. This industry in the production of vehicles still utilizes a large number of human labor even though it is supported by capital-intensive technology. Technology-based capital in some industries does not directly negate the existence of human-based labor.

As time goes by, today's business is heavily influenced by the penetration of information technology into industrial practice. Many companies leave the old ways and move to use the tools offered by information technology, with the advantages of speed and accuracy. At the beginning of its application, technology affiliation in business practice forced personnel in business organizations to follow work patterns standardized by information technology. People move from old work patterns to new work patterns. Those who are not in line with the new work pattern will be marginalized and substituted by a new generation who are able to adopt a new work pattern based on the latest technology. For business entities, the use of cutting-edge information technology will have a considerable efficiency impact on the company. Some of the business processes in the company are taken over by information technology.

However, when the world was hit by the Corona Virus Disease pandemic, or better known as Covid 19, all economic sectors experienced difficulties, including the technology-based business sector. The virus that attacks the human respiratory system, was initially found in a resident who lives in Wuhan, which is one of the major cities in China. Human mobility from one place to another followed by physical contact between people causes this virus to easily and quickly spread to various regions to hit almost all parts of the world and then declared a pandemic by the World Health Organization (WHO). The pandemic that is being experienced by the world has had a profound effect on the decline in the macro and micro scale economies, where its impact is combing almost all business actors, including technology-based businesses whose main interests are in transportation.

### **Research question**

How the Coronavirus Disease (Covid 19) pandemic has implications for technology-based companies?

### **Research purposes**

Understand the implications of the Coronavirus Disease (Covid 19) pandemic for technology-based companies.

### **Literature Review**

A business that is developed with a database has been proven to provide beneficial value for the progress of the company. The availability of data from various platforms makes business decisions designed based on data more widely open. From time to time the volume of data continues to increase following the frequency of data distribution from users of various platforms. Almost all smartphone users have social media with the Facebook friendship application platform, including the WhatsApp platform which is used for communication via chatting. through the media, data is continuously channeled so that the volume of data increases. As stated by Lee (2017), big data growth is very dynamic and fast.

At first, businesses developed using the internet network with an e-commerce working system were selling goods. This was revealed by Laquery (1997), that trade with online media was initially limited to selling

magazines, tapes, discs, and books. However, along with the development of technology and the expansion of internet networks, e-commerce content began to offer services such as airline tickets and hotel accommodation services. Even though the e-commerce system continues to develop, it contains many risks that result in losses for consumers. To reduce this risk, some providers provide assessment and recommendation columns so that consumers have a reference to decide to buy. Sanje and Senol (2012) argue that e-commerce providers should post assessment and recommendation columns as well as advertisements on the old website so as to provide communication space in marketing. Likewise, according to Wan et al (2013) who said that the recommendation column on the blog is a review material for consumers who can influence consumer decisions to choose online-based travel agents. In line with the two previous opinions about assessments and recommendations, Yi and Yi (2012) reveal that product reviews through word of mouth (WOM) can influence consumers in deciding to shop. Chin et al. 2012. Likewise, argued that the reason for the absence of youthful eyes in online transactions causes consumers to need clear and useful information to form confidence in products and strengthen the desire to buy.

**Discussion**

Information technology is used in almost all sectors. Starting from the business sector to the non-profit sector. Religious activities cannot be separated from the touch of information technology found in digital "holy books". Technological touch in many circles has succeeded in changing the patterns of interaction between individuals and individuals, individuals with groups, and groups with groups. Changes in communication patterns that are quite drastic means that everything can be conveyed quickly through social media or electronic mail.

**Table 1. Internet and Social Media Users in Indonesia**

Total Population	Internet User	Social Media Users
262 Million	132.7 Million	106 Million
55% (Urbanization)	51% (Penetration)	40% (Penetration)

Source: Idea Landscape Ecommerce Indonesia

Information technology has become a new force, like the power of a laser beam that can penetrate national boundaries, culture and local beliefs. Not only penetrating but having an impact on changing local values that fill life in society. Information technology comes with a content that is quite basic to human life. These changes also have implications for the way people drive microeconomic activities as seen in companies. Many companies have transformed the way they manage their business by utilizing technology tools linked to the utilization of big data (big data) currently available.

The penetration of information technology into business entities has a major role in improving company performance. Technology has always responded to every company's needs by offering more sophisticated solutions. The solutions available in information technology have succeeded in shifting many of the roles that have been played by humans. As a result, many jobs that have used human labor have been replaced by technology. A simple example that has succeeded in shifting the role of humans is the Mandiri Pulling Machine (ATM) technology which takes most of the work of bank cashiers. Financial technology that manages virtual money has also succeeded in reducing the number of bank branch offices. In line with the banking workforce, the presence of an electronic payment system for toll road users (E-Tol) eliminates the need for cashiers at each toll gate.

Practices outside the financial business are also linked to internet-based technology affiliations even though they have bad implications for similar businesses that are managed conventionally. Online shops through platforms in several marketplaces that are managed virtually with a wide variety of products and services provided in the form of catalogs (E-catalogs) have successfully answered the needs of consumers who expect practical shopping. Being anywhere and at any time makes it easy for consumers to shop via a smart phone device by injecting the marketplace application. The ease and flexibility of choosing goods that match the specifications of the needs are advantages provided by the marketplace for consumers in virtual media. The ability of media to shop via virtual "anytime and anywhere" is because the online shop is in a computer work system that operates via the internet network without being tied to working hours. Shopping through online channels provides convenience to consumers, there is no need to leave work just to shop for necessities for a long time, like what happens in offline stores. The convenience provided by the online trading system (E-commerce) is an attraction for consumers shopping virtually.

Information technology has also had a negative impact on businesses in the transportation service sector, particularly land transportation, which is experiencing this disadvantage. One type of business that has suffered a bad impact is the taxi transportation business. This business suffered a strong blow with the presence of a road sharing company, otherwise known as an online taxi. The conventional model is starting to be abandoned and replaced with the online model. As in the E-Commerce model of commerce, the emergence of online taxis provides many conveniences for consumers who have been using conventional taxis. Apart from the ease of accessing road sharing transportation by simply ordering via certain applications, the rates it offers to consumers are much cheaper than conventional ones. The ordering facility provided by road sharing companies to consumers to order transportation via the internet network on smartphone devices is a major breakthrough that has succeeded in changing the business structure in the transportation service sector.

In a short time, at the end of 2019, to be precise in December, the frenzy about the news of the emergence of a new virus which is virologically called Corona Virus Disease or Covid 19 has disturbed the world community, including the people of the archipelago. This concern is responding to the government in each country to protect their territories so that this virus does not spread in and attack every citizen, even though in the end the Corona Virus Disease has managed to penetrate the boundaries of the areas that were originally protected. Indonesia is one of the countries in Asia that has recorded quite large cases of people infected with Covid 19. All regions in Indonesia are almost certain to have cases of people infected with Covid 19 even though the number of people affected by this virus varies.

The central government, through the regional government, enforces a social distancing policy, physical distancing to large-scale social restrictions (PSBB) which are enforced in all regions in Indonesia. This policy resulted in religious activities and social activities from the community that could not run normally, the impact of which grew to affect business activities in Indonesia, some of which were online transportation companies, ticket sales service companies and hotels to combing the aviation and hospitality industry.

**Table 2. The number of online transportation passengers from the end of February 2020 to March**

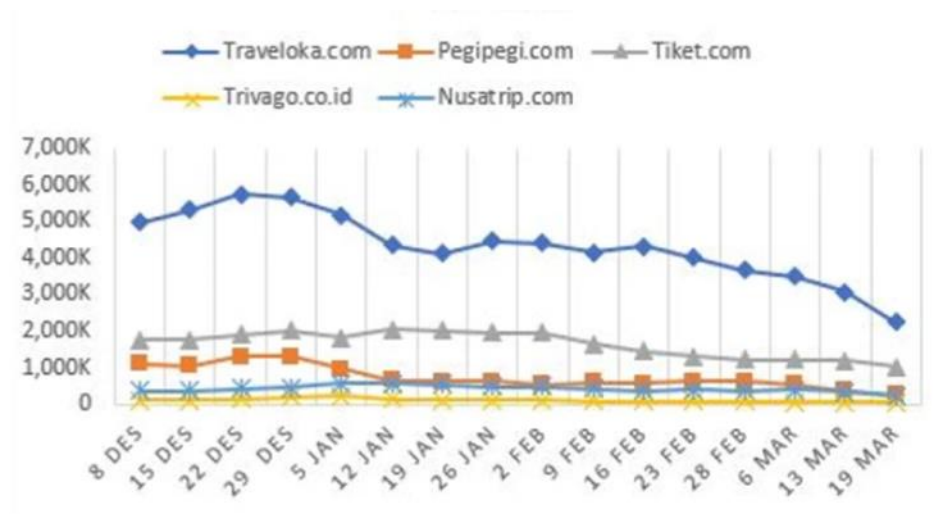


Resources: Statqo Analytics

The results of analytical data during the observation period informed the use of online public transportation services through the Gojek application service provider towards the end of February, which was still in normal conditions and there was a tendency for the use of transportation services with the Gojek application to climb up in early to mid-March. Towards the end of March to the end of the month the use of transportation services through Gojek providers decreased drastically, below the number of use of Gojek services at the beginning of the previous month. The crisis experienced by the Gojek company also happened to a similar company, namely Grab, which is also a provider of online application-based transportation services. The recession experienced by the Grab company was heavier than the Gojek company. The results of analytical data visually inform that the use of transportation services for Grab partners at the end of February towards the beginning of March has decreased and has experienced a stagnation in usage until mid-March. This situation is different from that experienced by the Gojek company where there was an increase in the use of transportation services in the same period. However, both Gojek and Grab companies in the observation period from mid to late March, the two online transportation companies experienced a degradation in the use of online transportation services. Two road sharing transportation companies that dominate the market segmentation in online-based passenger transportation in Indonesia are exposed to the impact of government policies on social distancing, physical distancing and large-scale social restrictions (PSBB) that are enforced in all regions in Indonesia where drivers are not allowed to carry passengers. so that the spread of Corona Virus Disease (Covid 19) does not become more widespread.

Another business where information technology is an important tool for business development is the ticket sales business. Long before information technology was used massively. The travel business is quite profitable and provides a significant capital contribution. As a distribution unit of an airline company for ticket sales that operates officially in a country, travel continues to develop with service diversification that is still linear with ticketing services, namely the domestic and foreign travel business, including religious travel in the form of Umrah. This business in the process of development cannot be separated from the touch of internet-based information technology to make it easier for consumers to order tickets. With the help of internet-based information technology, the ordering process can be done anywhere and anytime.

**Table 3. Number of online ticket sales industry website visits from early December 2019 to mid-March 2020**

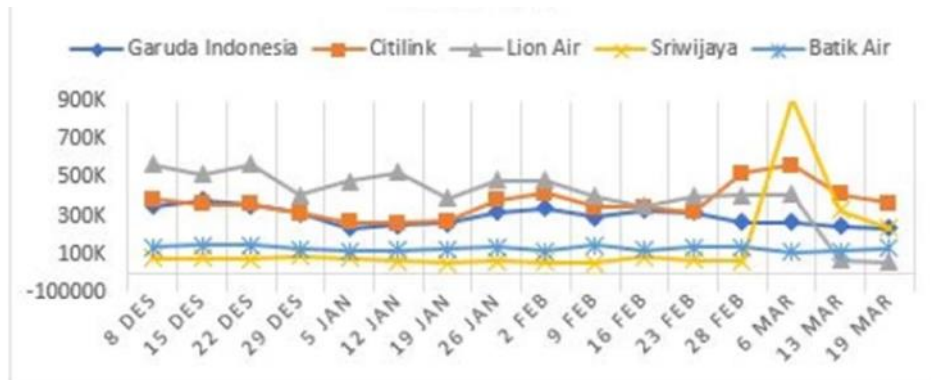


Resources: Statqo Analytics

In Indonesia, online companies with different platforms provide ticket sales services for air transportation with a network of partners in various airlines, domestic and international. Traveloka.com, Pegipegi.com, Tiket.com, Trivago.co.id, and Nusatrip.com are a series of companies that provide online ticket purchase services including instant stay accommodation booking services such as hotels and inns to consumers. Online-based service companies, from a consumer's point of view, are facing risky transactions that can harm him so it is important for online service providers to build trust through recommendations of previous consumer assessments. Chiao and Yang (2010) reveal that recommendation assessment through trusted media such as word of mouth (WOM), advertising and recommendation systems has a positive impact on consumers in making online purchases. The use of services through these companies implies consumers to visit the platforms owned by these companies.

The results of the above analytical data processing inform the level of consumer visits to the platforms of five online ticket sales companies in Indonesia. The high level of visits on the platform indicates that consumers' desire to buy services offered by online ticket sales companies is increasingly in demand. Traveloka.com wins the level of consumer visits which means that the online ticket sales market segmentation is dominated by this company. Under Traveloka.com, there is Tiket.com which is followed in order by Flatfrom Pegipegi.com, Nusatrip.com, and Trivago.co.id. At the start of December 2019, visitors to the online ticket sales Platform experienced an increase where Traveloka.com showed a significant growth in the number of visits compared to other Flatfroms. However, at the end of December 2019 to mid-March 2020 all online ticket sales companies suffered the same fate, the number of visitors on all platforms decreased. This condition is a sign that the level of online ticket sales has decreased in line with the decrease in visitor visits to the online ticket sales company website.

**Table 4. Number of airline industry website visits the observation period from early December to mid-March**

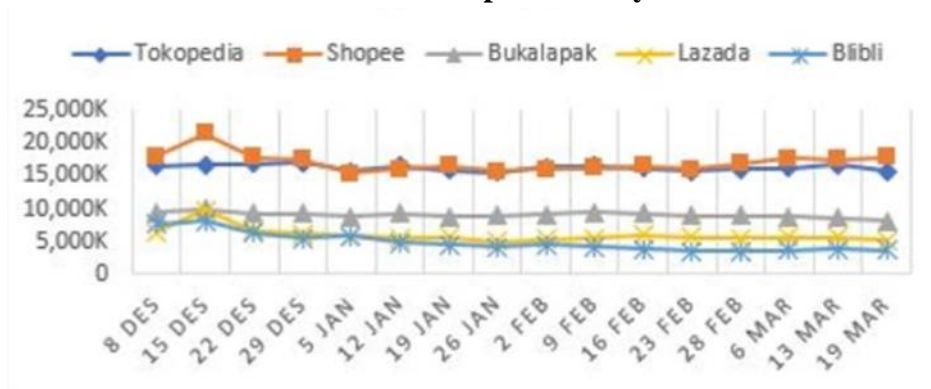


Resources: Statqo Analytics

The upstream industry of online ticket sales companies has experienced a similar situation where from the results of analytical data, the airline company web has decreased the number of visits. This situation indicates that ticket sales at each of these companies have also decreased. The Aviation Industry Website Traffic analytical data has successfully confirmed the analytical data shown in the Tourism Website Traffic (Online Ticket Sales) which is also experiencing a decrease in visitors.

Hausman and Siekpe (2009) reveal that online stores or what is called e-commerce are activities to sell goods or services using the internet so that buyers and sellers do not face to face (interface) E-Commerce with its various variants has changed the business pattern from conventional which is bound by time and space, to virtual with all its flexibility. The impact was inevitable, many stores closed and stopped operating due to the rise of E-Commerce. Several other companies have persisted with the old pattern even though they had to reduce the number of employees. Alvin Toeffler, a futurologist, revealed that in the development of capitalism there will be a shift in business patterns that cause human energy to be unused (energy in the physical sense).

**Table 5. Active e-commerce users Observation period early December 2019 to mid-March 2020**



Resources: Statqo Analytics

### A Shift of Property

One by one, the businesses that are managed conventionally no longer operate and are replaced by information technology-based businesses. Actually, the core business is not lost, but what happens is a shift in a new way, namely the virtual system. Consumers feel more comfortable shopping through virtual stores. The convenience offered in virtual or e-commerce stores has made many consumers switch from conventional stores to online stores. The huge profits that have been enjoyed by the conglomerates who own

several shopping centers are currently experiencing a drastic decline. While some online stores are experiencing an increasing trend in revenue and profits continue to increase. There has been a shift in wealth as a result of changes in information technology-based business patterns that have only been known in Indonesia for the last five years. The results of the shift in wealth obtained by large providers of distributed online stores go down to business partners, who in fact come from entrepreneurs with small capital. The existence of an e-commerce business model raises the economic degree of small and medium enterprises.

What happens to the trade in goods sector also occurs in the sales service sector? It has been stated that the existence of a road sharing company that operates transportation services with a booking system via virtual applications has a negative impact on conventional taxi companies. Likewise, what happened to travel companies, airline ticket sales experienced the same thing, namely a decrease in turnover, the impact of the existence of an online ticket sales company. This condition then triggered resistance from conventional companies by mobilizing workers to protest against regulators. This resistance effort is caused by a quite large shift in wealth that is detrimental to capital owners who apply the old pattern of business, while benefiting capital owners who apply the new pattern of business.

Long before this conflict of economic interest occurred, Karl Marx, a socio-economist, said that in a social system, in the process of achieving development, what he called the term "dialectic", namely, Thesis - Anti Thesis - Synthesis will always occur. If understood in the context of this discussion, conventional companies with their various variations are "Theses". The presence of information technology-based companies is a contradiction to conventional companies which are "anti-thesis". The accumulation of contradictions then turned into massive resistance from conventional companies even though in the end technology-based companies were openly accepted by everyone and arrived at what he called "Synthesis". The dialectical process will continue to roll, the currently accepted socio-economic conditions (Thesis) will be overthrown with the presence of a new socio-economic system (Anti-Thesis). In this context the shift in wealth, the conflict in the Anti-Thesis towards Synthesis is not a conflict between classes of people as explained by Karl Marx, but a conflict within the same community cluster but is counterproductive in interests.

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