Macro-Environmental Analysis Throughout Covid-19 Pandemic Using Pestel Framework: A Study in Indonesian Multi-Industry

Siti Paramadita[1], Lorio Purnomo[2], Stefanus Rumangkit[3]
[123]Universitas Bina Nusantara
siti.paramadita@binus.ac.id

To become competitive, companies cannot rely solely on their internal factors. Macro-environmental factors have become essential for companies. These factors can be analyzed using PESTEL analysis, which shows how political, economic, social, technological, environmental, and legal aspects can affect the industry. This study examines the PESTEL framework for three industries affected by COVID-19: aviation, education, and technology. The method used is case studies where the PESTEL framework analyzes the industrial competitiveness of those three industries. The results show that each sector has different characteristics and that PESTEL factors have various effects. This study gives insights into what kind of macro-environmental factors are crucial for the industries and how companies should act to maintain their competitiveness in the industry. Additionally, risk analysis is used within this study to help companies raise their business performance and function better amidst the COVID-19 pandemic. The findings reveal that political and environmental factors significantly impact the aviation industry, social and technological factors influence the education sector, and economic and technological factors drive the e-commerce industry. This comprehensive analysis highlights the need for tailored strategies for each industry to navigate external challenges effectively. The limitation of this study is the lack of primary data. Therefore, future research using surveys or interviews can enrich this study. By understanding these dynamics, companies can develop more robust strategies to thrive in a post-pandemic world.

Keywords: COVID-19 Pandemic, Macro-Environmental Factors, PESTEL Framework, Risk Analysis

Introduction

Nowadays, the macro-environmental factor has grown to become more critical. New phenomena and concept parameters such as environmental protection, health, transparency, and accountability have become crucial for commercial activities. While performing its operations, the environment should be considered a high account. Therefore, company decision-makers should invent a strategic approach to managing macro-environmental events, occurrences, and operations (I. Yüksel, 2012).

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[1]Corespondent: Siti Paramadita Universitas Bina Nusantara. Jl. Kebon Jeruk Raya no. 27, Jakarta Barat. siti.paramadita@binus.ac.id

Nevertheless, although the COVID-19 pandemic negatively impacts some industries, many other sectors have been affected differently. For example, goods delivery service providers, cellular operators, internet providers, emergency credit providers, and insurance and health sector businesses benefit from the COVID-19 pandemic (Warasniasih et al., n.d.).

Thus, this study aims to analyze the impact of the COVID-19 pandemic on multiple industries that have different characteristics. The industries are Aviation, Education, and Technology Industry. Therefore, the analysis is done through the external factors that could influence the performance of these industries using the PESTEL framework. The Aviation industry was first chosen throughout the highly impacted Travel and Tourism Industry in Indonesia. The Indonesian Travel Agents Association (Astindo) recorded a 90 percent drop in sales due to cancellations as of March 12, 2020. Throughout February 2020, the potential losses could reach IDR 4 trillion among Astindo's members.

As part of the Travel and Tourism Industry, Indonesian airlines have drastically declined passenger numbers since early March. This caused most companies to take efficiency steps such as cutting off their flights and routes by 50 percent and worse, laying off their employees. All of the Educational institutions are forced to switch their learning and teaching activities to online-based learning. Hence, it widens the gap between fortunate and less fortunate students as well as expensive private schools versus ordinary schools. In this article, we will discuss Al-Azhar Private Islamic School as the largest chain of Islamic Schools in Indonesia to see the intermediary condition throughout the economic condition of private schools during the pandemic.

Lastly, Digital E-commerce has been known to experience a significant rise in amount of sales during the pandemic due to the stay-at-home rule. In this article, we are discussing Tokopedia, the largest Digital E-Commerce in Indonesia.

Methods

This study used a case study and external observation. The industries chosen are three different industries, each of which has had different experiences throughout the COVID-19 pandemic. The industries are the aviation industry, which is negatively impacted by the COVID-19 pandemic; the education industry, which the COVID-19 pandemic moderately impacts; and the e-commerce industry, which the COVID-19 pandemic positively impacts.

This research divided the analysis into two parts; (1) elucidate the details of these industries, and (2) analyze the external factors of these industries using the PESTEL framework. (3) using Risk Management Analysis, in order to provide a solution for 3 industries, after Pandemic COVID-19 hit.
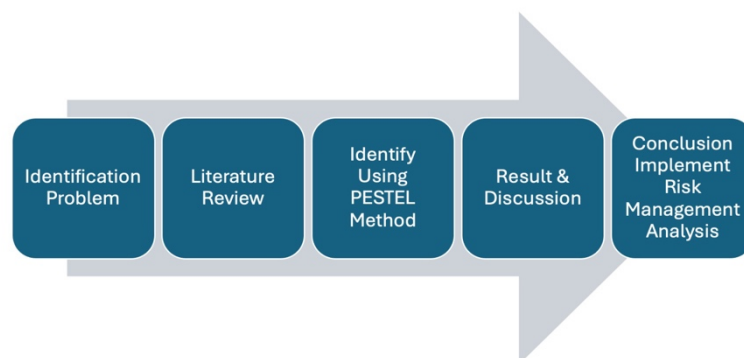

Figure 1. Research Process

PESTEL Analysis

There are two essential functions of PESTEL analysis; (1) it allows the company to identify the environment within its operation, and (2) it provides data and information to enable the company to predict future situations and circumstances. However, in terms of macro environment analysis, there are limitations in the measurement and evaluation of the method (İ. Yüksel, 2012).

The abbreviation of PESTEL analysis stands for Political, Economic, Social, Technological, Legal, and Environmental. The usage of PESTEL analysis varies; the tool can be used for business planning, marketing planning, strategic planning, organizational planning, product development (Shatskaya et al., 2016).

Risk Management

From an organizational standpoint, conceptually, risks occur when companies look for ways to manage the uncertain future constrained by resources and capability. Finding positions on each of these dimensions together representing a risk profile appropriate for the attempt and acceptable for both stakeholders from inside and outside the company is difficult. Therefore, risk and risk management are governance and strategic challenges that typically require compromising: Risk-averse tactics can restrict success in many ways; on the other hand, adopting risk-averse tactics might raise project losses. (Lorio Purnomo et al., 2023).

The process of discovering, evaluating, and using techniques to bring hazards under acceptable bounds is known as risk management. Managing hazards related to an organization's objective is the primary goal of risk management. IT administrators can accomplish a goal by balancing operational and financial costs through risk management. Creates defense for IT systems and the capacity of institutions to fulfill their objectives. Making decisions based on risk management can also result in sensible choices in all facets of daily life. (Lorio Purnomo et al., 2023).

Risk Management Analysis

Risk analysis is needed to identify possible bottlenecks, find mitigation strategies, and conduct a risk analysis. Operational Flexibility: The ability to swiftly modify plans in response to shifting market conditions by fostering flexibility in operations and company procedures.

Stages of Risk Management Analysis

Three primary steps in the Risk Management Analysis process were employed to create this study design:

a) Risk Estimation

To ascertain the lowest possible risk of hazard, the first step in the procedure is a risk assessment that considers the risk associated with the System Management Project on the study's target. This process's output also aids in identifying technical safeguards to lessen or eliminate potential dangers. The next phases are also part of the analytical process for risk estimation.

1) Systems characterization
2) Identifying threats
3) Risk determination.
4) Control analyses.

b) Risk Reduction

After risk estimation, risk reduction is the next step in the risk management process. It entails setting priorities, assessing, and putting suitable risk reduction measures.

c) Assessment and Evaluation

Assessment and evaluation constitute the last phase. The primary goals of the risk management identification process assessment and evaluation are to raise business performance and lower the likelihood that it will not function as intended.

Results
Aviation Industry

Hadiwardoyo (2020) has shown that the aviation industry and the other transportation sectors are among the most negatively impacted industries by the COVID-19 pandemic. In addition, the analysis showed that crowds-related businesses such as tourism, transportation, and hotels are the ones that were heavily affected by the COVID-19 pandemic.

Established on March 31, 1950, Garuda Indonesia is the only full-service airline in Indonesia and the biggest airline in Indonesia. Garuda was first named Garuda Indonesia Airways NV and changed its name several times before becoming PT Garuda Indonesia (Persero) on November 16, 2010.

Today, Garuda has connected to 1,074 destinations in 177 countries, with a total flight of more than 17,000 flights per day in 2018. In 2017, Garuda Indonesia had 7,946 employees, including 377 students, across head office and branch offices. Garuda Indonesia's air fleets have reached a total number of 203 fleets within 2018.

Figure 2. PESTEL Analysis of Garuda Indonesia.

The PESTEL analysis was used to see the effect of the COVID-19 pandemic on Garuda Indonesia's performance. Therefore, PESTEL analysis is chosen as the COVID-19 pandemic is considered one of the external factors that could affect Garuda Indonesia.

Political

Based on the above observations, Garuda Indonesia is a State-Owned Enterprise (SOE) under the Ministry of SOEs. This situation is a good yet dilemmatic position for Garuda's management. It is a good situation because the Ministry of SOEs, the House of Representatives, and the Presidential Office fully support Garuda Indonesia. Nevertheless, it is not so advantageous from the management's point of view as they would not have complete power over the company, and the government will always direct them.

Until today, many corruption rumors have filled Garuda Indonesia. One of the biggest rumors is about the procurement process of Boeing 737-800, with an estimated national loss of US$ 28,453,200. Search (Garuda's Employee Union) has sent thousands of emails to the government since 2005 regarding this rumor. Nevertheless, they never get any answer. However, Emirsyah Satar, former longest-on-duty President Director of Garuda (2005-2014), who is also a suspect in the above case, has already been given an eight-year sentence in jail following another case of money laundering (CNN Indonesia, 2021).

The corruption cases mentioned above are only two out of many more corruption rumors and cases that Garuda Indonesia has. Therefore, we could conclude that aside from the COVID-19 pandemic, Garuda's long story of corruption could also contribute to its significant loss this year.

Economical

As we know, Garuda Indonesia is the only full-service airline in Indonesia. Thus, Garuda is the price leader. Hence, all other airlines will refer to Garuda's pricing, regulated mainly by the government following its SOE status. Garuda stated that this policy had impacted its performance. The ticket base price is not comparable to the company's cost structure since 50 percent of its operational cost is in US dollars (Sari et al., 2020).

Social

Services, fleet age plane, price, safety, and security are passengers' considerations in choosing airlines for their flights. In terms of services, food and beverages are the highest criteria. A less than 10-year-old fleet-age plane is preferable and is highly hooked with safety and security. Above all, pricing is also considerable and is connected to all factors mentioned previously (Pakan, 2014).

Technological

The International Aviation Industry Association (IATA) announced that the aviation industry loss due to Covid-19 is up to US$ 113 billion. This situation has had a domino effect on all aspects of the tourism industry aside from aviation, such as hotels, restaurants, and travel agents, as they were all connected with a massive share and investment value (Shabrina Rahma & Fadhilia Arvianti, 2020). Hence, this condition also impacted travel e-commerce which gives ease of use to the customer in booking online tickets (Sucipto & Wiganepdo, 2019).

Though the tourism industry has had its most challenging moments throughout the Pandemic, other e-commerce sectors such as fashion and beauty, food and personal care, furniture and appliances, toys, DIY, hobbies, digital music, and video games are good growth (Kemp, 2021). However, this fact inspires Garuda Indonesia to open its new business line to support the other e-commerce sector. This new business is a logistic courier service called KirimAja (Indopremier, 2020).

Environmental

The COVID-19 pandemic has impacted many business sectors. One of the most impacted is the aviation industry. Starting in 2020, Garuda Indonesia experienced a download in the number of passengers by 90 percent. Only 30 percent of its armada flies with a maximum capacity of 63 percent passengers in each armada (Indopremier, 2020). From the data shown below, we can see that within Q3 of 2020, Garuda Indonesia's loss has reached US$ 1.1 Billion. This loss has been its most significant loss since 2016 (Pusparisa, 2021).

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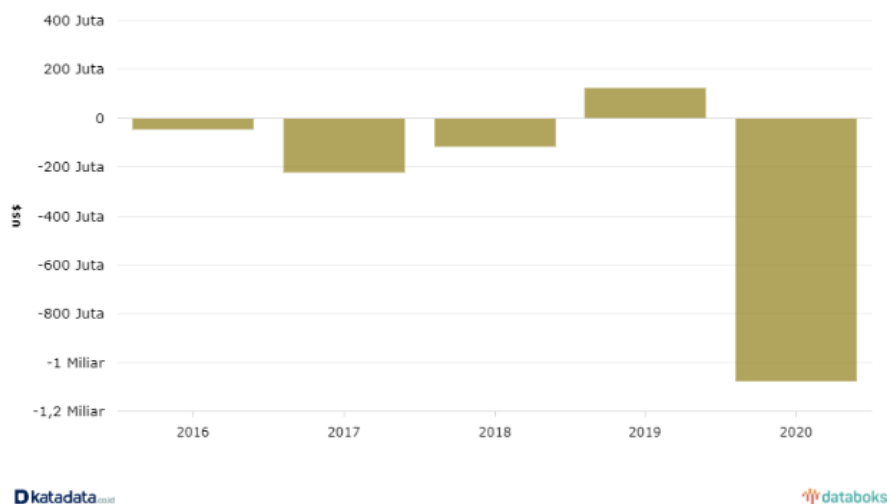
Figure 3. Garuda Indonesia's Profit/Loss in Q3 2020. Databoks, 2020.

Moreover, another data from Katadata.co.id (2020) shows a significant drop in Garuda Indonesia's passengers from January 2020 to May 2020, with a slight rise from June to September 2020.
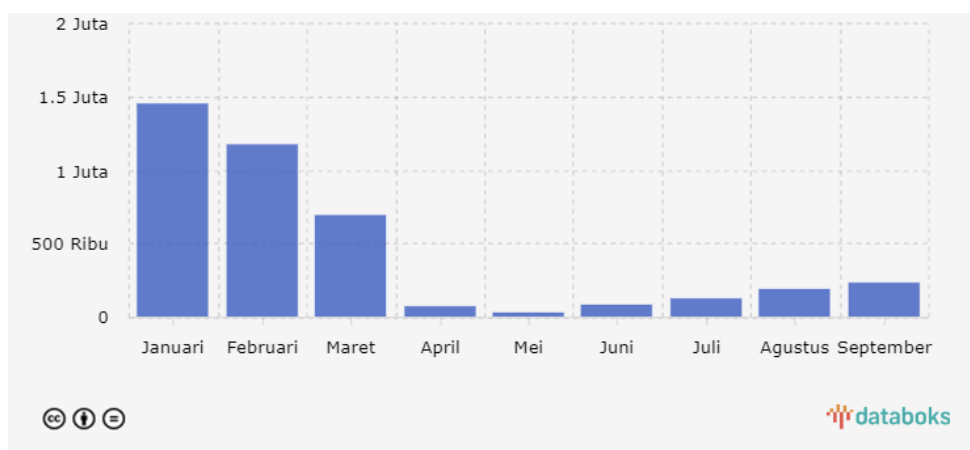
Figure 4. The Number of Domestic and International Passengers of Garuda Indonesia (January – September 2020). Annur, 2020.

Legal

Aviation regulations are all well set in the Minister of Transportation Regulations No. 77/2011.

Education Industry

Due to the COVID-19 pandemic, schools are forced to distance learning. Ideally, distance learning must be supported with adaptation to technology, an excellent online network, and proper gadgets/equipment.

YPI Al-Azhar, one of the oldest school chains in Indonesia, is also forced to pivot its business model to distance learning throughout the COVID-19 pandemic. It was founded in 1952 in Jakarta under the name of *Yayasan Pesantren Islam*. According to its website, YPI Al-Azhar has 14 founders who are Islamic figures. YPI Al-Azhar then changed its name from *Yayasan Pesantren Islam* to *Yayasan Pesantren Islam* (YPI) Al-Azhar in the year of 1961.

Nowadays, YPI Al Azhar has evolved into a giant school chain in Indonesia with around 66 Kindergartens, 68 Elementary, 48 Middle Schools, and 22 High Schools spread all over Indonesia. Below, a PESTEL analysis was performed for YPI Al-Azhar to see external factors that could relate the effects of this pandemic to YPI Al-Azhar's performance.
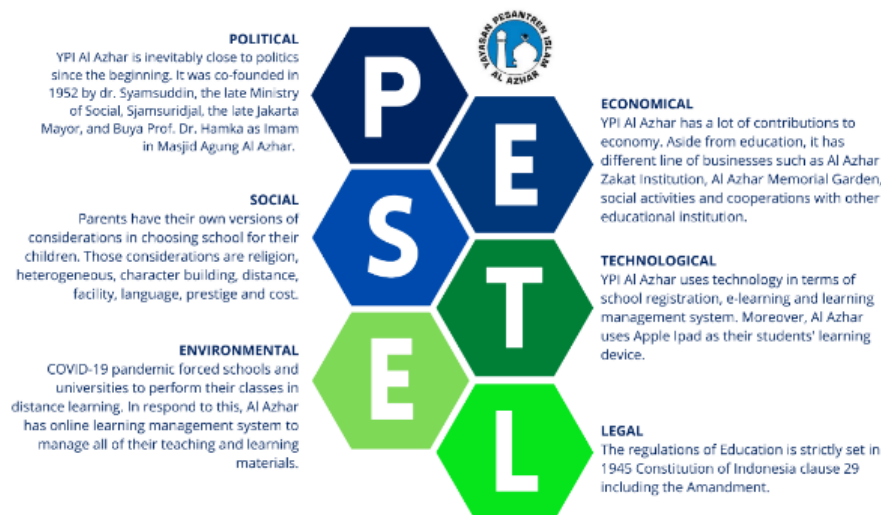
Figure 5. PESTEL Analysis of YPI Al Azhar.

Political

Based on the history of YPI Al Azhar's influential founders and imams, the foundation is inevitably close to politics.

Economical

Aside from its primary revenue from an educational institution, YPI Al-Azhar has a lot of other revenue streams. According to its website, YPI Al-Azhar has 64 branches of kindergarten, 67 elementary schools, 44 middle schools, 21 high schools, and the University of Al-Azhar Indonesia (UAI). Aside from these schools/universities, YPI Al-Azhar also owned the Al-Azhar Legal Aid Office, Al-Azhar Memorial Garden (Luxurious Cemetery), Al-Azhar Tour and Travel, PT. Berkah Gemilang (Revenue Center), Tanmiyah Al-Azhar (UAI Building Management), and Al-Azhar Amil Zakat Board (LAZ). These broad business lanes give YPI Al-Azhar revenue stability.

Social

A few factors influence parents' choosing schools for their children, such as the teachers' quality, religious views, facilities, school fees, environment, safety, and school image. As for religious schools, the school's image is one of the most important factors for parents (Septhevian & Tjiptono, 2014). Moreover, YPI Al-Azhar's school fees are considerably high compared to other Islamic schools, giving the school an image of a prestigious school. For example, this year, SD Islam Al-Azhar 1 in Kebayoran, Jakarta Selatan, set up its tuition fee as high as IDR 44.3 million with a monthly IDR 2.2 million. Thus, the image of YPI Al-Azhar as one of the oldest and biggest Islamic school chains in Indonesia must have a significant portion to influence parents to choose YPI Al-Azhar for their children, followed by the prestigious image of YPI Al-Azhar.

Technological

The YPI Al-Azhar school fees and prestigious image explained above also took a toll on its students' access and ability to technology as most YPI Al-Azhar students came from medium-high social status and are fully adapted to technology. Even before the Pandemic, some of YPI Al-Azhar's schools also had choices of classes that required students to use Apple IPAD as their primary educational device starting as early as fourth grade. YPI Al-Azhar also has websites and applications to support students' registration also teaching and learning materials. Throughout the

Pandemic, YPI Al-Azhar's adaptability to technology brings an advantage to its adaptation to distant learning performances.

Environmental

The COVID-19 Pandemic has affected all schools in performing their classes to distance learning. However, with all of the technological facilities that YPI Al-Azhar already has, this drastic change does not cause too many issues as they are already prepared for it.

The subsequent analysis performed for YPI Al-Azhar is Porter's five forces. This analysis is done to see YPI Al-Azhar's outside threats and give a better conclusion about YPI Al-Azhar's current condition caused by the Pandemic.

E-Commerce Industry

The last analysis performed in this paper is about the E-commerce industry. Unlike the other businesses, the e-commerce industry is one of the industries that was positively affected by the Covid-19 pandemic. Within October 2020, the e-commerce industry has experienced a rise of around two times from 80 million transactions in 2019 to 140 million transactions in August 2020 (CNN Indonesia, 2020).
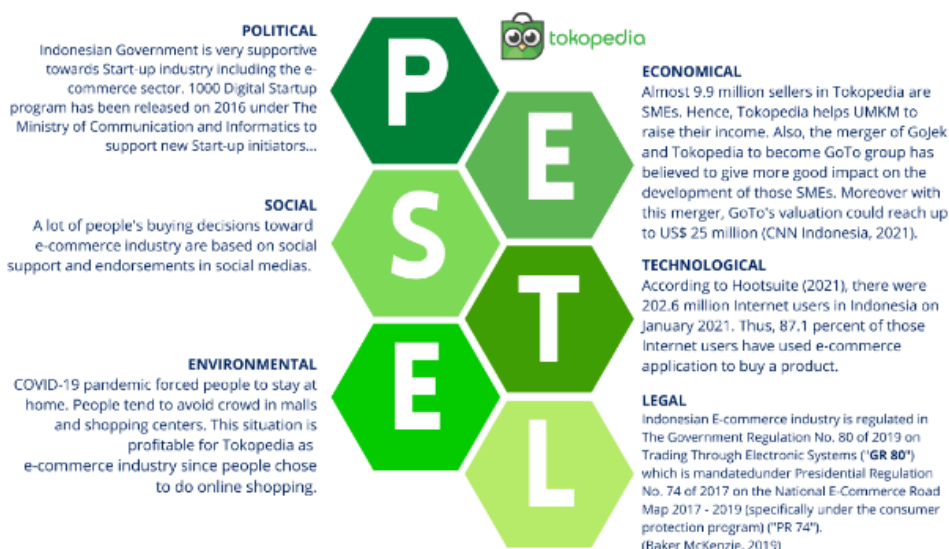

Figure 6. PESTEL Analysis of YPI Al Azhar.

PESTEL analysis is performed to see whether the pandemic situation influences the development of e-commerce throughout this Pandemic. Nowadays, people tend to use e-commerce to buy their daily needs to avoid crowds in shopping centers.

Political

Within the last ten years, the Indonesian government has supported the Start-up industry, including the e-commerce sector. In 2016, through the Ministry of Communication and Informatics, the Indonesian government released 1000 Digital Start-up programs. This program is a constructive mentorship program for Start-up companies. It provides Ignition, Workshop, Hack Sprint, Bootcamp, and Incubation for its Start-up members. According to its website, there have been 1,160 Digital start-ups released.

Economical

Social and physical distancing regulations forced people to stay at home and avoid crowds. This "new normal" rule has shifted people's transactional routine from conventional payment to the internet or online (Ayu & Lahmi, 2020). Thus, the usage of e-commerce services has risen significantly following this new transactional demand. This situation reflects Tokopedia's condition within this pandemic era. In December 2020, there was more than a 2.5 million rise in the number of sellers recorded in Tokopedia, from 7.2 million sellers in January 2020 to 9.9 million sellers. Almost all of these sellers are Small and Medium Enterprises (SMEs) (BeritaSatu.com, 2021). Hence, Tokopedia is one of the Start-up businesses that experienced the positive effects of the COVID-19 pandemic.

Social

Indonesian buying decisions are mainly based on social support from relatives and friends. Several societal factors could affect consumers' attitudes or behaviours divided into primary and secondary groups. Primary groups include family members, friends, neighbours, and colleagues, while secondary groups consist of religious groups, professional associations, and industry associations. Social media reviews and videos are the most effective platform since, nowadays, people are more interested in watching content on social media rather than on television (Chen & Dermawan, 2020).

As pandemic conditions forced people to stay at home and use social media as their primary way to socialize, social media has also become an effective promotional channel. This fact leads to the point advantage that social media advertisements could link to the brands' specific website or e-commerce page, affecting consumers' impulsive buying decisions. So today, consumers' buying decisions could be affected by both friends and relatives, with promotional advertisement content available on social media.

Technology

As we see in this figure, obtained from We Are Social (2021), there are 202.6 million internet users in Indonesia (Any device). This data shows that Indonesian people are fully adapted to technology.
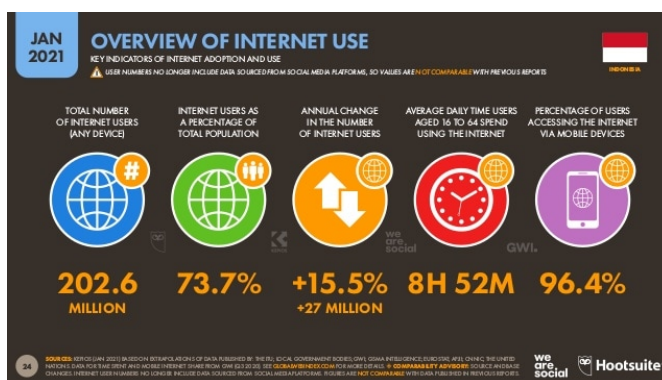

Figure 7. Overview of Internet Use in Indonesia (We Are Social, 2021).

Moreover, the following data supported that 87.1 percent of these internet users have purchased a product online from any device. Hence, we could conclude that Indonesian people's adaptability to technology brings an advantage to surviving this pandemic situation since everything now has switched to digital or online technology. Thus, Tokopedia as an online e-commerce service provider, is one of the most benefited from this situation.

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Figure 8. E-Commerce Activity Overview (We Are Social, 2021).

Environmental

Previous facts showed how the COVID-19 Pandemic forced people to stay at home and avoid crowds. It caused people to use technology to be able to stay at home all the time while doing any other activity online. These online activities include studying, working, sports, banking, and financial, as well as shopping. Therefore, this pandemic environment brings advantages to Tokopedia as an online e-commerce.

Legal

Currently, based on the information obtained from Baker McKenzie (2019) Indonesian e-commerce industry is regulated in Government Regulation No. 80 of 2019 on Trading Through Electronic Systems (GR80), which is mandated under Presidential Regulation No. 74 of 2017 on the National E-Commerce Road Map 2017-2019 (specifically under the consumer protection program) (PR 74) (Endahayu et al., 2019). This regulation supports most e-commerce sectors and consumer protection so today's consumers can gain more trust in using online e-commerce services.

Conclusion

External forces have different effects on various industries. Three major industries that we analyze in this paper show that external forces have an enormous impact on each industry. PESTEL Analysis does work in determining the effects on each industry.

Based on our analysis of Garuda Indonesia Airlines, Political and Environmental factors have the most significant effect on its performance. As an SOE, Garuda Indonesia cannot entirely rely on its management for maximum performance. On the other hand, the Indonesian government has taken a big part in managing Garuda Indonesia's performance. As this situation took a toll on Garuda Indonesia's financial state, the COVID-19 pandemic has worsened the circumstances. Thus, based on the PESTEL analysis of Garuda Indonesia, external forces have a significant impact on Garuda Indonesia's current low state.

The educational Industry, which the COVID-19 pandemic moderately impacts, is represented by YPI Al-Azhar, one of Indonesia's oldest and most prominent education chains. YPI Al-Azhar's business throughout the COVID-19 pandemic has been relatively stable. In this state, social and technological factors are significant factors that contributed to YPI Al-Azhar's stable condition. As most religious and middle-high-class parents longing for religious and prestigious schools, YPI Al-Azhar, with its long and good records in religious education, has become its most potent value to survive during this pandemic situation.

The E-Commerce Industry has mostly had positive effects throughout the COVID-19 pandemic. The subject of this study is Tokopedia, one of Indonesia's biggest E-Commerce Industries and a unicorn company. Tokopedia has experienced a significant amount of

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transactions throughout this Pandemic, thanks to the Pandemic's stay-at-home regulation. Moreover, adaptability to technology has also held a great deal in bringing Tokopedia success.

Lastly, the application and practice of risk management analysis will be very positive for the development of each company. Most organizations could use risk management analysis to manage the uncertain events happening in the future and to prevent any losses caused by force majeur such as COVID-19 Pandemic or any other event similar to it.

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