

Pharmaceutical Industry Independence Strategy in Supporting Defense Economic Post-Covid-19

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Abstract: This article talks about health is one type of non-military threat that can disrupt the stability of a country. This is evidenced by the Covid-19 pandemic which has had a domino effect on the economic, social, and political fields of all countries in the world, including Indonesia. This article found handling Covid-19 on the health side is the availability of health workers, medical devices, and medicines. One of the obstacles faced is the limited stock of drugs due to the stagnant supply of medicinal raw materials from abroad, while 90-95% of the medicinal raw materials used by the pharmaceutical industry are still imported. With this experience, the independence of the pharmaceutical industry must be achieved without depending on foreign countries and achieving domestic resilience. In achieving this, various obstacles and barriers must be faced by the government by setting the right strategies and policies. In addition, a collaboration between the government and the pharmaceutical industry is needed so that the implementation of realizing the independence of the pharmaceutical industry is achieved effectively and efficiently.

Keywords: Covid-19, National Defense, Pharmaceutical Industry, Self-Reliance, Strategy.

A. Introduction

Various threats must be faced in maintaining the sovereignty of a country. These threats can be in the form of military and non-military threats. Military threats are all forms of threats that use weapons that can disrupt the sovereignty and integrity of a country. Examples of military threats are military aggression, sabotage, espionage, territorial violations, weapons rebels and others. While non-military threats are all forms of threats that are non-physical and even invisible forms that can interfere with the sovereignty and integrity of a country. Examples of non-military threats are threats with economic, political, ideological, social, and cultural dimensions, health, and information technology. In facing various threats, a country must have a strong defense.

Health is one of the non-military threats that can disrupt the stability of a country. The outbreak of Novel Corona Virus Disease (Covid-19) is an example of a non-military threat that has hit all countries in the world. Covid-19 has a tremendous domino effect

on the economy, politics, social, and culture. Examples are the threat of a Covid-19 recession, minus economic growth rates, socio-cultural changes were keeping a distance & wearing mask, and political policies regarding lockdown and quarantine.

For Indonesia, Covid-19 proves that Indonesia does not yet have stable resilience in the health sector because it is still very dependent on imported goods, one of clear evidence is the lack of independence of the pharmaceutical industry. Pharmaceutical industry players in producing drugs require medicinal raw materials, where 90-95% of medicinal raw materials are still imported from India and China. So that during the pandemic, there were drug limitations due to a reduced supply of medicinal raw materials due to restrictions and maintaining the availability of medicinal raw materials in India and China which were also affected by the extraordinary pandemic.

India is a successful country in selling *Active Pharmaceutical Ingredients* (APIs) amounting to trillions of Rupees (Rs) and formulations annually due to the implementation of India's process-patent-only-regime for pharmaceuticals after The Patents Act, 1970 (Srinivasan, 2011). The resilience of the pharmaceutical industry with the availability of all medical needs aims to improve the health level of the Indonesian people and strategies to create comprehensive and quality health (Ruskar, et. al., 2021).

Based on this explanation, this study aims to provide an explanation of the obstacles/constraints and strategies to realize the independence of an effective and efficient pharmaceutical industry in order to support national defense.

B. Methods

This research uses a qualitative description approach referring to literature or literature studies. The data sources used consist of primary data and secondary data. Primary data is data received directly from the research subject while secondary data is data received indirectly from the object of research sourced from books, websites, journals, and others. After obtaining complete data as needed, then processed using descriptive analysis, which then put forward conclusions and suggestions so that the independence of the pharmaceutical industry can be achieved effectively and efficiently.

C. Results and Discussion

The Importance of Pharmaceutical Industry Independence in National Defense

In order to maintain the existence of a country in the international environment, a good national defense policy is needed. National defense is all forms of efforts and actions to deal with all threats both military and non-military that can disrupt the sovereignty and integrity of the Indonesian state. Law No. 3 of 2002 explains the division of the role of the TNI as the main component of national defense in facing military threats while government agencies outside the defense sector as the main element in facing non-military threats. Non-military threats are non-weapon or invisible threats that can disrupt the sovereignty and integrity of the state with

dimensions of ideology, socio-culture, health, politics, economy, technology, and others.

Health is a non-military threat that can disrupt the stability of a country. Health is one of the Human Rights in accordance with the Universal Declaration of Human Rights (UDHR) article 25 which explains that everyone has the right to obtain proper health. This is also contained in Law No. 36 of 2009 which states that everyone has the right to health. The definition of health according to the law is a condition of physical, spiritual, and mental health so that each individual can carry out social and economic activities. This law also describes various kinds of resources in the health sector, namely the budget, human resources, health logistics, pharmaceuticals, and health equipment and infrastructure for organizing health services. So that the pharmaceutical industry is one of the important elements directly related to the health sector and also plays a major role in supporting the national defense. National strength in the health aspect requires continuous guidance and preparation to support national defense activities and fortify citizens from all threats.

The Covid-19 pandemic provides lessons for all countries that non-military threats have a domino effect on all countries in the world including high mortality of Covid-19 sufferers, high inflation rates, minus economic growth rates, rising unemployment rates, and others. In terms of health, one way to handle Covid-19 is the availability of drugs, medical devices, and health workers. Indonesia is not yet capable of pharmaceutical independence so during the pandemic, Indonesia was affected by the stagnant supply of imported medicinal raw materials due to restrictions and ensuring the availability of supply of medicinal raw materials for importing countries. With this practice, the independence of the pharmaceutical industry absolutely must be realized.

State of the Domestic Pharmaceutical Industry

From 2020 to 2022, there was an extreme increase in pharmaceutical sales globally due to the Novel Corona Virus Disease (Covid-19) pandemic. This led to a surge in Covid-19 patients both receiving treatment in hospitals and only isolating at home, causing an increase in the use of drugs and vaccinations. Indonesia has had a tremendous effect due to the pandemic with soaring import values of pharmaceutical products, organic chemicals, and inorganic chemicals as shown below:

The high import value of pharmaceutical products during the Covid-19 pandemic proves that Indonesian pharmaceuticals are still very dependent on pharmaceutical products from abroad and it can be said that the Indonesian pharmaceutical industry is still far from being "independent". Even when Covid-19 rose, the world's global supply decreased due to the eradication of BBO exports in order to maintain the domestic needs of exporters, lockdowns, and economic problems. However, these problems can be solved by coordination and cooperation between countries, policymakers, and the pharmaceutical industry (Meliawati, 2020).

After the demise of Covid-19, by 2023 experts predict that the global pharmaceutical market share 2023 will return to steady growth of 5%.



Figure 1. Global Pharmaceutical Market Predictions (Source: Fitch Solutions)

Even with the possibility of the pandemic status being lifted to endemic by WHO and experts' predictions of steady growth in the pharmaceutical industry, Indonesia must continue to implement the Pharmaceutical Industry Independence policy to support the non-military defense. In Indonesia, the pharmaceutical industry in carrying out the production of drugs and drug ingredients must have a certificate of Good Manufacturing Practice (CPOB). The agency that has the mandate to certify SPOB certificates is BPOM. BPOM released the number of pharmaceutical industries and special facilities in Indonesia that have CPOB certificates as of March 21, 2022, amounting to 243 pharmaceutical industries. Of the 243 pharmaceutical industries, only 11 are raw material industries and 5 companies are active in producing drug raw materials in Indonesia. In Minister of Health Regulation Number 17 of 2017, the government set 4 pillars for the development of medicinal raw materials, namely herbs, chemicals, vaccines and biotechnology. China and India are the world's chemical BBO market leaders who also develop herbal medicinal raw materials.

It is not an easy thing to build the independence of the pharmaceutical industry, various obstacles and constraints faced to launch the policy are as follows:

The intermediate industry and the domestic medicinal raw materials industry are underdeveloped

The upstream industry is the basic chemical industry (Petrochemical) and the fine chemical industry (Intermediate). Currently, the intermediate industry is still controlled by China and India. Whereas the drug raw material industry is a sub-system of the chemical industry; so, supply and competitiveness are determined by the upstream industry.

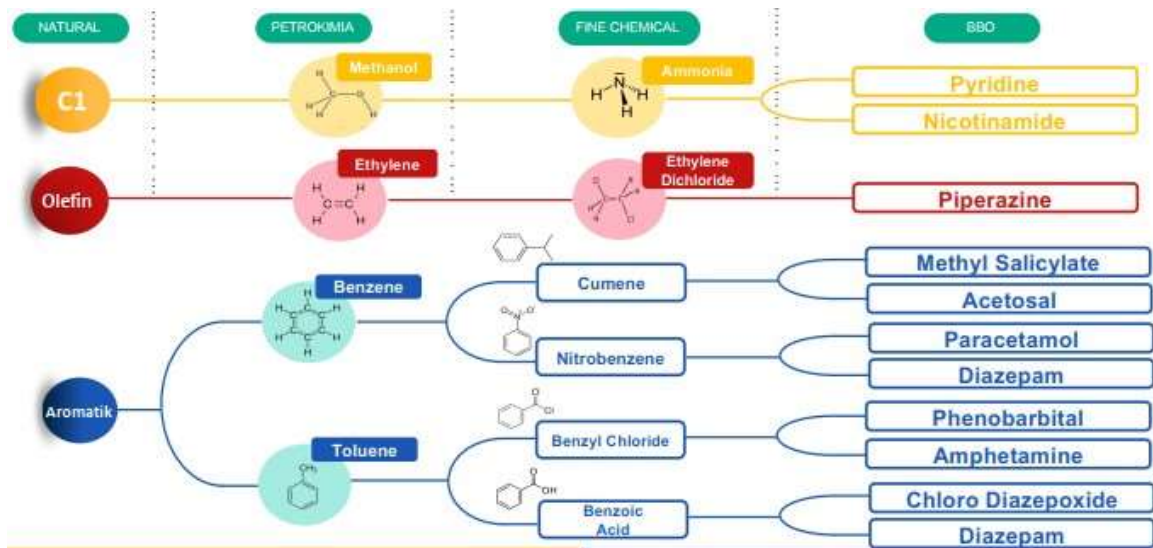


Figure 2. The upstream industry (PT Kimia Farma)

The chemical raw material industry is an industry that requires high investment because it requires enormous research and development costs in finding the right formulary and very strict regulations. With these high efforts, but business actors only get minimal profits. Therefore, the medicinal raw material industry is less attractive to business actors. Business actors who produce medicinal raw materials earn an average profit of only around 2% to 12%.

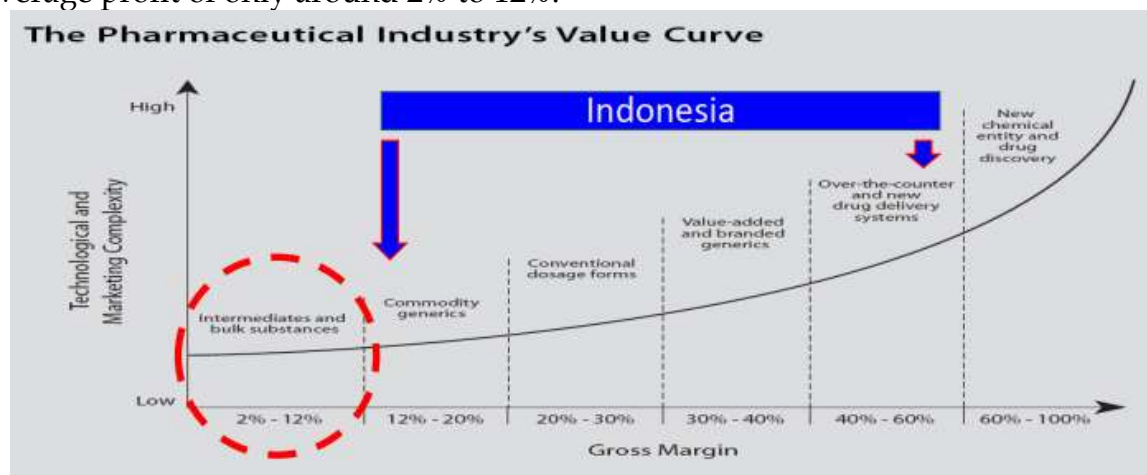


Figure 3. The Pharmaceutical Industry's Value Curve (PT Kimia Farma Sungwun Pharmacopia (KFSP)

In addition to the lack of profit in producing drug raw materials, the complaint of the pharmaceutical industry is that the regulation and production process is very strict starting from the time of construction to the finished product which takes at least 5 years to 7 years.

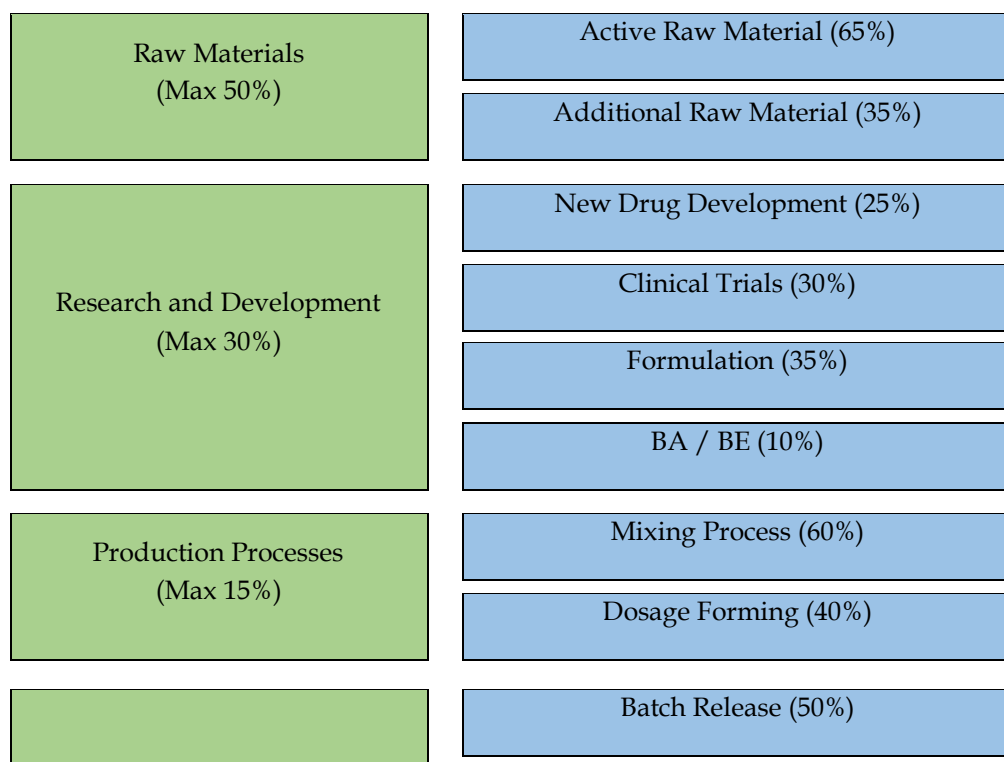
Until now, Indonesia only has five companies that produce raw materials for drugs domestically, among others:

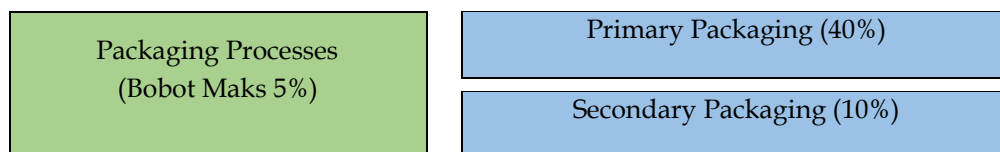
1. PT Kimia Farma Sungwun Pharmacopia (KFSP) which produces 11 BBO molecules namely clopidogrel, simvastatin, atorvastatin, rosuvastatin, entecavir, lamivudine, zidovudine, efavirenz, tenofovir, remdesivir and povidone iodine.
2. PT Ferron Par Pharmaceutiical which produces omeprazole injection grade,
3. PT Riasima Abadi Farma which produces paracetamol
4. PT Kalbio Global Medika which produces erythropoietin
5. PT Daewoong Infion which produces erythropoietin

The pharmaceutical industry has the capability to fulfill 75% of drug needs in Indonesia, but there is a dependence on imported drug raw materials of 90% (Mawarti, 2017). This is in line with the lack of a drug raw material industry, where 90%-95% of drug raw materials are still imported with a value reaching 30-35% of the total national pharmaceutical business. However, what must be considered is government support and protection for the market and the continuity of the drug raw material industry because the price of domestic drug raw materials is still much higher than the price of imported drug raw materials.

Pharmaceutical TKDN policy has not been maximized

Based on Regulation of Minister of Industry No. 16 of 2020, the calculation of pharmaceutical TKDN is grouped into 4 groups, namely raw materials (50%), research and development (30%), production processes (15%) and packaging processes (5%) which are then reduced to 11 parts as shown in the box below:





Presidential Regulation No. 12 of 2021 article 66 mandates that K/L/D must use domestic products if they have a sum of TKDN and BMP value of at least 40%. The highest value for BMP is 15% in accordance with Minister of Industry Regulation No. 16/M-IND/PER/2/2011. With a BMP value of 15% max and TKDN of at least 25%, the product is included in domestic products. Whereas in achieving 25% TKDN, a company can complete it only with the production process, packaging and/or research and development, without any local raw material components. So, it can be said that the imposition of a 25% pharmaceutical TKDN value has not been able to encourage the use of local raw materials in the pharmaceutical industry.

Drug prices are trending down

In 1969, companies engaged in the pharmaceutical sector created an association, namely the Indonesian Pharmaceutical Companies Association or commonly called GP Farmasi. GP Farmasi complained that drug prices in e-catalog winners continued to experience corrections, even from 2013 to 2018 corrected by almost 50%.

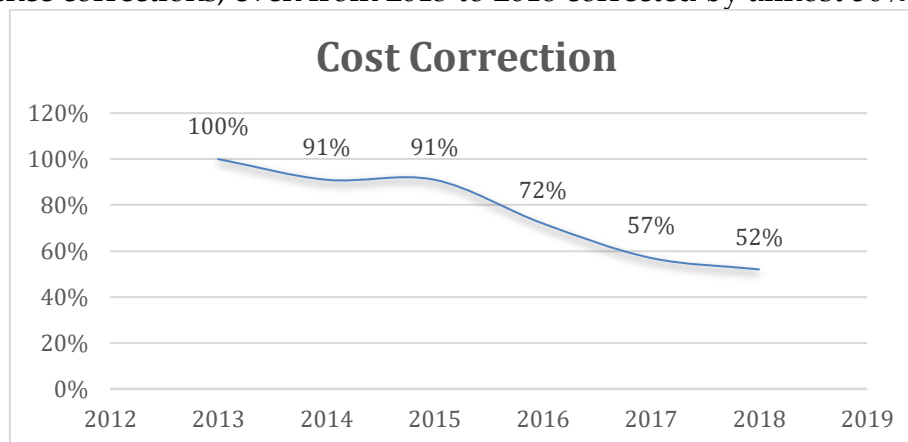


Figure 4. Cost Correction

With drug prices falling, the pharmaceutical industry will make efficiency in the production process so that it will look for and use imported drug raw materials that have low prices. Here the role of the government is to encourage the use of local medicinal raw materials by the pharmaceutical industry at competitive selling prices.

Purchase transactions through e-catalog-based e-Purchasing have not been maximized.

The general chairman of GPFI at the GPFI XVI National Conference stated that the value of sales in the pharmaceutical sector in 2021 has a value between IDR 90,000,000,000,000.00 and IDR 95,000,000,000,000.00.

Sales of drugs through e-Purchasing from 2019 to 2021 have decreased, and began to increase in 2022 according to the diagram below:



Figure 5. Transaction Value e-Purchasing

When comparing the value of sales in e-Purchasing with sales nationally, only 7% use e-Purchasing. Many hospitals do not use e-Purchasing because there is no certainty of delivery, stock items are not necessarily available and others. Whereas through e-Purchasing, the government can easily monitor drug purchases in accordance with the policy of using domestic products and TKDN.

Lack of research and development (R&D) budget

Technological capability and research and development are very important factors in improving the quality of the pharmaceutical industry so that it will produce high-quality products and expand market share (Sampurno, 2007). In the pharmaceutical industry, knowledge and knowledge management have the most important elements because it is a strongly science-based industry (Malerba and Orsinego, 2001) and the most research-intensive and innovative sectors of manufacturing (Antonakis and Achilldelis, 2001).

Currently, there is a decline in the creation of new chemotherapeutic drugs (New Chemical Entity/NCE), due to stricter regulations in obtaining marketing licenses as drugs in Europe, the United States and other developed countries. Finding new drugs takes about 10-12 years and research costs approximately USD750-850 million or IDR10.5-11.9 trillion, very far from Indonesia's APBN and non-APBN research budget of around 0.25% of national GDP or IDR30.8 trillion (Ministry of Industry, 2021). Meanwhile, from the perspective of business actors, the costs are very high, the time period is long, and the drugs produced do not necessarily meet market needs so that business actors are less interested in investing in the pharmaceutical industry.

Strategy for the Independence of the Pharmaceutical Industry in Support of National Defense

With a variety of obstacles and barriers in the way, strategies and the role of the government are needed to support and pave the way for businesses to be interested in investing in the pharmaceutical industry so as to achieve the independence of the pharmaceutical industry in order to support national defense. The strategies that must be carried out by the government to achieve these goals are as follows:

The government provides a special area

The government developed a special area for the pharmaceutical industry which provides various facilities that can be *shared* by the pharmaceutical industry. Examples of *shared utilities* are solvent recovery, *waste treatment*. Solvent recovery is very important in the pharmaceutical industry, where many drugs are made through chemical synthesis involving organic solvents, and the synthesis process generates solvent waste that is toxic and difficult to decompose. By using solvent recovery, solvents used in drug synthesis can be recovered and reused in subsequent production. This helps reduce waste and production costs, while improving production efficiency and reducing environmental impact.

Waste treatment is essential in the pharmaceutical industry to minimize the environmental impact generated by the production of pharmaceutical drugs and chemicals. Waste from pharmaceutical production processes generally consists of wastewater, solid waste, and toxic or hazardous waste. It is important to ensure that waste treatment is done properly and in accordance with applicable regulations and safety standards to prevent negative impacts on the environment and human health. The pharmaceutical industry must comply with effluent treatment regulations and standards set by government and regulatory bodies to ensure that effluents are treated safely and effectively.

The government provides tax facilities and incentives

The government can impose various tax policies as a way to encourage the independence of the pharmaceutical industry, among others:

Tax incentives

The government provides tax incentives in the form of tax allowance, tax holiday, and super deductible tax to the pharmaceutical industry that invests in research and development (R&D) of pharmaceuticals and pharmaceutical chemicals. These tax incentives can help the pharmaceutical industry in increasing R&D and innovation, so as to accelerate the development of medicines and increase the independence of the pharmaceutical industry.

Low tax rate

The government can set low tax rates for the pharmaceutical industry to minimize production costs and improve the competitiveness of the pharmaceutical industry in the global market. With a low tax rate, the pharmaceutical industry can invest greater resources on R&D and production, which in turn can increase the independence of the pharmaceutical industry.

Synergy between the government and the pharmaceutical industry in conducting research and development (R&D)

Synergy between the government and the pharmaceutical industry in conducting research and development is very important in improving the progress of the pharmaceutical industry and producing new innovations in the field of pharmaceutical drugs and chemicals. Currently, research is conducted respectively by the pharmaceutical industry and the government under BRIN. Meanwhile, the reality is that BRIN's research results may not necessarily be used by the pharmaceutical industry. Because it is related to the condition of production equipment, location, manufacturing volume and CPOB set by BPOM.

The government assists in developing the pharmaceutical industry's marketshare

Provide domestic market certainty

The government encourages all hospitals to purchase drugs through e-tendering and e-catalog-based e-purchasing and implement a policy of using domestic products where it is mandatory to use domestic products if they have a TKDN summation and BMP value of at least 40%.

Facilitate to increase global market share

The government helps the pharmaceutical industry so that domestic pharmaceutical products can be recognized globally, so that sales increase. Some of the ways the government can do this include:

Improve promotion and branding

The government can improve the promotion and branding of Indonesian pharmaceutical industry products in the global market in various ways, such as participating in international exhibitions, facilitating online sales, and strengthening diplomatic relations with export destination countries.

Opening international market access

The government can open international market access through free trade agreements with export destination countries. These agreements will facilitate access of Indonesian pharmaceutical industry products to the global market and minimize trade barriers.

Develop strategic partnerships

The government can develop strategic partnerships with global companies in the pharmaceutical industry. These partnerships can help with technology transfer, skills training, and the development of new products that can compete in the global market.

D. Conclusion

Non-military threats are sometimes underestimated, but the Covid-19 pandemic is a slap for all countries in the world. Covid-19 makes all countries confused, especially most countries implement a lockdown policy to limit the spread of Covid-19. However, the effect of this policy has made the economy worse, including high inflation rates, minus economic growth rates, increasing unemployment rates and others. Indonesia in handling Covid-19 also encountered several obstacles including the unavailability of medical devices so that prices rose greatly at the beginning of the pandemic, the stagnant supply of imported drug raw materials due to restrictions and ensuring availability in importing countries, the high cost of imported vaccines. With this experience, we realize that the independence of the pharmaceutical industry is an absolute necessity that must be fulfilled in order to achieve a self-sufficient Indonesia. There are various obstacles and constraints to achieving the independence of the pharmaceutical industry, so it requires government commitment by establishing policies and strategies to encourage the achievement of pharmaceutical industry independence. In addition, the importance of collaboration between the government and the pharmaceutical industry, so that the implementation in realizing the independence of the pharmaceutical industry is achieved effectively and efficiently.

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