

The Importance of Technology Transfer for Indonesia

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ABSTRACT--As a developing country, Indonesia is determined to increase the success of development in the industrial sector besides the agricultural sector. So that technology transfer is the most efficient way in terms of time and cost. Indonesia's national development was compiled with the Five-Year Development stage, aimed at increasing the prosperity and welfare of the people. Here technology transfer has an important role in accelerating national socio-economic development, specifically to increase the production of goods and services in the industrial sector. From a business perspective, technology transfer is also an asset created through investments with high risks and large costs. But one of the problems with technology transfer that needs to be watched out for is "dependency" between the technology owner and the technology receiver.

Keywords: *technology transfer, Indonesia, important*

I. INTRODUCTION

Each country always has its own technique in regulating technology transfer in accordance with the level/stage of technological advancements it has. There are countries where the level of technology has advanced, some are still at a stage less advanced and some are still underdeveloped.

For developing countries like Indonesia, in an effort to succeed development, it does not have to find/create its own technology, but it will be more efficient if it takes over technology from other countries that have advanced technology through foreign investment from the State.

As a developing country, Indonesia is determined to increase the success of development in the industrial sector besides the agricultural sector. Thus technology transfer is the most efficient way in terms of time and cost.

The development of science and technology will be very meaningful in the context of efforts to improve the standard of living, civilization and human dignity and provide benefits for society, nation and state.

The implementation of national development which is essentially human development as a whole and the whole of Indonesian society, cannot be separated from efforts to create an atmosphere that can arouse enthusiasm and interest to encourage the birth of a new creation and / or discovery that can be utilized as a support for national development. This is a consequence of the combination of science and technology that can provide something that is effective for/in national development.

One of the problems with technology transfer that needs to be watched is the "dependency" between the technology owner and the technology receiver. The link between economic development and technology transfer seems increasingly flexible as long as Indonesia does not yet have the right technology, so that the real potential strength can be utilized. The potential can be in the form of experts from outside the State as long as it does not result in continuous dependence and does not harm the national interest.

Based on what has been described above, the writer is interested in writing a paper entitled "The Importance of Technology Transfer for Indonesia".

II. FINDINGS AND DISCUSSION

According to Peter Mahmud Marzuki, the technology is a "technical know-how" related to producing goods and services including equipment.¹

What was stated by Marzuki is indeed appropriate because technical know-how is something that determines the creation of equipment to produce goods and services. It can be said that technical know-how is what makes these tools possible. Based on this understanding, it can be stated that technology transfer is actually transfer of technical know-how, which is the secret behind the equipment to produce goods and services.²

Technology is actually also not naturally just like that, every time there are always new innovations made by the power of creativity, initiative and human work so that the technology has considerable significance as a technological capability. Man is the starting point for how technology can develop.

The technology needed by the Indonesian people is technology that can overcome development problems that can be linked harmoniously, harmoniously, and in balance with national development goals.

The importance of technology as a benchmark for the advancement of development of a nation turns out that acquisition is not that easy, especially because there are no formal rules regarding technology and technology transfer.

Until now, the Indonesian people have not been able to optimally absorb technology from developed countries.

¹ Peter Mahmud Marzuki, 1993, *Pengaturan Hukum Terhadap Perusahaan-Perusahaan Transnasional di Indonesia*, Disertasi, Universitas Airlangga, Surabaya, p. 25.

² Ibid p.25

The main factor is due to inadequate human resources, so the expertise possessed is limited to certain fields.³

Whereas the United Nations Conference on Transnational Corporations (UNCTC) defines technology transfer as the process of obtaining technological capabilities from abroad.⁴ Furthermore there is a difference between technology mobilization and technology transfer. Mobilization of technology is moving technology from one place to another without the need to transfer the existing knowledge behind the technology. Example: technology mobilization as the sale of machinery.

Through the sale of machinery, the producer or supplier of the machine only shows the buyer how to use or operate the machines. The machine buyer does not have the ability to know the technical secrets of the machines.

In fact, often to repair the machines, the supplier also sends the technician to the buyer. In such circumstances there is no transfer of technology. Instead, what happens is only the physical transfer of technological products from one place to another without transferring the knowledge of the manufacture of these machines.⁵

In addition there are also those who say that technology transfer is the transfer of technology from abroad as a technology owner that is adapted to the new environment as a recipient of technology, and then there must be assimilation and application of technology into the economy of a recipient country technology. The technology must be able to be developed and produce new discoveries for further new innovations.

In every transaction that involves the transfer of technology, it can be carried out by any party whether in the form of foreign investment or national investment including by individuals, government bodies (State), private entities or international bodies that are contractually carried out.

The technology can be transferred in non-commercial and commercial ways. Technologies that are transferred by non-commercial means usually involve the government in the form of sending labor, to study certain areas of expertise or technical cooperation programs between countries.

Technology that is transferred commercially can be done in ways:⁶

1. Attract foreign capital to invest in Indonesia (in the form of a Joint Venture);
2. In the form of a license agreement and
3. Other agreements relating to technology contracts (including technical service contracts).

³ Sri Redjeki Hartono, Ety Susilowati, 2007, *Kontrak Alih Teknologi Pada Industri Manufaktur*, Genta Press, Yogyakarta, p. 9.

⁴ UNCTC, 1987, *Transnational Corporations and Technology Transfer Effect and Policy Issues*, New York, p. 01

⁵ Dewi Astutty, 2001, *Perjanjian Lisensi Alih Teknologi Dalam Pengembangan Teknologi Indonesia*, PT.Alumni, Bandung, p.48.

⁶ Sri Redjeki Hartono, Ety Susilowati, Op Cit. p. 11

The agreement entered into between the owner and the recipient of technology is a patent licensing agreement, which is followed by other agreements including technical contracts, management contracts and so on.

In practice technology which is show how, it can be seen clearly so that the technology can be imitated. In disembodied technology which includes technology and know how consisting of technological knowledge and information, it is impossible to transfer it as a whole, because technically the owner has a monopoly right to his technology which is always kept a trade secret.

Specifically the transfer of technology carried out under a licensing agreement (on patented technology) is expected to be more visible with the transfer of technology in accordance with what was promised. This form of agreement is the easiest for Indonesian entrepreneurs to do even though it has to be expensive.

The form of technology transfer agreement is generally made by the parties with a mutual agreement, but most of the agreements made with a one-sided terms, where the agreement is made unilaterally with certain conditions by the technology owner as the patent owner.⁷

The technology owner has a dominant position that has an absolute right to the technology he has as a monopoly right. The technology transfer agreement held will continue to benefit the licensor because the contents of the agreement are unilaterally determined so that an unbalanced bargaining position occurs, while the licensee is in a weak position.

Driven by the need for technology by "being forced" to accept the agreements that were held. This situation encourages technology providers to use existing opportunities to juridically pressure technology recipients for economic purposes.

Technology transfer is not just transferring or importing technology from one country to another, but also about the ability to understand, use, control and develop it.

Technology transfer in addition to being able to meet the need for technology, has implications for cultural systems and social values as well as a number of political and economic interests.

To avoid the unfair treatment of technology owners who have a strong position, the recipient of the technology must be able to anticipate and find a way out to avoid juridical, economic and psychological pressures. Do not let the technology owner only legitimize the transfer of technology in their interest with juridical pressures in achieving economic goals, namely to achieve profits, while the recipients of technology are only used as "tools".

In addition, the process of technology transfer can also occur through licensing or direct investment or by direct investment. Through direct investment, technology transfer will occur if there is a Patent Law, because Patent Law No. 13 of 2016, the aim is to guarantee the protection of inventions.

⁷ Mariam Darus Badrulzaman, 1994, *Aneka Hukum Bisnis*, Alumni, Bandung, p. 47.

Another way can also be with a license, wherein the license referred to by the object of the agreement is confidentiality. In this connection, it means that technology transfer is possible in Indonesia because Indonesia already has Patent Law No. 13 of 2016.

Technology Transfer is indeed a process that can affect almost every aspect of a society's economic and social change. As a result of the technology transfer process raises problems, so it is necessary to have regulatory steps.

The regulatory steps can be divided into 2, namely, regulatory steps that provide general influence on the process of technology transfer and specific steps relating to the process of technology transfer.

Indonesia as a developing country is also aware that science and technology transfer have an important role in accelerating national social and economic development, especially to accelerate the increase in the production of goods and services in the industrial sector.

This is where it is necessary to enter the right foreign technology from outside the country into the country with the terms and conditions that allow prices for the national interest.

In order to provide lasting value to the Indonesian state, the foreign technology entered must be selected in such a way that it can be effectively assimilated and adjusted to the needs of Indonesia. Therefore, a complete breakdown of technology and information technology is needed.⁸

However, it should be stated here that technology owners can be understood if they are reluctant to reveal the overall secrets of the technology. That is because in terms of business, companies create technology not for sale or transfer.

Technology was created to be used in business opportunities. Therefore, licensing of technology is only possible if the analysis shows that the use of technology by the company itself is not "feasible".⁹

It is a fact that technology from a business perspective is an asset created through investments with high risks and large costs. On the other hand, mastering technology enables the owner to gain power not only in the economic field, but also in social and political matters.

Therefore, it is natural that the technology owner tries to keep his technology. By monopolizing the technology, the owner hopes to be able to influence political and economic life globally.

Starting from this thought, it is understandable that the owner is reluctant to transfer his technology because transferring his technology is the same as disarming his own strength. That is why, in order to maintain the technology, the technology owner strives to maintain the technology.

The technology owner tries to maintain the essential perceived part of the technology by specifying clauses

that must be fulfilled by the licensor. Therefore, it would be futile to want full disclosure in the technology transfer agreement. What can be done is to find a way out that as much as possible increases the bargaining position in the agreement. In such case a legal provision is needed that can facilitate the improvement of the bargaining position without violating the principle of freedom of contract.

An important way for technology transfer to succeed is effective planning. To the extent that a country fully understands its resources and needs and the adaptability of its institutions to meet its needs, so far the country will be able to develop an effective national plan. With this plan the country then chooses the right technology transfer to contribute to its development goals.

On the other hand developing countries also do not want to depend on developed countries. Dependence will reduce the country's sovereignty. To reduce economic dependence on developed countries, developing countries in the context of national economic development have adopted a policy of technology transfer,

Indonesia is a developing country, its national development arranged by the stages of development which is known as the Five-Year Development. Development must be a planned change process with the aim of increasing the prosperity and welfare of the people. Therefore, development must be pursued to be in harmony with the progress of the people, both cultural, social and economic progress, which is known as Indonesia's national development as a whole. It means physical and mental development.

It is understood that development can only be achieved by the development of science and technology in addition to the participation of all levels of society. Indeed, the science and technology possessed by Indonesia is still very limited. Therefore, it is necessary to transfer technology from developed countries.

The existence of the technology transfer activity allows Indonesian children to absorb knowledge and technology from developed countries. It needs to be stated here that in utilizing science and technology in the implementation of development it is carried out by taking into account the requirements that the science and technology still provide ample employment opportunities, increasing labor productivity.

The conduct of industrial development in Indonesia in the context of promoting economic growth, it cannot be denied that development is often mistaken as economic growth or development. This is because economic development is indeed a priority in a country's development planning. The view that identifies development as economic growth views development as an effort to improve living standards. Considering that development is a priority in national development, the success of economic development will affect the success of other fields of development.¹⁰

Technology is an absolute requirement in economic development, because with technology can be obtained greater efficiency and productivity in relation to the

⁸ Ita Gambiro, 1988, *Pemindahan Teknologi dan Pengaturannya dalam Peraturan Perundangan*, makalah, dalam seminar Aspek – Aspek Hukum Dari Pengalihan Teknologi, Bina Cipta, Manado, p. 168

⁹ *Ibid*, p. 168.

¹⁰ *Opcit*, p. 56

sources used. This means that in terms of economics, technology enables the multiplication of profits.¹¹

Economic development is an action to utilize more inputs to produce more outputs as well. This activity requires technology because technology can produce more input. Even innovating these inputs can further double output. Based on that thinking, it can be said that technology transfer is something that is absolutely necessary in the economic development of developing countries.

In addition, technology transfer is also an effort of developing countries to reduce dependence on developed countries. In the beginning of economic development, in order to reduce the economic dependence of developing countries to developed countries, developing countries set up industries by buying technology from developed countries.¹²

It is undeniable that by launching this policy economically, developing countries are able to reduce their dependence on trans-national companies a little. Because the operation of industries in developing countries is possible thanks to the purchase of technology from abroad.

III. CONCLUSION

From what has been described above it can be concluded that the importance of technology transfer for Indonesia is as follows:

- Technology transfer can be a process that can affect almost every aspect of a society's economic and social change.
- Technology transfer has an important role in accelerating national socio-economic development, especially to increase the production of goods and services in the industrial sector.
- From a business perspective, technology transfer is an asset created through investments with high risks and large costs.
- Technology transfer enables Indonesian children to absorb knowledge and technology from developed countries.

With the transfer of technology, it can produce more inputs, innovate these inputs and can also double output.

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¹¹ Peter Mahmud, Opcit, p. 98.

¹² Ibid, p. 101.