



WTO in the Arena of the Indonesian Industrial Revolution 4.0: A Strategy to Improve the Quality of Indonesian Human Resources Through International Trade

¹Tiara Almira Raila, ²Jeremias Palito

^{1,2}Fakultas Hukum, Universitas Padjadjaran, Jl. Raya Bandung Sumedang KM 21, Jatinangor

Email: tiaralmirail@gmail.com

Abstract

The industrial revolution is a necessity. The real obstacle faced by Indonesia as a developing country in entering the industrial revolution 4.0 is the problem of the quality of human resources (HR), energy, infrastructure which includes transportation, facilities and infrastructure, technology and information. Therefore, as a form of commitment to the industrial revolution 4.0, Indonesia as a country and the WTO as an international organization must truly implement an optimal trade and development mechanism for the creation of a healthy climate of economic globalization. In addition to support through the economic strategy in the industrial revolution 4.0, the WTO is also committed to improve the quality of HR in its member countries. Improving the quality of human resources in the industrial Revolution 4.0 is crucial. In Indonesia, a link and match program between the education sector and the industrial sector have helped a lot in increasing the quality of human resources.

Keywords: Industrial Revolution 4.0, WTO, International Trade, Economic Strategy, Quality of Human Resource.

A. Introduction

Trade liberalization which is currently happening is very much worried to make the position of local producers in Indonesia a variety. This will certainly affect the protection of domestic products. The real obstacle faced by Indonesia as a developing country in facing the industrial revolution 4.0 is the problem of the quality of human resources, energy, infrastructure which includes transportation, facilities and infrastructure, technology and information.

Indeed, the industrial revolution in this case is trade revolution is a necessity. This is a clear proof of the presence of globalization where national borders are running low and making countries integrated in various ways one of which is trade. Entering through the understanding of comparative advantage which emphasizes product specialization between countries, it can no longer be denied that the exchange of goods through export and import mechanisms is something that must be taken by the state.

The countries in the world have basically tried to create a balance of each country so that the buying and selling process can be carried out fairly and equally. Through the World Trade Organization (hereinafter referred to as WTO), countries in the world gather and formulate the provisions that will be implemented in the process of international trade. Furthermore, WTO does not only regulate the problem of trade flows but also deals with the leveling competence of developing countries so that they can compete equally in international trade. This is a normal process that occurs in countries that have started implementing industrialization 4.0, which at this stage

requires changes in the quality of workers or people as a requirement in the development of modern technology industries.¹

Through this mechanism, it is true that Indonesia will not need to worry about the fact that globalization can no longer be protected. Apart from that, the Ministry of Industry has made a blueprint in order to face the industrial revolution 4.0 and achieve the widest possible welfare.

B. Research Methods

This research uses a normative legal method. The method used includes library research, namely juridical normative, national and international. This type of approach is carried out by examining legal principles and legislation related to this research. The research specification used in this paper is descriptive analysis, which is aimed to systematically and accurately explain and analyze existing facts by paying attention to the data and applicable regulations.

C. Results and Discussion

1. The role of the WTO in international trade strategies in the era of the industrial revolution

In the 1950s to 1960s, the economic regimes in Asian countries were still very limited in the initial stages of development and growth. Whereas such is an absolute requirement that rapid growth almost always requires the liberalization of the economic system and international trade. The intervention of WTO member countries in Asia has created a stable environment by implementing management policies and policies oriented towards efficient allocation of resources and increasing productivity.²

The countries have created a new paradigm in industrial capitalism and trade growth thanks to impressive levels of capital accumulation. The WTO takes a crucial role in the flow of international trade because it becomes a stimulus for the government to protect and subsidize domestic industries and has severe sanctions on violators. This policy is ultimately able to encourage a healthy level of competition and encourage the progress of the company which can be measured by its capabilities to be competitive internationally. In most developing countries, people only see government intervention as a high strategy. But based on WTO rules, and strategies that are not duplicated elsewhere and, in any case, are almost certainly impossible or tolerable under the new WTO rules.

Thus, it can't be ignored that trade liberalization is something that is necessary, although it itself is not sufficient to promote rapid growth and development. Development and growth are determined primarily within the country, but international investment and trade can provide a very strong facilitating and stimulating role.

For example, the WTO in its agreement states that the regulation of trade tariffs for industrial products must be lowered from an average of 4.7% to 3%, and the share of goods with zero tariffs will increase from about 20-22% to 40-45%; complete elimination rates for pharmaceuticals, construction equipment, medical equipment, paper products, and steel. Another example, in agriculture, the volume of subsidized agricultural exports will decrease by

¹ Tran, Tuyen and Doan, "Industrialization, Economic and Employment Structure Changes in Vietnam During Economic Transition", *Munich Personal RePEc Archive*, No. 26996, November 2011, pp. 2.

² Dominick Salvatore, "International trade policies, industrialization, and economic development", *The International Trade Journal*, Vol. 10, No. 1, Juni 2017, pp. 37.

about 21% over a six year period. From this strategy, we can see the crucial role of the WTO in international assistance by referring to leading industrialization.

2. Indonesia's Response to the Industrial Revolution 4.0

The industry 4.0 era is an era that is enlivened by artificial intelligence or known as artificial intelligence, genetic engineering, nanotechnology, super computing, and other innovations.³ In Indonesia itself, an industry 4.0 roadmap has been put in place, with a commitment to build a globally competitive manufacturing industry carried out by the Ministry of Industry with the design of Making Indonesia 4.0, which includes the food and beverage, textile, automotive, electronic, and chemical sectors.⁴

This industrialization then shifted the agrarian economic system towards a modern economic system that focused on the manufacturing sector.⁵ The manufacturing sector in the era of the digital economy is considered difficult to be included in the formal economic system such as banking and insurance because they have been characterized to require workers to have at least an educational background at relatively high stages and this is judged to be unable to reach subordinate level workers.⁶

By this conceptual thought, ideally the rate of development of industrialization is directly proportional to the absorption of labor rates and the increase in minimum wages. For example, what happened in four new industrialized countries in Asia or the Asian New- Industrialize Countries namely Taiwan, Singapore, Hong Kong and South Korea, where the percentage increase in workers rose sharply around 40 percent due to the rapid growth of the manufacturing industry.⁷

In Indonesia, efforts to absorb labor from the dirty industry 4.0 were carried out by the Ministry of Trade, where the Ministry of Industry seeks to include the digital economy as an integral part of the industrial revolution 4.0 which has massively and progressively transformed current trade patterns. ⁸So that other expectations that arise from the existence of this phenomenon is the formation of policies that can reduce unemployment.

Furthermore, other ministries that also focus on industrial development 4.0 are the Ministry of Industry. Through Making Indonesia 4.0, the Ministry of Industry made a blueprint for what to achieve in this era. There are at least ten points of priorities contained in it which serve as a priority movement by the Government of Indonesia that is cross sectoral to accelerate the development of the manufacturing industry in Indonesia, namely:

- a) enhancing the domestic material production;
- b) building a single nationwide industry zoning roadmap and resolve zoning inconsistency

³ Venti Eka Satya, "Strategi Indonesia Menghadapi Industri 4.0", *Info Singkat*, Vol. 10, No. 9, Mei 2018.

⁴ Ibid.

⁵ Prema Chandra Athukorala and Kunal Sen, "Industrialization, Employment and Poverty", Retrieved from: http://icrier.org/pdf/26aug14/Athukorala_paper.pdf, on 22 October 2019.

⁶ Ibid.

⁷ Gary S. Fields, "Industrialization and Employment in Hong Kong, Korea, Singapore, and Taiwan", on W.Galenson, *Foreign trade and investment: Economic development in the Newly Industrializing Asian Countries*, Madison: University of Wisconsin Press, 1985, pp. 341.

⁸ Lavinda, "Mendag Akui Revolusi Industri 4.0 Ubah Perdagangan Dunia", Retrieved from: <https://www.cnnindonesia.com/ekonomi/20180131172458-92-272965/mendag-akui-revolusi-industri-40-ubah-perdagangan-dunia>, on 22 October 2019.

- c) grabbing opportunities under global sustainability trend;
- d) empowering small and medium enterprise, including the micro ones;
- e) advancing network and digital platform;
- f) engaging with global manufacturers;
- g) redesigning education curriculum and creating professional talent mobility program;
- h) enhancing R&D centers by government, private companies, and universities
- i) introducing tax exemptions; and
- j) building more coherent policies and regulations by cross-ministry collaborations.

However, this article will focus on government initiatives to improve human resources quality which, if explained clearly, will improve the quality of human resources, in which case the government will enter through a reform of the curriculum of schools by including the main subjects regarding education, technology, engineering, art, and mathematics to align with industry needs in the future. Then more specifically the government will hold assistance from foreign countries to provide assistance in the implementation of vocational education to suit market needs.⁹

If viewed from a theoretical view of the truth, international trade must be followed by the effect of fulfilling labor through improving human quality. As stated by Harrigan which states that the economic model of the effects of international trade is the view or assumption that the provision of employment, employment is the main objective of the policy on international trade.¹⁰ Despite the fact that this objective and the facts on the ground often cause controversy, it must be understood that as a country with a large population, Indonesia cannot only be a consumer but must also play a role in the process of producing goods and services.

Indonesia's agreement with the WTO or WTO as a form of affirmation of market liberalization and trade must be accompanied by a spirit of renewal and usefulness. For example, the events that occurred where there were gaps between export-import practice employers and workers that were focused on research by Luke Mohler and Rolf Weder who concluded that in terms of econometric analysis where there were 30,000 workers in the international trade sector between 1991-2008 do not support the assumption that the increase in imports has a significant relationship on unemployment alleviation.¹¹ Indonesia is slowly but surely crawling towards the point of maturity as a reliable player in the international trade market not only from consumer factors but also from quality producers.

3. The Role of the WTO in Efforts to Improve the Quality of Indonesian Human Resources

⁹ Kementerian Perindustrian, "Making Indonesia 4.0", retrieved from <https://www.kemenerperin.go.id/>, on 22 October 2019

¹⁰ Maksim Belenkiy dan David Riker, "Theory and Evidence Linking International Trade to Unemployment Rates", *Office of Economics Working Paper*, 21 Januari 2015, pp.. 2.

¹¹ Lukas Mohler dan Rolf Weder, "International Trade And Unemployment: Towards An Investigation Of The Swiss Case", *Swiss Journal of Economics and Statistic*, Vol. 10, 2018.

The WTO was born in October 1947, which regulates trade tariffs and regulations relating to investment and intellectual property rights.¹² This view of the existence of international trade cooperation is due to the understanding that to meet the needs of the country, it cannot only depend on what is the country's production, so there is an import mechanism.¹³

Therefore, it began to echo trade with comparative advantage, namely emphasizing the partialisation of state results.¹⁴ Realizing that Indonesia's current position cannot be said to be in balance with the large countries that have already dominated the international arena in the economic sector, indeed there must be an effort to at least have an equal bargaining position between Indonesia and the major powers. Therefore if it refers to the preamble to the opening of the agreement as outlined in the Agreement Establishing The World Trade Organization stated in the first paragraph that: "Recognizing that their relations in the field of trade and economic endeavour should be conducted with a view to raising standards of living, ensuring full employment and a large and steadily growing volume of real income and effective demand, and expanding the production of and trade in goods and services, while allowing for the optimal use of the world's resources in accordance with the objective of sustainable development, seeking both to protect and preserve the environment and to enhance the means for doing so in a manner consistent with their respective needs and concerns at different levels of economic development"

That means in an effort to improve the quality of human resources in each country that is part of the WTO, the WTO states that there needs to be joint efforts. The management qualification of human resources must include discipline, covering a variety of fields focused on one element, and also qualifying the relationship between the company and the workforce.¹⁵

In the 2014 WTO publication, we can see that the WTO has been truly consistent in developing the quality of countries that are developing both in Asia and Africa, that makes more than three-quarters of WTO member countries. All of WTO agreements contain special provisions for them, such as longer periods of time to implement agreements and commitments, steps to increase trade opportunities, and other provisions regarding trade and infrastructure.

The 2001 Ministerial Conference in Doha established tasks such as negotiations on various issues related to national development. Several parties called the negotiations the "Doha Development Round". Several years earlier, in 1997, a summit on technical assistance and trade initiatives for underdeveloped countries had produced an "integrated framework" through which six intergovernmental bodies were formed to help least developed countries improve their ability to trade, and some additional preferential market access agreements.

The WTO Committee for Trade and Development, assisted by the Subcommittee of the Reduced Countries, is looking at the development of the country's special needs. Their responsibilities include implementing agreements, technical cooperations, and increasing the participation of developing countries in the global trade system.¹⁶

¹² Huala Adolf, *Hukum Perdagangan Internasional*, Jakarta: Raja Grafindo Persada, 2005, pp. 97

¹³ David Ricardo, *Principles of Political Economy and Taxation 1817*, Boston: Harvard University Press, 1987, pp. 101

D. Conclusion

The conclusion that can be drawn from the results of this study as a form of commitment to the industrial revolution 4.0 Indonesia, as a country, and the WTO, as an international organization, must truly implement an optimal trade and quality development mechanism in order to create a healthy climate of globalization.

The commitment of the WTO and Indonesia can be seen in each of the organization's blueprints. Neither the WTO nor Indonesia deny that improving the quality of human resources directly affects the dynamics of international trade. In this case, the WTO is very instrumental in efforts to increase international trade in Indonesia by encouraging Indonesia to form policies that urge improvement in the quality of Indonesia's human resources.

Competent resources is one of the important factors in determining the success of the transformation in 4.0 era. Therefore, improving the human resources quality needs to be prioritized. One of the basic steps that Indonesia has initiated is to improve human resource competencies, one of which is through a link and match program among education sector and industry sector. This effort is carried out in synergy between Ministry of Industry, several other ministries, and related institutions in Indonesia, as well as certification which will be maximized and disseminated massively to face the 4.0 era.

References

Books

- Adam Smith, *The Wealth of Nations*, Boston: Harvard University Press, 1989.
- David Ricardo, *Principles of Political Economy and Taxation 1817*, Boston: Harvard University Press, 1987.
- Gary S. Fields, "Industrialization and Employment in Hong Kong, Korea, Singapore, and Taiwan", in W. Galenson, *Foreign trade and investment: Economic development in the Newly Industrializing Asian Countries*, Madison: University of Wisconsin Press, 1985.
- Huala Adolf, *Hukum Perdagangan Internasional*, Jakarta: Raja Grafindo Persada, 2005.

Journals

- Lukas Mohler dan Rolf Weder, "International Trade And Unemployment: Towards An Investigation Of The Swiss Case", *Swiss Journal of Economics and Statistic*, Vol. 10, 2018.
- Maksim Belenkiy dan David Riker, "Theory and Evidence Linking International Trade to Unemployment Rates", *Office of Economics Working Paper*, 2015.
- P.V.C. Okoye and Raymond A. Ezejiolor, "The Effect of Human Resources Development on Organizational Productivity", *International Journal of Academic Research in Business and Social Sciences*, Vol. 3, No. 10, 2013.
- Tran, Tuyen and Doan, "Industrialization, Economic and Employment Structure Changes in Vietnam During Economic Transition", *Munich Personal RePEc Archive*, No. 26996, 2011.
- Venti Eka Satya, "Strategi Indonesia Menghadapi Industri 4.0", *Info Singkat*, Vol. 10, No. 9, 2018.

Internet

¹⁴ Adam Smith, *The Wealth of Nations*, Boston: Harvard University Press, 1989, pp.121.

¹⁵ P. V.C. Okoye and Raymond A. Ezejiolor, "The Effect of Human Resources Development on Organizational Productivity", *International Journal of Academic Research in Business and Social Sciences*, Vol. 3, No. 10, Oktober 2013.

¹⁶ WTO, "Understanding the WTO", https://www.wto.org/english/res_e/doload_e/inbr_e.pdf, Obtained on 22 October 2019

Lavinda, "Mendag Akui Revolusi Industri 4.0 Ubah Perdagangan Dunia", Retrieved from <https://cnnindonesia.com/ekonomi/20180131172458-92-272965/mendag-akui-revolusi-industri-40-ubah-perdagangan-dunia>, on 22 October 2019.

Ministry of Industry, Making Indonesia 4.0, Retrieved from <https://kemenperin.go.id>, on 22 October 2019.

Prema Chandra Athukorala dan Kunal Sen, "Industrialization Employment and Poverty", Retrieved from http://i.crier.org/pdf/26aug14/Athukorala_paper.pdf, on 22 October 2019.

WTO, "Understanding the WTO", Retrieved from https://www.wto.org/english/res_e/doload_e/inbr_e.pdf, on 22 October 2019.