



HR Development Strategy in Business Competition in The Digital Age

M. Adenuddin Alwy, SE. MM¹, Dr. Rachmie Sari Baso, S.S., M.Educ Stds., M.Ed.²

Akademi Bahasa Asing Balikpapan, Indonesia

Email: amyrsbaso@gmail.com

Abstract

This study aims to find the right strategy in optimizing human resources (HR) in industry in Indonesia, as one of the important aspects in facing business competition in the era of the industrial revolution 4.0. Using a literature study research method with data collection techniques used are questionnaires (questionnaires) and document studies. The data analysis technique used is through several stages, including collecting data, selecting data, displaying data, and drawing conclusions. Several strategies to optimize the development of Human Resources (HR) in Indonesia are, 1) Improving the quality and quantity of educational and training institutions 2) increasing the capacity and capability of the workforce.

Keywords Human Resources, Training, Industrial Revolution 4.0

INTRODUCTION

Industrial revolution 4.0 is a condition where there are very significant changes in industrial processes carried out by humans (Herawati et al., 2021). This change is marked by the increasingly rapid development of digital technology in the industrial world which makes industrial processes increasingly rapid. On the other hand, the industrial revolution has taken over the role of humans in work, so that the available Human Resources (HR) is required to be responsive to these changes to keep pace with the global competition in the industrial world (Ashar, 2020).

The development of the Indonesian industry has experienced very significant growth from year to year. Based on an economic survey conducted by the Economic Agency, in 2015 the industry in Indonesia contributed a total of 852.24 trillion rupiahs, equivalent to 7.38 percent of the total national GDP. This number grew by 4.38 percent from the previous year which was only able to contribute as much as 784.82 trillion rupiahs (Elias & Noone, n.d.).

However, behind the rapid development of the industry, there are still many challenges that industry players must face. These challenges are also strategic issues that will be the focus of further development.

Recognizing the rapid development of information technology, the Government of the Republic of Indonesia has issued a systematic, comprehensive, and futuristic national industrial development plan which has been stated in the 2015-2035 National Industrial Development Master Plan (RIPIN). The vision for national industrial development is to become a resilient industry with the following characteristics: (1) A strong, deep, healthy, and just national industrial structure, (2) an industry that is highly competitive at the global level, and (3) an industry based on innovation and technology (Asian Development Bank, 2020).

To realize the existing vision, industrial development at the national level needs to have the proper mission in order to achieve the national industry as a pillar and driver of the



national economy, including the economy at the regional level. This mission needs to be used as the basis for industrial development, ultimately providing the welfare and prosperity of a just society (Salazar-Xirinachs et al., n.d.).

From several strategic issues, there is one interesting issue to be discussed, namely the availability of creative, skilled, and professional human resources. HR is the main factor that determines the development of the industry. The presence of quality human resources is a guarantee for the Indonesian industry to be able to compete globally (Dary et al., n.d.).

Global work patterns have developed and changed rapidly in a very fast period of time. This phenomenon occurs due to changes in large currents that provide a new wave of disruption which is currently hitting all countries around the world (*World Employment and Social Outlook / Trends 2022*, n.d.). The process of industrial relocation from Europe and America to Asia (Indonesia, Vietnam, Thailand, Pakistan, India, etc.) and Latin America (represented by Brazil) began in the 1970s. The impact felt was the intense and massive automation application that changed the work requirements of a digital nature. Human Resources who do not master digital literacy sooner or later will be left out (Umanailo, 2021).

Many factors are the cause of the delay in the development of human resources, including the fact that there are still many Indonesian workers who only rely on their self-taught abilities. In addition, there are still a small number of industrial training and education institutions that are able to form a globally recognized professional workforce (Ningsih et al., 2022).

This research is intended to find out the right strategy in an effort to develop industrial human resources in the face of business competition in the digital era. This research is also expected to provide benefits for the parties involved in the development of Indonesian industrial human resources, especially the government, business people, and labor institutions in designing appropriate strategies and plans for the development of industrial human resources.

LITERATURE REVIEW

Human Resources (HR) is one of the most important factors that cannot even be separated from an organization, both in the form of institutions and industrial companies (Njagi & Munyiri, 2014). HR is an integrated ability of the mind and physical power possessed by individuals. Thinking power is intelligence that is brought from birth (talent and creativity) while physical skills are obtained from effort (education and training) (Susan, 2019).

The process of forming quality human resources requires a good management process from related institutions and industrial companies (Qutni et al., 2021). The function of human resource management is to manage various aspects of human resource issues in the industry including planning, recruiting, and training workers, as well as conducting various programs that support HR skills and expertise. Among the programs that can be carried out in preparing skilled and professional human resources in education and training programs (Armstrong, 2006).



The issue of the development of the industrial revolution 4.0 has existed since 2009. As technological innovation develops, this fourth revolution is not just a discourse but has already occurred and is ongoing, the industrial revolution 4.0 is seen as an antithesis to the development of the previous industrial revolution (Maulani & Prastyanti, 2021).

The industrial revolution 4.0 is a generation of technological development that began with significant changes in the way humans work, especially in the industrial world. In this era, almost every scope of human workspace is equipped with machine technology (Neumann et al., 2021). This change in general makes every human job easier. But on the other hand, the development of the industrial revolution 4.0 requires that existing human resources are required to continue to develop their abilities and expertise in the face of rapid global industrial competition (Dhanpat et al., 2020).

Economic and industrial development cannot be separated from the evaluation of the economy. The details contained in this plan document describe a shift from the agricultural era to the industrial era and a shift to information. This shift is accompanied by many discoveries in the field of information and communication technology as well as economic globalization. From the results of these developments affect the pattern of performance, production, and distribution that are cheaper and more efficient (Sima et al., 2020).

RESEARCH METHODS

There is also a type of research which is a literature study. Zed in Kartiningsih's research (2015) said that the library study method is a series of activities related to the methods of collecting library data, reading and taking notes, and managing research materials. Kartiningsih added that the literature study was carried out by each researcher with the main aim of finding the basis for obtaining and building theoretical foundations, and frameworks of thought, and determining provisional conjectures or also known as research hypotheses. So that researchers can classify, allocate, organize, and use various kinds of literature in their fields.

RESULTS AND DISCUSSION

Human Resources (HR)

Training is one of the efforts to increase knowledge and develop HR skills (Rodriguez & Walters, n.d.). Training can also be interpreted as a process that is carried out systematically to change the way and behavior of HR in an industry that is tailored to the goals of the industry. This training is closely related to the skills and abilities of HR to do the job. Basically, the purpose of the training is to improve the competence of participants which includes three domains, namely: 1) knowledge or cognitive 2) skills or psychomotor, and 3) attitude or affective (Aguinis & Kraiger, 2009).

More detail about the differences between education and training can be seen in the following table (OECD, 2009):



Table 1
 Differences in Education and Training

No.	Explanation	Education	Training
1	Ability development	Thorough	Special
2	Ability Emphasis	Affective, Cognitive	Psychomotor
3	Implementation period	Long	Short
4	Materials provided	More general	More Special
5	Method used	Conventional	Unconventional
6	End of process award	Title	Certificate

Source: Notoatmodjo (2009)

It can be concluded that education is a human resource development activity that aims to develop the cognitive and affective side of human resources which is carried out in the long term as evidenced by the existence of an education degree. Meanwhile, training is an HR development activity that emphasizes the psychomotor side of HR which is carried out in a relatively short period of time as evidenced by the existence of a training certificate.

Industrial Revolution 4.0

Technological developments are marked by the very rapid development of sensor technology, interconnection, and data analysis to come up with ideas that are integrated with all technologies found in various industrial fields (Rahardja et al., 2019). Industrial Revolution 4.0 is predicted to have enormous potential benefits in the industrial world (Mendes et al., 2018). Among the benefits of the industrial revolution, 4.0 is about improving the speed of production flexibility and increasing service to customers and consumers. The realization of these potential benefits will have a positive impact on the economy of a country (Morrar et al., 2017).

The key to realizing the potential of industrial revolution 4.0 is to optimize Human Resources (HR) and digital infrastructure (Ellitan, 2020). Furthermore, industry 4.0 is considered capable of increasing efficiency and productivity, so that there will be a decrease in industrial production costs. This reduction in production costs will certainly have an impact on increasing production and increasing consumer purchasing power (Saurwein, 2016).

Besides providing great benefits, industrial revolution 4.0 is also a challenge for a country. The challenges faced by a country in implementing the 4.0 industrial revolution include the emergence of demographic changes and social aspects in society, instability in political conditions, limited human resources (HR), the risk of natural disasters, and demands for the application of environmentally friendly technology (Wibowo et al., 2020).

Industrial HR Development Strategy in Indonesia

Another form of one of industry that is developing is a culture-based industry, an industry that combines creativity, production, and commercialization of creative content



both in the form of goods and services that are cultural in nature. This is of course related to determining the quantity and quality of human resources empowered in culture-based industry (Chollisni et al., 2022).

The problem of quality and quantity of industrial human resources requires a systematic strategy so that it is expected to form highly competitive human resources (Sergio & Shenshinov, 2021). The process of developing skilled and professional human resources can be done through human resource education and training (Master of Administrative Science, University of Nusa Cendana et al., 2020). The government has provided a very clear roadmap on the HR development strategy contained in the Ministry of Tourism's Medium-Term Action Plan (RAJM Kemenkarekraf) (Džopali, n.d.). In the design, several strategies are prepared in overcoming industrial HR problems, including:

First, is the development of creative educational and training institutions. The number of industrial education and training institutions is still relatively small and insufficient for the total Indonesian workforce. The majority of existing training institutions are only available at the district or city level. Therefore, the government must encourage and facilitate the private sector to develop industrial education and training institutions, simplify the licensing process, and organize an award program for institutions that have successfully produced skilled and professional industrial human resources.

Second, the development of new study programs in accordance with the needs and developments of the industry. With the existence of a special study program in the industrial sector, it is expected to form the characteristics of human resources who are ready to work, work and be competitive in Indonesian and global industries.

Third, provide convenient facilities for industrial education and training institutions to cooperate with fellow industrial training institutions at home and abroad. The purpose of this collaboration is to make the workforce accustomed to the intense world of industrial competition.

Fourth, Improving the quality of teachers and trainers. Qualified teachers and trainers greatly affect the quality of the workforce to be educated and trained. This effort can be done by holding teacher and educator certifications with standards that are tailored to the needs of the industry.

Fifth, Develop and improve the content of industrial education and training curricula. The curriculum developed must be in accordance with the needs of the industry. With this strategy, it is hoped that training graduates will have skills that are in line with industry needs.

Sixth, Improving quality standards and accreditation of industrial education and training institutions. The benefit of this accreditation is as an indicator of improving the quality standards of industrial education and training institutions and increasing the number of accredited institutions with the aim of continuing to maintain the quality of the graduates produced.

Seventh, Improving the quality of facilities and infrastructure of industrial education and training institutions. The improvement of these facilities and infrastructure must be



adjusted to the needs of the industry, so it is hoped that the workforce is ready to go directly to the field because they are already familiar with the required skills.

Eighth, Increase the allocation of funds needed by industrial education and training institutions. The allocation of sufficient funds is the most important factor, because any existing strategy, will certainly work when the funds are sufficient.

Ninth, Establish cooperation between educational institutions and industrial HR training with industrial companies. This strategy can be done by holding a mandatory internship program that is adjusted to the expertise of HR.

Tenth, Hold seminars and motivational events by presenting industrial entrepreneurs who have been successful in their fields. This kind of event will be useful to increase the motivation and creativity of human resources who undergo education and training.

Eleventh, Providing opportunities for selected HR to be able to take part in training abroad. It is hoped that in the future, human resources will be produced who have global industry expertise standards and are able to compete at the international level.

CONCLUSION

Human Resource Development (HR) is an effort made to form quality human beings who have creativity, skills, and work abilities, as well as work loyalty to an organization or industrial company. A good HR development strategy will have a positive impact on an industry. The industrial revolution 4.0 or commonly referred to as the digital industrial era is marked by the very rapid development of sensor technology, interconnection, and data analysis to come up with ideas that are integrated with all technologies found in various industrial fields. The digital industrial era has provided the flow of technology and information as well as the mobility of human resources from one place to another. One way to develop human resources is through increased education and industrial training.

Education is very important in developing human resources because people who have low levels of education tend not to have the ability to work well. Besides education, training is also very important because to be able to form skilled and professional HR, HR opportunities are needed to gain a lot of work experience. Human resource development strategies in Indonesia can be implemented by: (1) Increasing the quality and quantity of creative educational institutions and; (2) Increasing the capacity of creative workers. The increase in the quality and quantity of creative educational institutions is marked by the increase in the number of creative educational institutions, the increasing quality of creative education institutions, and the increasing number of graduates from creative educational institutions who are absorbed in the world of work. The increase in the capacity of creative workers is marked by the increase in creative workers who have globally recognized certifications and the existence of a labor protection system for workers in the industrial sector.



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