Human Resource Development Strategy As Preparation For The Industrial Revolution Era 5.0

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Abstract.
This study aims to describe the Human Resource Development strategy as preparation for the Industrial Revolution Era 5.0. In the 5.0 era, the industry began to touch the virtual world, in the form of human, machine and data connectivity, all of which are already everywhere, known as the Internet of Things (IoT). Therefore, the Human Resource Development Strategy needs to be considered considering that Indonesia is a country with a high number of productive ages. This research uses descriptive qualitative research. In qualitative research, the formulation of the problem taken from the case study that will be examined in this context is the HR Development Strategy as Preparation for the Industrial Revolution Era 5.0. Qualitative data was collected by means of interviews, document analysis, literature study and direct observation. There are several methods of developing Human Resources that can be done, namely: 1) Skill Training Method; 2) Retraining Methods; 3) Cross-Functional Training Methods; 4) Team Training Methods; 5) Creativity Training Method. Curriculum development is also one of the things that can direct and shape the character of Indonesian people to be ready to face the industrial revolution 5.0.

Keywords: Human resource development, strategy, industrial revolution era 5.0, curriculum and training

I.   INTRODUCTION

Technology is growing over time which is marked by the industrial revolution 1.0 to the industrial revolution 5.0. Along with the development of this technology resulted in changes in the pattern of social behavior of the community (society). This is evident from the beginning that every society's behavior was only centered on meeting the needs of the community without any influence from technology, but now every order of life and community needs will be centered on humans and based on technology (Rahmawati et al., 2021).Covid-19, which has caused everyone to turn to digital devices as well, has given a special message about the importance of telecommunication providers and platforms to maintain quality of service (QoS) (Naz et al., 2021; Siddiqui et al., 2021). Tariff wars to reach as many customers as possible by ignoring QoS should be abandoned. Industry must be more realistic.Industry 5.0 based on cyber-physical, internet of things (IoT), cloud computing, and cognitive computing has had an impact on people's lives around the world. The presence of Industry 5.0 is to create a balance between advances in digital technology, parallel economic progress with solving social problems. Industry 5.0 is synonymous with the synergy of human civilization and digital technology without losing the real human identity (Nahavandi, 2019). In the industrial revolution 5.0, all processes are carried out automatically in all activation processes, where the development of internet technology is growing, not only connecting people all over the world but also becoming a basis for online transaction processes between the government and society.

Industry 5.0 based on cyber physical has made drastic changes, both in terms of economic, social, political and even individual behavior (Xu et al., 2021; Grabowska et al., 2022). The Covid-19 pandemic that hit globally, has made all the world's residents turn to telecommunications and digital technology. The necessity of social distancing and transactions without meeting physically have almost doubled the use and spending of telecommunication quotas. You can count this doubled increase, the multiplier impact of its effect on the digital economy. Entering Industry 5.0 with the characteristics of super speed telecommunications, Human Resources will not be separated from its impact.Many things that have been delayed for a dozen years are hampered by regulations, so that digital transformation is hampered, such as the use of sharing infrastructure, digital dividend frequency spectrum, making the telecommunications industry able to compete with over the top as carriers of new technology. Currently, there is a great need for human resources who understand digital technology. Given that in a matter of years we will all be in an era where the world is in a cyber-physical and human-centered system.

Indonesia has a demographic bonus, where the productive age is far more than the non-productive (Hasudungan & Kurniawan, 2018). BPS noted that 70.72 percent of Indonesia's population was aged 15-64 years. It is predicted that in 2030 Indonesia's dependency ratio will reach its lowest point at 46.9 percent (Badan Pusat Statistik, 2021), which means that the productive age group will at least double that of the unproductive. By reflecting on the current reality, students must also be equipped with the subject matter of professional ethics and negotiation skills. One of the keys to success is an attitude of integrity and consistency.With the emergence of this revolution, changing many things in various sectors. Where at first it required a lot of workers to run its operations, it is now being replaced by the use of technological machines. The industrial revolution 5.0 will bring many changes with all the consequences, the industry will be more compact and efficient (Amir & Zuhroh, 2018; Ellitan, 2020; Harahap & Rafika, 2020). However, there are also risks that may arise, for example the reduction in Human Resources because they are replaced by machines or robots.

The development of the millennial generation who is ready for problems and challenges, professionalism, competitive power, functional competence, participatory advantage, and cooperation. That, now it is no longer a competition for diplomas, but skills or competencies. It was also emphasized that in facing a new era, the 5th Revolution became a silent revolution and with the term Economic Disruptions (Cabeza-García et al., 2018; Lee et al., 2018), which requires every individual to be truly competent and certified.Recognition of work competence is a basic need for ownership-achievement-ability from an authority deemed competent in giving recognition. Certificate of competence is a legal product that legitimizes the achievement of a person's ability to carry out certain jobs determined by certain authorities based on agreed and established competency standards. The point is that in facing the industrial era 5.0, professional, competitive and competent human resources are needed.There are various questions at this time, starting from how to adapt in the new order era (New Normal) (Muhyiddin, 2020), the industrial era 5.0 and how to prepare to become qualified, competitive and competent Human Resources (HR) so that they can win the competition at the national, regional and global levels. Human resources (HR) is a very important factor that cannot even be separated from an organization, both institutions and companies. HR is also the key that determines the development of the company. In essence, human resources in the form of humans who are employed in an organization as movers, thinkers and planners to achieve the goals of the organization.

Understanding HR can be divided into two, namely the understanding of micro and macro understanding. The definition of human resources in micro is individuals who work and become members of a company or institution and are commonly referred to as employees, laborers, employees, workers, labor and so on (Susan, 2019). Meanwhile, the macro definition of HR is the population of a country who has entered the age of the workforce, both those who have not worked and those who have worked. So overall, the definition of Human Resources is an individual who works as a driver of an organization, both an institution and a company and functions as an asset that must be trained and developed (Amelia et al., 2022). HR planning is a decision-making process by taking into account the skills and utilization of human resources. This is a strategic decision-making process. HR planning focuses on analyzing the company's goals. While planning requires resources to meet these goals.The company's objectives and resource requirements are analyzed in relation to HR planning. HR planning is the sum of all the plans formulated for training, promotion, and the rules of the game for HR. It is a process designed to translate company plans and goals into job requirements. This is done together with plans to meet short and long term requirements through the use of human resources, human resource development, employment, and the use of information systems. Training is a short-term educational process that uses systematic and organized procedures so that non-managerial workers learn technical knowledge and skills for specific purposes. Job training according to law no. 13 of 2003 article 1 paragraph 9. is the entire activity to provide, obtain, improve, and develop work competence at a certain skill and expertise level in accordance with the level and qualification of the position and work.

The community is encouraged to be more aware and understand the importance of human resource development in the current era 5.0 because along with the times, there will be many challenges that must be faced by the village community, so that the village community is ready to face them. With an advanced

mindset, it is hoped that rural communities can create Micro, Small and Medium Enterprises (MSMEs) - MSMEs that can generate the economy in the community.Human resource development is an activity that must be carried out by the organization so that their knowledge, abilities, and skills are in accordance with the provisions of the work being carried out. Development is a process of gaining experience, skills, and attitudes to achieve success in an organization. This certainly raises the action to carry out learning activities continuously.The important role of HR Competitive Strategy Training in Era 5.0 has clearly been demonstrated in juridical, formal and operational empirical practice. Human resources needed in the field of education are qualified human resources in thinking and doing. This means that human resources who master science and technology and develop it so that they have conceptual and technical capabilities that can be contributed to improving the quality of educational processes and products. For this reason, it is very important to develop human resources so that they can demonstrate the important and strategic role of education in social transformation

II.   METHODS

This research uses descriptive qualitative research. Descriptive method is a method in examining the status of a group of people, an object, a set of conditions, a system of thought or a class of events in the present. The purpose of this descriptive research is to make a systematic, factual and accurate description, picture, or painting of the facts, characteristics and relationships between the phenomena being investigated (Creswell & Creswell, 2018). Meanwhile, according to Sugiyono (2017) states that the descriptive method is a method used to describe or analyze a research result but is not used to make broader conclusions. descriptive method is a fact finding with the right interpretation. The problems that can be researched and investigated by this qualitative descriptive study refer to quantitative studies, comparative studies (comparison), and can also be a correlational study (relationship) between one element and another.

This research activity includes data collection, data analysis, data interpretation, and finally a conclusion is formulated that refers to the data analysis. In qualitative research, the formulation of the problem taken from the case study that will be examined in this context is the HR Development Strategy as Preparation for the Industrial Revolution Era 5.0. Qualitative data was collected by means of interviews, document analysis, literature study and direct observation. The descriptive data analysis technique in this qualitative research is in the form of analyzing, describing and summarizing events or phenomena from the data obtained through the interview process and direct observation in the field. The purpose of the qualitative descriptive analysis is to describe in full and in depth the events of the various phenomena studied, namely the HR Development Strategy as Preparation for the Industrial Revolution Era 5.0.

III.   RESULT AND DISCUSSION

The industrial revolution is a fundamental change in the way of life and human work processes, where advances in information technology can integrate the digital world of life which can have an impact on all disciplines (Neumann et al., 2021). With the development of information technology that is growing rapidly, there are breakthroughs including in the field of artificial intelligence, where computer technology is a scientific discipline that adopts one's expertise into a technology-based application and gives birth to information technology and production processes that are controlled automatically.With the birth of digital technology today in the 5.0 industrial revolution (Sahay, 2021), it has an impact on human life throughout the world. In the industrial revolution 5.0, all processes are carried out in an automation system in all activity processes, where the development of internet technology is growing, not only connecting people all over the world but also becoming a basis for online transaction processes between the government and society.In a company, the quality of human resources will determine the progress of a business in the short and long term. With quality human resources, it will bring the company in a better direction. One way to maintain the quality of HR performance is to conduct training and human resource development for every employee in the current digital era.Human resource development is carried out so that each employee can form a quality personal with skills, work abilities, and work loyalty to a company or organization. Digital technology has also become a major requirement in the company's management process.

HR development strategy is not only through education and skills development, but there are many ways to develop it. You can do digital learning through webinars, simulations, training videos, and so on (Septiani & Royda, 2022). With the digital HR development steps, companies can indirectly save on training costs and travel costs. Human resources (HR) is the most important element in a company. HR development strategy is a management plan regarding management information systems on how the quality of human resources is able to develop in a better direction and increase their work abilities. Human resource development is needed for the continuity of a company to have good loyalty and develop more dynamically. The benefits of developing human resources are felt to be increasingly important, due to the demands of positions or jobs, as a result of technological advances and increasingly fierce competition among similar companies.In the relationship between an employee and the company's leadership, it is not only bound by a work relationship. But humanly the two also interact with each other. Therefore, human resource development can be used as a form of appreciation for a company leader towards employees in the humanistic aspect.Training methods in HR development in the digital era In improving human resources, of course, training and education are needed. What is meant by this training and education is the activity of increasing and maintaining the employee's ability to work. However, there are methods of training and development of workers that are useful for increasing the responsibility and discipline of each workforce. There are many HR training and development methods to choose from and use. Each of these training methods also has its own specificity and activity in achieving certain goals.

There are several methods of developing human resources or employees that are usually carried out in companies, namely:

- Skill Training Method
- Retraining Method
- Cross-Functional Training Method
- Team Training Method
- Creativity Training Method

However, to carry out the training method, it should be adjusted to the type of training that will be carried out and can be developed by an organization.

The following are strategies in HR development in the digital era that you must know at this time, namely:

1. Give Employees Opportunities to Share Ideas

   In a company, of course, employees also play a role in developing and becoming a cog for the development of the company.

   Because employees also need a place to pour out all the ideas and ideas they have. By providing opportunities for employees to channel their ideas, means allowing these employees to develop and develop their potential.

   Therefore, to develop HR in a company, give your employees the opportunity to channel any ideas and ideas that you want to give. So that from each of these ideas and ideas you can listen and consider them.

2. Providing Training

   Training is also needed in human resource development in the current digital era. You can carry out individual development in the form of improving skills, knowledge and attitudes. Conducting training in the current digital era is also very important for HR development, both in conducting online meetings, and others.

   With training in every HR, the company can see the potential of its employees by developing the skills and knowledge they have. Because by applying training to employees, you will directly get quality human resources than before.

3. Rewarding Employees

   Employees who excel in their work is one of the HR development strategies. This will motivate other employees to be better and will also make a major contribution to the company in developing its company.

4. Adjust to the Budget You Have

In conducting HR training and development programs, of course, the company already has its own budget to be used as HR training and development.

However, by doing digital training, you don't really need a large budget to do it compared to having to go to a trainer and have to rent a building.

5. Seeing the Results of the HR Development Evaluation Process

The last is to record what results are obtained during the development process in the company. Determine the KPI (Key Performance Indicator) that will be used to evaluate before implementing the technology.

These KPIs will be used to evaluate whether the results obtained are in accordance with the company's digitalization goals. The results of the evaluation can be used to find out what aspects need to be improved and what things should be maintained.Seeing the current situation of the COVID-19 pandemic, in fact there is a silver lining that can be taken. One of them is the increase in the need for digital technology. It was noted that at least 50% of the total digital transactions that had been carried out during this pandemic came from new users. It can be concluded that the COVID-19 pandemic is a superior "promoter" in the ICT or ICT field.Digital development in Indonesia is still lagging behind other countries. Especially now that there are predictions that Indonesia will become the 4th largest economy in 2050. The question arises, can human resources in Indonesia be successful in the 5.0 industrial revolution? as long as Indonesian human resources are still focused on being users and not creators, the ideals of welcoming the industrial revolution 5.0 will be lost.In the 5.0 industrial revolution, there are 3 main pillars that a country must have, namely physical, digital, and biological. Indonesia must catch up with digital transformation, in which the Indonesian people must have a sufficient level of digital literacy and fully support digital transformation. If Indonesia responds to the 5.0 industrial revolution with evolution, then Indonesia will not be able to catch up. So, what is included in digital transformation? This includes the procurement and implementation of technologies such as blockchain, Internet of Things (IoT), AI, big data, virtual reality, augmented reality, and cloud computing.

The need for human resources with hard skills and soft skills. The Information Communication and Technology (ICT) industry is the fastest growing industry. This means that ICT practitioners must be fully committed to continuing to learn, otherwise known as life-long learning. However, a new problem arises in the ICT industry, namely the underdevelopment of soft skills. In the world of work, ICT practitioners tend to prioritize hard skills without considering soft skills. In fact, all countries in the world feel that soft skills are needed, especially communication, analytical, leadership, and problem solving competencies.This need is also evidenced by the declaration of giant companies such as Apple and Google that employ employees without a bachelor's degree, as long as they have the competence and talent. Competency serves to maintain incremental growth. Meanwhile, talent is needed to create radical innovations that can lead to significant growth and change the industry landscape.The concept of industrial revolution 5.0 is a concept that can fundamentally change the way we live, work and relate to one another (K. Zervoudi, 2020). In the 5.0 era, the industry began to touch the virtual world, in the form of human, machine and data connectivity, all of which are already everywhere, known as the Internet of Things (IoT). Industry 5.0 has introduced flexible mass production technology, machines will operate independently or in coordination with humans, control the production process by synchronizing time by carrying out unification and adjustment of production. One of the unique characteristics of Industry 5.0 is the application of artificial intelligence (AI).

The development of the era of the industrial revolution 5.0 certainly has an impact on the world of education. The era of the industrial revolution 5.0 has changed the way we think about education. The changes made are not only in the way of teaching, but the most important thing is a change in the perspective of the concept of education itself. Therefore, curriculum development for current and future must complement students' abilities in pedagogic dimensions, life skills, the ability to live together (collaboration) and think critically and creatively. Develop soft skills and transversal skills, as well as invisible skills that are useful in many work situations such as interpersonal skills, cohabitation, the ability to be a global-minded citizen, and media and information literacy.The industrial revolution 5.0 in the world of education

emphasizes character, moral and exemplary education. This is because the knowledge possessed can be replaced by technology while the application of soft skills and hard skills possessed by each student cannot be replaced by technology. In this case, readiness is needed in terms of competency-based education, understanding and utilization of IoT (Internet of Things), the use of virtual or augmented reality and the use and utilization of AI (Artificial Intelligence).

Curriculum development is also one of the things that can direct and shape the character of students to be ready to face the industrial revolution 5.0. To ensure the curriculum runs optimally, teachers and lecturers must have competencies, namely educational competence, competence for technological commercialization, competence in globalization, competence in future strategies and counselor competence. Teachers and lecturers also need to have a technology-friendly attitude, collaborative, creative and take risks, have a good sense of humor, and teach holistically.Student-centered learning, collaborative learning, and being integrated with the community are things that schools and teachers need to consider in organizing a learning process that is able to direct and shape the character of students. Methods such as (1) flipped classroom, (2) integrating social media, (3) Khan Academy, (4) project-based learning, (5) moodle, and (6) schoology, or other technology-based ones can be integrated into in the learning process so that students are close to technology and can participate in learning and balancing the 5.0 industrial revolution in the technology field.In addition to the role of students and technology, professional and competent educators will also be very influential for the future of the world of education in the era of the industrial revolution 5.0. Educators in the era of society 5.0 must have good skills in the digital field and also think creatively. A teacher is required to be more innovative and dynamic in teaching in the classroom. Therefore, there are three things that educators must use in the era of society 5.0 as described above including the Internet of Things in education (IoT), Virtual/Augmented Reality in education, Utilization of Artificial Intelligence (AI) which can be used to help identify learning needs needed by students and students of course.

In addition to this, educators must also have skills and have leadership skills, digital literacy, communication, entrepreneurship, and problem solving. Due to the increasingly advanced era, in the era of the industrial revolution 5.0, all sectors will become more advanced. If the world of education is not prepared and follows the rapid development of the times, education in Indonesia will be left far behind. Educators in the society 5.0 century must be driving teachers who prioritize students, take the initiative to make changes, especially for students, take action without anyone telling them to, and continue to innovate and take sides with students.In the 5.0 era, the industry began to touch the virtual world, in the form of human, machine and data connectivity, all of which are already everywhere, known as the Internet of Things (IoT). Industry 5.0 has introduced flexible mass production technology, machines will operate independently or in coordination with humans, control the production process by synchronizing time by carrying out unification and adjustment of production. One of the unique characteristics of Industry 5.0 is the application of artificial intelligence (AI).The development of the era of the industrial revolution 5.0 certainly has an impact on the world of education. The era of the industrial revolution 5.0 has changed the way we think about education. The changes made are not only in the way of teaching, but the most important thing is a change in the perspective of the concept of education itself. Therefore, curriculum development for current and future must complement students' abilities in pedagogic dimensions, life skills, the ability to live together (collaboration) and think critically and creatively. Develop soft skills and transversal skills, as well as invisible skills that are useful in many work situations such as interpersonal skills, cohabitation, the ability to be a global-minded citizen, and media and information literacy.

But actually the 5.0 Industrial Revolution is nothing new. Because it is the antithesis of the Industrial Revolution 4.0, an era that returns to the industrial era (Asadollahi-Yazdi et al., 2020). Human and technology and digital collaboration is getting real. Many robots have begun to be directed to collaborate and have direct contact with humans. It is conceivable in the field of education that humans and robots will collaborate in the learning process, both in real and virtual classrooms like today. Students may be dealing with robots controlled by educators. However, with the new system in this era, the role of the teacher will not be replaced by technology. Because here there is a teacher's role that can never be replaced by technology, including direct interaction in the classroom, emotional bonds between teachers and students, and also

planting character and role models for teachers and lecturers.In the era of the corona virus pandemic that is hitting the human world, the era of the industrial revolution 5.0 and all the technology that exists in this era is considered very helpful. Even now, everything depends on the existing technology. Technology is like an angel and the only helper. From learning, learning and understanding concepts, then teaching materials and learning outcomes are all obtained through technology.

IV.   CONCLUSION

The future manufacturing revolution that is interesting is precisely the development of digital technology, in the industrial era 5.0, in the end it returns to human interests, bringing back the human touch. Industry 5.0 is a strategic effort on how to build collaboration between human excellence and technology. In the era of industry 5.0, corporations bring automation that is run within the company by returning to being humane following the development of future mega trends. Indonesia must respond by continuing to be relevant to these developments, including maintaining the relevance of human resource capabilities. There are several methods of developing Human Resources that can be done, namely: 1) Skill Training Method; 2) Retraining Methods; 3) Cross-Functional Training Methods; 4) Team Training Methods; 5) Creativity Training Method. Curriculum development is also one of the things that can direct and shape the character of Indonesian people to be ready to face the industrial revolution 5.0.

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