

Analysis of Improving Human Resource Competencies To Increase Work Productivity Infacing The Era of The Industrial Revolution 4.0 in The Glugur Rimbun Living Lab Area

Nadiya Putri Indah, Kasim Siyo

Abstract

In the era of the industrial revolution 4.0 where information technology has become the foundation of human existence. Evidenced by the development of the internet and all digital-based activities. This study aims to analyze the improvement of HR competencies in order to increase work productivity in facing the era of the industrial revolution 4.0 in the Living Glugur Rimbun area. The technical analysis carried out in this research is to use a qualitative method involving 3 informants, namely lecturers of Universitas Pembangunan Panca Budi. The selection of informants is based on the uniqueness of the case. The research location was carried out at Universitas Pembangunan Panca Budi and the Glugur Rimbun area of Sampe Cita Village which is the development site of the Al-Amin Science Industrial Park. This research was conducted intensively through interviews with informants, as well as reviewing through literature. Data collection was conducted using in-depth interviews and documentation. The results of this research are that students and lecturers have direct discussions regarding the research to be carried out and the ideas that will be poured in the future. In addition, training related to HR management is also carried out to understand their duties and responsibilities. The form of accountability carried out by employees is a form of responsibility to the university.

Keywords: *HR Management, Industrial Era 4.0, Improving Work Productivity*

Nadiya Putri Indah
Management Study Program Universitas Pembangunan Panca Budi, Indonesia
e-mail: nadiaputriindah96@gmail.com

Kasim Siyo
kasimsiyo@yahoo.com
Management Study Program Universitas Pembangunan Panca Budi, Indonesia
1st International Conference on the Epicentrum of Economic Global Framework (ICEEGLOF)
Theme: Digital Marketing Strategy to Optimize Business Growth in the Modern Era
<https://proceeding.pancabudi.ac.id/index.php/ICEEGLOF>

Analysis Of Improving Human Resource

Introduction

The world is currently entering the era of revolution 4.0 or the era of the fourth industrial revolution or known as the information revolution, where information technology has become the foundation of human existence. With the utilization of unlimited data and processing capacity, everything becomes limitless because digital technology and the internet are very advanced and are now the basis for the connection and mobility of both humans and machines. (Rohida, 2018). This era also disrupts all human activities, problems in human resources are crucial for a company. The direction and growth of an organization is partly determined by its human resource management.

One of the most important roles in a company is Human Resources. Utilizing human resources well is one of the strategies that a business can use to continue to grow and survive. In other words, the success or decline of a company is determined by the knowledge and abilities of each individual working in the organization. The business world must develop the right strategy to overcome major obstacles to win the competition.

In this era of industrial revolution 4.0, the pace of competition between various sectors is accelerating. Nowadays, with the rapid development of increasingly advanced technology, everyone must be able to utilize all of their human resources to the fullest in order to support our performance and have a significant impact on the way we carry out our daily tasks. (Rohida, 2018). In addition, an organization's infrastructure systems and facilities can be improved and developed over time, allowing it to grow in line with the human resources available (Rohida, 2018). (Rohida, 2018). Many experts argue that the success or failure of an organization is determined by its human resources, namely the competencies that each employee currently has. The equipment

must be formed over a long period of time with continuous effort (Rohida, 2018). (Rohida, 2018).

Increasing work productivity is one of the important factors that companies must pay attention to. Aspiyah (2016) One of the company's efforts in increasing competitiveness is by increasing the productivity of its employees. But increasing productivity at work is not something that can be done easily. Top leaders of an organization or company usually face many challenges when trying to increase work productivity, so it requires a unique strategy, especially from the company's own staff. (Pratiguna & Prasetyo in Aspiyah 2016).. In other words, work productivity is closely related to human resources.

In line with the description above, the Living Lab Glugur Rimbun Work Unit understands the goals to be achieved where work productivity is the main thing but is also seen from several indicators. According to Sutrisno (in Panjaitan, 2017) there are several indicators to measure work productivity, namely ability, increasing the results achieved, work enthusiasm, self- development, quality, and efficiency. The problems that arise related to productivity at work are a sign that the role of management in managing human resources is needed. (Almigo, 2004). This is a method to increase worker productivity. Sometimes the progress of an organization is not accompanied by adequate resources. As a result, desires and the real world become inaccurate. There are opportunities for unhealthy competitiveness, decreased work productivity, and social jealousy among its members. A mindset that lacks understanding will cause the organization to become stagnant instead of progressing. Within the organization, this turns into a polemic (Almigo, 2004).

Various analyses of increasing human resource competencies to increase work productivity in facing the era of the industrial revolution 4.0 have actually been carried out. Like some research that has been done by previous experts from different places of research. In the analysis of increasing human resource competencies to increase work productivity in facing the era of the industrial revolution 4.0 this is done by looking at and linking to various phenomena that occur in daily life in the world of work. In addition, this study will examine the relationship of phenomena that occur and use different analytical techniques and variables as has been done in previous studies. For the Glugur Rimbun Living Lab Unit, of course, work productivity is very influential in providing services to the public. Therefore, the purpose of this research is to analyze the improvement of human resource competencies

Analysis Of Improving Human Resource

to increase work productivity in facing the era of the industrial revolution 4.0 in the Glugur Rimbun Living Lab Area.

Literature Review

According to Ong & Mahazan (2020) The Industry 4.0 phenomenon was first introduced in 2011 in Germany. The technologically advanced Industry 4.0 presents challenges for human resources due to the social transformation process. (Schaar et al., in Ong & Mahazan, 2020).. With the help of wireless systems (physic cyber systems), the internet of things (IoT), and the exchange of information between machines and humans or between machines, the idea of 4.0 presents a technological revolution. (Roblek, Meško and Krapež in Ong & Mahazan, 2020).. Automation and artificial intelligence have changed working conditions in the Industrial Age 4.0. (Ong & Mahazan, 2020). Examples of the application of the industrial revolution 4.0 include 3D printing technology, self-driving cars, and unmanned retail companies. (Ong & Mahazan, 2020).

Roblek, Meško and Krapež (in Ong & Mahazan, 2020) The positive aspects of Industry 4.0 are *value creation*, leading to more efficient work processes and the formulation of new business models. But this technological change also brings a number of disadvantages, in this case the adjustment to jobs, skills and work practices. Technology will replace many lost jobs. Therefore, to meet these challenges, human resource development and the education sector must adapt.

The Industry 4.0 era cannot only be seen in terms of robotic technology or production automation but also in terms of human resources and work productivity carried out by these human resources. According to Hartatik (in Wahyuningsih, 2018) every company always tries so that employees can excel in the form of giving maximum work productivity. As a measure of a company's performance in managing its business, employee work productivity is very important. Because, indicating the higher the productivity of employee work in a company, the more the results obtained by a business.

The amount of productivity that a process produces as output is called productivity. An alternative definition of productivity is the ratio of inputs to outputs. While outputs are measured in tangible units of form and value, inputs are often limited to labor inputs. Production efficiency of products and services is another definition of productivity (Wahyuningsih, 2018). In the

Living Lab Glugur Rimbun area, work productivity is highly prioritized. Utilization of the industrial revolution 4.0 era is a way of expressing good utilization of resources in producing goods. Although sometimes productivity is understood as the use of additional incentives to change human resources, such as labor and machinery, which, if properly measured, will show efficiency (Wahyuningsih, 2018). (Wahyuningsih, 2018).

Research Methods

This research uses a qualitative method where this research will emphasize the depth of the research results where the researcher is directly involved as a research instrument. (Manullang and Pakpahan, 2014) Qualitative research is commonly used for historical research approaches, library research, exploratory research and other studies that do not require analysis of numbers. This research aims to gain a general understanding of social reality from the perspective of the participants. This research tries to ask people to express their various thoughts on a topic without giving them much direction or guidance on what to say.

The research location is the scope of the area on which the research is based. In this study, the location in the Glugur Rimbun area of Sampe Cita Village was determined *purposively*, with the consideration that the location is the development site of the Al-Amin Science Industrial Park. The research time was conducted from April 2024 to July 2024.

The selection of informants is based on the uniqueness of the case. The sample should produce a believable description/explanation (in the sense that it applies to real life). One aspect of the validity of qualitative research relates to whether it provides a truly convincing research and explanation of what is observed. This criterion can also raise issues of reliability of the sources of information. The goal of qualitative research is not to generalize its findings. Because research findings are more contextual and causal and relevant to the specific time and location where the research is conducted, the term "sample" is not used in qualitative research. In qualitative research, individuals selected for observation or interview based on research objectives are referred to as research subjects or informants, or samples. Because informants are seen as actively creating reality and not just being objects who simply fill out surveys, they are referred to as research subjects, not objects. (Kriyantono in Sulistiyono, 2015).

Analysis Of Improving Human Resource

The informants who were used as research subjects were 3 people, namely lecturers of Universitas Pembangunan Panca Budi. In line with this research, the data source used is primary data source. Primary data sources are obtained directly from respondents by conducting direct interviews conducted by parties who know directly the situation and conditions in the Living Lab Glugur Rimbun area. The criteria for selecting informants are based on two things, namely as follows:

1. As the core team of the Glugur Rimbun area project of Sampe Cita Village
2. In accordance with the field of expertise of the lecturer concerned

In qualitative research, the main data is obtained from the researchers themselves who directly collect information obtained from the research subjects, namely the three core teams of the Living Lab Glugur Rimbun area project. This research was conducted intensively through interviews with informants, as well as reviewing through literature. Data collection was conducted using in-depth interviews and documentation. The type of interview used in this research is an open-ended standard interview, which uses standardized questions. The order of questions, wording, and presentation were the same for each respondent. The flexibility to conduct probing questions was limited, and it depended on the interview situation and the skills of the interviewer. Such interviews are used when it is deemed very necessary to reduce as much as possible the variations that can occur between one interviewee and another. While data collection techniques with documentation according to Arikunto (in Sulistiyono, 2015) is data collection obtained through documents. In practice, documentation data is secondary data, namely information data related to research problems obtained from books, the internet, magazines, newspapers, and related documents.

Qualitative research involves continuous analysis starting from the beginning of data collection and continuing until the research report is completed. Data that has been collected and processed methodically should be presented in an analytical and descriptive report. (Furchan in Rohida, 2018). The purpose of data analysis is to improve the researcher's understanding of the findings that depend on the problem being investigated by finding and organizing interview notes methodically (Moleong in Rohida, 2018). (Moleong in Rohida, 2018).

Results And Discussion

The research data was obtained from the results of interviews. Interviews were conducted with four informants who were considered representative of the object of the research problem. The data obtained from the interviews are the informants' answers to the questions asked by the questions asked by the research through an interview guide conducted face- to-face with the informants, which then the answer data is presented in the form of interview quotes.

The results of the research in the form of interview excerpts explain the informants' answers regarding "Analysis of Increasing HR Competence to Increase Work Productivity in Facing the Era of the Industrial Revolution 4.0 in the Living Lab Glugur Rimbun Area". Starting from making preparations in facing the industrial era 4.0, self-approach in facing the industrial era 4.0, and influential factors in increasing employee work productivity in the Living Lab Glugur Rimbun area. The results of the interview are explained in more detail in the following explanation.

An overview of the findings and results of research related to the implementation of human resource management in the Glugur Rimbun Living Lab Area has been presented by paying attention to and reviewing the results of previous observations and in-depth interviews with resource persons accompanied by studies and documentation. Based on these conclusions, the author then seeks to examine the research findings on improving HR competencies to increase work productivity in the Glugur Rimbun Living Lab Area when entering the era of the industrial revolution 4.0. The process of conducting this analysis involves examining the facts and field findings provided earlier and comparing them with accepted ideas or concepts in the field of human resource management.

Based on the results of the interview, to make preparations in facing the era of the industrial revolution 4.0, namely by preparing students related to what they will do. Lecturers hold discussions with students regarding the planning that students will do. In addition, the Living Lab Glugur Rimbun area provides labs and facilities that will be used for students to practice learning activities, research centers, and all kinds of other activities that will develop students' *soft skills* and *hard skills*. The Living Lab Glugur Rimbun area also provides land for agricultural students and livestock for animal husbandry students. In management students, there will be other labs for their offices and there will be products from the Living Lab Glugur Rimbun area. In the management of human resources, there will be experts in the livestock section,

Analysis Of Improving Human Resource

there will be experts in the agriculture section, then there will be heads of their respective divisions who will be in the management, implementation, monitoring, and others in the development of products that have been produced later. So the context in the management in the Living Lab Glugur Rimbun area to face the industrial world is interconnected or integrated between agriculture, animal husbandry, architecture, and others.

In this industrial era 4.0, competencies are realized all digitally, one of which is the existence of the *Internet of Things (IoT)*. The Industrial Revolution 4.0 provides opportunities for Human Resources (HR) to have the latest technological knowledge. (Rohida, 2018). In HR in the Living Lab Glugur Rimbun area, the arrangement and all information searches are by utilizing *websites* on the internet. The approach is carried out by visiting *farms and farms* that can be used as tourist attractions and there are products produced. In addition, visits are also made to gardens that have several varieties of plants. In addition to providing a lab, this Glugur Rimbun area will later become a company that can later make a tourist spot that can spoil the eyes. In the industrial era 4.0, big changes are felt in the Living Lab Glugur Rimbun area.

Besides the search for information in the industrial era 4.0, it is felt that it is easier, especially in agriculture. In addition to getting information on the *website*, there are applications that can help support the ease of carrying out all activities and activities in the Living Lab Glugur Rimbun area. It's just how the people implement each of these information or knowledge to innovations or products that will be made or to ideas that will be made in the future. However, competition in efforts that can be made by HR management in the Living Lab Glugur Rimbun area is how we create reliable products that can be adopted by the Living Lab Glugur Rimbun. With the Living Lab, students who conduct research and learning are able to innovate what will be done in the future in the business world. So 4.0 is not only talking about research, but the impact that is produced in the business world. So that's what students should prioritize.

The positive impacts created by the industrial era 4.0 are interacting with people who are out there can quickly access and interact. easy to get information, applications that are more helpful, then for transportation it becomes easier we don't need to use public transportation but there is online transportation, information about selling prices for farmers that we can monitor, the price of staples, the price of fertilizers we can find more easily. In the Glugur Rimbun Living Lab area, it is currently still used as a research site

or student lab. The student web is not very visible as a whole. For students, the advantage or advantage gained is that students become more free in expressing ideas obtained through research and practice carried out in the Living Lab Glugur Rimbun area.

The difficulty felt in this industrial 4.0 era, especially in the Living Lab Glugur Rimbun area, is the lack of response from related parties. Difficulty in In addition, visits are also made to gardens that have several varieties of plants. In addition to providing a lab, this Glugur Rimbun area will later become a company that can later make a tourist spot that can spoil the eyes.

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The difficulty felt in this industrial 4.0 era, especially in the Living Lab Glugur Rimbun area, is the lack of response from related parties. Difficulty in obtaining permits related to bureaucracy which takes a long time. Living Lab Glugur Rimbun aims to become a *training center* and training ground that can

Analysis Of Improving Human Resource

later teach mothers around. Another difficulty if there are human resources in the Living Lab Glugur Rimbun area if they are stuttering in using technology (gadget), someone must be able to upgrade themselves, especially in the field of technology because they will definitely experience dynamic changes.

Overcoming the difficulties that occur in the industrial era 4.0 in the Living Lab Glugur Rimbun area is related to bureaucracy, namely by sharing more with the team or with people in the government. In marketing, by coordinating with the rector and being able to call a team of experts related to the activities carried out. For example in measuring land, and measuring humidity levels. To overcome this, by sharing and implementing the ideas that have been obtained. Then by studying technology is no less important to do and by socializing and clarifying the goals and objectives in the Living Lab Glugur Rimbun area.

The project that has been carried out in the Living Lab Glugur Rimbun area is the production of cassava plants that have been harvested 3 times. The production carried out has reached Korea and is in collaboration with a chip export company. Then at this time the land is also used by MBKM students and the products that have been produced are used as research material or Student Creativity Program (PKM) proposals which make interesting ideas for students. Panca Budi Development University lecturers and teams also conduct research and analysis for development planning rather than Living Lab. In addition, conducting training related to HR management is expected to make students excel and be able to work as expected.

The risks currently seen in the industry 4.0 era in the Living Lab Glugur Rimbun area, namely in cassava plants, there is a dispute over yields with a land area of about 25 hectares in the Living Lab Glugur Rimbun area. In addition, in terms of less than optimal maintenance and water collection with a considerable distance makes its own risks. Another risk is to dare to make decisions. Dare to open a business while observing business opportunities with the risks posed must be smaller than business opportunities and. Then also related to K3K.

As for the factors that can increase employee productivity in the Living Lab Glugur Rimbun area, namely by providing salaries that must be considered, then rewards can also be given to employees who excel. In addition, trainings related to HR management also need to be carried out and K3K must also be considered. As for other things that make factors that can increase employee work productivity, there are about 12 people in this Glugur

Rimbun team who are lecturers. So all of them are lecturers and 50% are employees at Panca Budi. All of them also contribute their respective tasks related to the work of projects that have been mandated in the Living Lab Glugur Rimbun. To make things easier, communication is done through the *Whatsapp group*. Efforts made in improving the competence of human resources in the Glugur Rimbun living Lab area, namely in the future, will recruit people who are competent in their fields. Then conducting *training* and debriefing is certain to have human resources, of course these human resources can be given trainings or workshops and participate in seminars or participate in competency tests and debriefing on their duties and responsibilities.

The strategy that can be used to improve productivity is to create a Whatsapp group to make communication easier. There are reports on every project assigned or mandated for productivity that has been carried out. Then there is a rector's assignment letter because those assigned are from the glugur rimbun team. Time management and proper management, as well as clear rewards and punishments. The improvement efforts made to improve employee performance in the Living Lab Glugur Rimbun area are given performance indicators so that performance is maximized. In addition, making proposals addressed to the rector regarding the ideas that have been raised. Then if later it is deemed necessary until there is consideration, the current improvements are still in the planning stage for development in the Living Lab.

The form of employee performance accountability that can be carried out in the Living Lab Glugur Rimbun area is a form of responsibility to the university, because it is part of the university, the labs are also part of the university so the responsibility is to the university and the work indicators that have been made are from the university. After that, as an accountability, the lecturers and staff report to the rector who will later present what has been done. The results of the improvements will be presented at the presentation session. So to answer that, lecturers and staff must gather their cooperation as a team from all study programs. So this study program will later convey its needs and then related parties will map it and then until later the planning will be built.

Conclusions

Based on the description above, it can be concluded that the industrial era 4.0 is an era where everything uses technology. As a person born and living

Analysis Of Improving Human Resource

in this era is to be good at utilizing technology. The approach that can be taken is that lecturers and students can have discussions related to the planning that students will do. In addition, the Living Lab Glugur Rimbun area provides labs and facilities that will be used for students to practice learning activities, research centers, and all kinds of other activities that will develop students' soft skills and hard skills.

In the management of human resources, there will be experts in the livestock section, there will be experts in the agriculture section, then there will be heads of their respective divisions who will be in the management, implementation, monitoring, and others in the development of products that have been produced later. So the context in the management in the Living Lab Glugur Rimbun area to face the industrial world is interconnected or integrated between agriculture, animal husbandry, architecture, and others.

The positive impact created by the industrial era 4.0 is interacting with people who are out there can quickly access and interact. easy to get information, applications that are more helpful. For students, the advantage or advantage gained is that students become more free in expressing ideas obtained through research and practice carried out in the Living Lab Glugur Rimbun area. The difficulty felt in this industrial era 4.0, especially in the Living Lab Glugur Rimbun area, is the lack of response from related parties. Difficulty in obtaining permits related to bureaucracy which takes a long time. Living Lab Glugur Rimbun aims to become a training center and training place that can later teach mothers around.

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