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A proposed solution to enhance the labor productivity at a thermal power company

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Abstract

The issue of improving the quality of human resources, including technical workers, the largest electricity industry's largest workforce, has become a top priority and a decisive factor in the development of the power industry. This study aims to assess the current quality status of technical workers. The research results show that, in general, the quality of the current technical workforce is not high and uneven, not meeting the company's requirements now and in the future. The study also gave some specific solutions to improve the quality of staff to meet the development requirements of thermal power plants from now to 2025.

Keywords: Thermal power plant; Technical worker; Communication skill; Teamwork; Product quality

1. Introduction

Vietnam is deepening its integration into the global economy. Thus, participating on a level playing field with international economic organizations opens up several potential difficulties for Vietnamese firms, particularly in the ever-expanding Industrial Revolution 4.0. Enterprises must have a clear and successful strategic direction to survive and grow. Apart from product policies, processes, technology, product quality, and competitive pricing, the most crucial thing for organizations nowadays is to invest in human resources. A sufficient human resource with high professional and technical quality to satisfy employment needs will be the primary driving force and basis for encouraging the long-term development of businesses in all industries. This tendency is not exclusive to the electrical company. Electricity is a critical economic and technological area with a strategic impact on the growth of other economic sectors, as our Party and State decided to "be one step ahead to meet the requirements of socio-economic development and ensure national energy safety." Furthermore, the electrical business is a highly technical profession requiring extensive expertise and constant access to cutting-edge technology. Electrical engineering professionals, besides experts, managers, and sales staff, make up the largest percentage of personnel in the electricity business. This is the direct production labor force, which includes electrical work construction and installation workers, workers managing, operating, repairing, and maintaining electrical equipment, power system dispatchers, and so on; they contribute significantly to the results of production and business activities in the electricity industry in general. As a result, developing human resources, particularly technical professionals, the largest workforce in the electrical business, has emerged as a key priority and a critical aspect of the industry's development plan. The demand for highly trained technical human resources in the power business is more significant than ever, particularly in the present Industrial Revolution 4.0 context. The factors affecting the quality of technical workers in the electricity industry

1.1. Internal factors of the company

The views and perceptions of leaders in the company about improving the quality of human resources will affect the policy system and the investment in this resource to different degrees. In addition, human resource management

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policies in the company (such as policies on recruitment, training, arrangement, labor arrangement, remuneration, salary, bonus, and welfare...) directly impact activities to improve the quality of the team. Implementing these policies will help the company have a human resource strong enough in quality and quantity to serve its goals and strategies [1-5].

Development strategy, production, and business plan of the company: Based on the development strategy, production, and business plan, the company plans on the quality of personnel, especially the quality requirements for technical workers: including the necessary knowledge and skills, assessing the current quality, comparing, and giving the required number of workers according to the skill level and skills that have met the requirements of the job [6-8].

The working environment includes technical facilities, infrastructure, equipment for work, and the relationships between colleagues, superiors - subordinates, and the company's atmosphere and way of working. A good working environment will create conditions and opportunities for employees to show their capacity, develop themselves, devote themselves to the company, and stick with it for a long time. Besides, the competition that ensures fairness and healthy competition will motivate employees to develop.

Awareness of employees about improving the quality of human resources: to improve the quality, first of all, the employees themselves must be aware of their suitability for the job they already have and still need. What knowledge, skills, and qualities to learn consciously and voluntarily to improve knowledge, professional skills, and skills accumulate knowledge and experience for themselves. Because improving the quality of the workforce in the enterprise is not only from the side of the enterprise but the employees themselves must also desire and have a cooperative attitude to implement and achieve the highest efficiency easily.

1.2. Factors external to the company

The development of science and technology: The more advanced science and technology, the shorter the distance from science and technology to production. According to. Continuous development and scientific and technical advances have given birth to modern technologies requiring a team of high-quality technical workers. Applying new technology allows enterprises to choose a policy of using more or less labor and requires certain labor conditions. This affects not only the size but also the quality of the team in the enterprise [9-11].

The development of education - training: the level of development of education - training significantly influences the quality of human resources in general, and the quality of technical workers in particular in the enterprise not only determines the cultural, professional, technical, and skill level of workers, but also affects people's health and life expectancy through the factors of income, perception, and processing of economic information - social, scientific information.

The development of the labor market: economic openness, globalization, and integration have promoted economic growth and created more jobs, and the employment structure has also changed from agriculture to industry service. The development of the labor market is an objective factor affecting the improvement of the quality of technical workers in the enterprise because the information on labor and employment is comprehensive, and the competition for jobs becomes fierce to attract labor with quality and quantity suitable to the production requirements.

The development of health: the system of medical examination, treatment, and healthcare facilities is upgraded, improving the life expectancy and health of residents and workers. Reproductive health care, children's health care, nutrition counseling, disease prevention, etc., will be taken care of, ensuring future generations have a healthy mind and physical strength, improving their physical strength, and reaching the average stature of the Vietnamese. This has a significant impact on activities to enhance the quality of human resources of the whole society and enterprises in particular.

The social, residential, and natural environment includes traditions, customs, habits, rituals, the art of behavior, ideological and ethical norms, phenomena and climate and weather laws, and the soil of each locality, ethnic group, population class, and country. These factors make up the lifestyle, culture, and social working environment of people and workers in particular. It contributes to the formation and changes in quantity, human resource structure, business philosophy, and ethics.

Economic factors include economic growth in general and of each locality in particular, the income of all classes of the population, prices, inflation, the purchasing power of money, the supply-demand relationship of products, goods, and

services for personal consumption, living standards and accumulation of population classes, etc. These factors directly or indirectly affect the quality of human resources in enterprises.

The legal environment: the labor code, legal documents related to labor issues, employment of employees, etc., are necessary factors as a legal basis for businesses to settle their relationships well. The relationship between employees is the premise for enterprises to develop legal standards when forming, consolidating, and developing the staff and technical workers of the enterprise. In addition, the Government also plans policies to create a legal environment for the development of human resources in general and specialized workers in particular in terms of both quality and quantity, such as policies on the socialization of education, policies on the development of high-quality training institutions up to regional and international standards; policy on reforming the contents and methods of education and training; policies on health, care for workers' health, policies on occupational safety and hygiene, etc.

Political factors include the State's objectives and foreign policy in each period. The political system in our country is relatively stable, the economic development policy is socialist-oriented, and the economic goals are associated with the people's interests. The extensive international economic integration process requires each enterprise to build a strong enough workforce to improve its competitiveness when integrating.

2. Solutions to enhance the quality of technology in the electricity industry

2.1. The need to improve the quality of electrical engineering workers

Vietnam is in the process of deep integration with the world economy. Participating on a level playing field with world economic organizations brings many opportunities and challenges for Vietnamese businesses, especially in the ever-expanding Industrial Revolution 4.0. Companies must have an appropriate direction and clear, effective strategic goals to survive and develop. The most important thing for businesses today is to invest in human resources. An adequate human resource with high professional and technical quality to meet the job requirements will be the basic driving force and the foundation for promoting the sustainable development of enterprises in all fields of industry.

The electricity industry is a key economic and technical sector, having a strategic influence on the development of all economic sectors, determined by our Party and State "to be one step ahead to meet the requirements of socio-economic development and ensure national energy safety." In addition, the electrical industry is also a specific technical industry, requiring a lot of in-depth knowledge and always having to have a lot of access to modern technology. Regarding human resource structure in the electricity industry, besides experts, managers, and sales staff, the highest percentage of personnel are electrical engineering workers. This is the direct production labor force, including the construction and installation workers of electrical works, workers managing, operating, repairing, and maintaining electrical equipment, and workers dispatching the power system...; they contribute primarily to the results of production and business activities of the electricity industry in general.

In some developed countries, the electricity industry always maintains a team of highly skilled professional personnel. These people do not necessarily have formal training or scientific degrees but have practical experience, high professional skills, mastered basic technological processes, and many ideas.

For example, in India, power companies always focus on training human resources with specific criteria of "short-term, intensive, and regular" training time to get this team. Although India produces many engineers and technicians every year, they all have to undergo intensive technology training when they start working in the electrical industry. The training programs are based on standards developed by the French Commission on Atomic and Alternative Energy (CEA). The training period lasts 6 to 12 months for engineers, operators, supervisors, and technicians, depending on each person's position. In particular, for important departments, frequent training is conducted to update advanced skills and technologies [12] continuously

Therefore, the issue of improving the quality of human resources, including technical workers, the largest workforce of the electricity industry, has become one of the top priorities. Especially in the context of the current industrial revolution 4.0, the requirement for highly skilled technical human resources is more urgent than ever for the electricity industry.

2.2. Solutions to improve the quality of technical workers

2.2.1. Human resource planning

Human resource planning is a process of forecasting, researching, and determining human resource needs in an organization, from which to develop policies and action plans to ensure that the organization has enough human resources with the right qualities and skills to perform the jobs to achieve the goals, set by the organization.

To improve the quality of human resources in general and technical workers in particular, must have a strategic vision closely linked with the business development plan of the enterprise because its ultimate goal is to improve production efficiency and realize organizational goals. To ensure that improving the quality of human resources brings the highest efficiency, we need to plan in a specific and detailed way.

Human resource planning is the basis for activities to improve the quality of human resources, contributing to creating smooth coordination in the implementation cycle. Human resource planning allows us to see whether the operating departments are compatible with each other and, at the same time, answer questions for enterprises such as: improving the quality of human resources for what purpose; this activity directs to a specific target group, whether human resources are suitable for the strategy, whether human resources can ensure a competitive advantage and maintain that competitive advantage in the long term, etc.

2.2.2. Recruiting, employing, and evaluating employees

Human resources in the enterprise are not closed resources, but we can ultimately attract human resources from outside to improve the quality of human resources through recruitment.

Recruitment is the process of finding and selecting personnel to satisfy the enterprise's needs and add the necessary workforce to realize the goals of the enterprise. In other words, recruitment provides special input to the business, the human factor. This process includes two basic stages: attracting, searching, and selecting human resources. These two stages have a close relationship with each other: if you attract and search well, you will be able to recruit qualified personnel and, at the same time, increase the reputation of the recruitment process of the enterprise and thereby help for attracting and finding talents to improve the quality of human resources of the enterprise.

Recruitment is a factor that plays a significant role in improving the quality of human resources and technical workers of each organization. If the recruitment is done well, it will recruit workers who are capable, qualified and of good moral character; On the contrary, if the recruitment is not paid due attention, it will not be able to select virtuous and talented people. The recruitment should ensure principles such as: must be based on the job needs to recruit; recruitment must ensure objectivity and fairness; The recruitment must be done based on determining the quantity to be recruited, in which it is necessary to analyze the positions and jobs to provide conditions and standards when recruiting.

The arrangement for use must ensure the principle that when giving recruitment conditions and standards for any position, the right job must be arranged; because when allocating human resources to titles and positions suitable to each person's training level and ability in the direction of specialization, it will create a favorable environment for them to develop their forte, capacity according to their trained professional qualifications, contributing to promoting the development of the organization.

Performance appraisal is an important activity in human resource management. It plays an important role in encouraging employees to work better, especially technical workers who are directly involved in production. Performance appraisal helps the organization treat employees fairly and, at the same time, shows the organization's employees' achievements, helps employees to work well, and improves behavior in a better direction. Most businesses have built themselves a performance evaluation system to assess their employees' performance. In small companies, performance evaluation is informal through daily evaluations by supervisors, plant managers with employees, and mutual evaluation among the assessees. Large companies evaluate employees through advanced methods such as applying KPIs (work performance indicators) and building clear and accurate performance evaluation forms.

2.3. Employee treatment policy

Personnel compensation is the process of taking care of employees' material and spiritual life so that they can complete their assigned tasks well and contribute to accomplishing the enterprise's goals. The human resource compensation policy is implemented through two basic forms: financial compensation and non-financial remuneration. Financial compensation in an enterprise is a form of remuneration made by financial instruments, including various types such

as salary, bonus, allowance, and allowance, share non-financial remuneration is implemented through two forms of remuneration through work and the working environment to meet employees' increasing and diverse spiritual life needs such as joy in life, excitement, passion for working, being treated fairly, being respected, communicating with people.

Employee compensation helps to reproduce and improve the labor force. A good remuneration regime must create conditions for employees to reproduce their labor power. Labor power is the physical and mental capacity of an employee. In the process of working, that function will be gradually consumed in the production process (decreased physical strength, stress, etc.). Remuneration at this time will play the role of restoring and even enhancing the labor force of the employee both physically and mentally. For example, the payment of salary and bonuses must ensure life for employees and their families and ensure the minimum needs in their lives.

Retain and attract talent for the business: In any organization, highly qualified and skilled workers play a significant position. However, good people do not mean they will be dedicated to their work and attached to the organization. If they leave and we can't find a candidate with equivalent qualifications, the enterprise's human resources quality will decrease. Before thinking about improving the quality of human resources for businesses, we must retain skilled and highly specialized human resources at work. Good remuneration will help businesses do this; it makes employees stick with the business. With good remuneration, we can completely attract talent from outside sources, thereby improving the quality of human resources.

Employee remuneration creates motivation to stimulate employees to strive to improve their own capacity. The needs of workers are always moving, arising, and constantly developing in the working process; they create different working motivations. Through satisfying material needs and spiritual needs, employee compensation creates motivation to stimulate employees to work. To best promote their capacity, people need the help and intervention of technology. In an era where the "brain war" is increasingly fierce, the organization's good remuneration policy will provide modern labor tools to help employees maximize their capacity.

2.4. Training and developing human resources

The professional qualifications and technical skills of the technical workers are the most important criteria for assessing the quality of personnel. Therefore, to improve employees' professional qualifications and skills, enterprises must regularly conduct training and re-training programs for technical workers.

Training and improving employee professional qualifications will ensure that the company's personnel can adapt and keep abreast of the evolution and development of science, technology, and technology for businesses to have a good workforce and complete their goals.

In addition, training and re-training also help employees improve their cultural qualifications, expand their knowledge, and improve their capacity and quality. At the same time, it allows employees to take better care of their health, have a more positive attitude at work, and improve the enterprise's human resources quality.

3. Conclusion

With an ever-expanding scale and increasing demand for power supply, Vietnam's power system has become one of the largest power systems in the world. Hence, the requirements for the quality of human resources are also high. It must be commensurate with the development of the power system, especially in the context of the current industrial revolution 4.0. Therefore, the issue of improving the quality of human resources, including technical workers, the largest workforce of the electricity industry, has become one of the top priorities.

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