

Training High-Quality Human Resources at Higher Education Institutions, to Meet the Demands of the Requirements of Vietnam's Socio-Economic Development under Industry 4.0



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ABSTRACT: In this article, the authors have presented the theoretical basis of Training, high-quality human resources, industry 4.0, and the role of high-quality human resources in society and businesses. Through the methodology and data collection method, the research team has determined that the quality of human resources and high-quality human resources have not yet met the requirements of economic development under the impact of technology 4.0. Most of the labor force has not been trained, the unemployment rate of workers with university degrees is large, and employers have not yet appreciated the quality of labor. The causes of the above existing problems are mainly because high-quality human resource training activities do not ensure output standards, lack of linkage between training institutions and enterprises, and the labor structure of different industries. Disproportionate profession. To overcome the above shortcomings, the research team proposes several measures such as raising awareness for the whole society about the importance of high-quality human resources, focusing on comprehensively renovating education and training according to Decree No. Decision 29 and at the same time build training linkage models between schools and businesses.

KEYWORDS: Industry 4.0; High quality human resources, University; Training; Vietnam

1. THE PROBLEM

Human resources with intelligence, well-trained and intensively, solid skills, ability, and physical ability to meet the job are high-quality human resources. With the impact of the 4th industrial revolution - Industry 4.0 and the goal of turning Vietnam into an industrial country by 2030, integrating with the world economy, high-quality human resources is an important factor. Most important. In recent years, the Party and State have always paid attention to, creating mechanisms, and building and developing high-quality human resources. The conclusion of the 13th National Congress stated: "Promoting the development of human resources, especially high-quality human resources, to meet the requirements of the Fourth Industrial Revolution and international integration. Developing a team of leading experts and scientists; focusing on technical human resources, digital human resources, technology management human resources, management human resources, corporate governance; human resources to manage society and organize life and take care of people" [1]. Training high-quality human resources is a task assigned by the State to educational institutions in general and universities in particular. Therefore, the mission and vision of universities are to train high-quality, application-oriented human resources to meet the country's economic development requirements. Currently, the application of scientific and technological achievements takes place mainly in foreign-invested enterprises, which urgently need high-quality workers. However, according to the latest data from the PCI-FDI 2022 Report, "Only 9% of FDI enterprises are completely satisfied with the quality of human resources, down from 15% in 2021" [2] and the cost of training and retraining for employees in these enterprises increased continuously from 2020 with 4.77% to 5.85% in 2022 of the total operating costs of the enterprise [2]. Therefore, the training of high-quality human resources at higher education institutions needs to review the existing problems and come up with solutions so that the training of high-quality human resources can meet the needs of the people. recruitment requirements of enterprises and meet the development requirements of the economy and challenges from Industry 4.0.

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2. THEORETICAL BASIS

Train

According to Encyclopedia, "Training refers to the teaching of practical skills, occupations or knowledge related to a particular field so that learners acquire and master the knowledge, skills, and professions. systematically to prepare the person for life adaptation and the ability to take on a certain job. The concept of training often has a narrower meaning than the concept of education, usually, training refers to the later stage, when a person has reached a certain age, or has a certain level. There are many types of training: basic training and specialized training, professional and vocational training, retraining, distance training, self-training" [3].

Human Resources

According to author Mai Quoc Chanh (2008), "Human resource is a category used to refer to the latent strength of the population, the ability to mobilize to participate in the process of creating material and spiritual wealth for society. in the present as well as in the future. That strength and ability are shown through the quantity, quality, and structure of the population, especially the quantity and quality of people eligible to participate in social production".

Human resource training

Human resource training is the process of equipping people with certain professional knowledge so that they can take on a certain job. Human resource training at universities is mainly equipped with professional knowledge through new forms of training.

Quality of personal

According to author Bui Van Nhon (2006). Those are the factors that reflect the level of knowledge, skills, and attitudes of employees in the working process" [5].

Industry 4.0

According to the Encyclopedia, "The fourth industrial revolution is called Industry 4.0. Industry 4.0 focuses on digital technology from recent decades to a whole new level with the help of connectivity through the Internet of Things, real-time data access, and the introduction of systems cyber physics. Industry 4.0 offers a more integrated and holistic approach to manufacturing. It connects the physical to the digital and enables better collaboration and access between departments, partners, suppliers, products, and people. Industry 4.0 empowers business owners to better control and understand every aspect of their operations and enables them to leverage instant data to increase productivity, improve processes, and drive growth.

Industry 4.0 enables smart factories, smart products, and smart supply chains as well, and makes production and service systems more flexible and responsive to customers. The attributes of production and service systems with Industry 4.0 have been highlighted. The benefits that Industry 4.0 brings to businesses were discussed. In the future, Industry 4.0 is expected to grow even stronger and therefore businesses need to be ready to prepare for a continuous transformation to be able to keep up with the upcoming modern trends" [3].

The role of human resources in the Socio-economic

The document of the 13th Party Congress continued to affirm that "Considering people as the center, the most important subject, resource, and goal of development; Taking cultural values and Vietnamese people as the foundation, an important endogenous strength to ensure sustainable development" [1]. The consideration of the labor force as a central factor of economic development has been emphasized since the 8th National Congress (1996) [8]. Thus, through congresses, our Party has repeatedly identified human resources as the main factor affecting development, talking about the role of human resources is talking about people in economic development. People are the center of economic development; all development is directed at the sole goal of serving people. In the era of technology 4.0, competition between economies and businesses is increasingly fierce, when all factors of technology, management, finance, quality, price... are no longer advantages, then factors Humans play a decisive role in socio-economic development.

3. RESEARCH METHODS

In this study, two common research methods are used: Methodology and data collection method.

Methodology

The research team used the methodology to systematize the theoretical basis of Training, Human Resource Training, Industry 4.0, Human resource quality, and the role of human resources in economic development. The theoretical basis is used by the research team as a foundation to analyze the current situation and shortcomings in the training of high-quality human resources at higher education institutions today.

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The method of data collection

Based on data from the Socio-Economic Situation Report, and PCI Provincial Competitiveness Index Report (2022), the research team synthesizes some information such as the Labor force aged 15 and over According to professional and technical qualifications, Structure of employed labor by occupational group, Quality of labor in provinces and cities as assessed by FDI enterprises. From these data, the research team considers the increase and decrease of occupational groups and the demand for recruiting high-quality laborers in economic sectors. Based on the data, the research team also proved that there is a shortage of high-quality labor resources in the professions. At the same time, based on enterprises' feedback on labor quality, the research team identifies existing points and proposes some measures to the issue of High-quality human resource training at educational institutions. higher education to meet the recruitment requirements of enterprises and socio-economic development.

4. HIGH-QUALITY HUMAN RESOURCES, REALITY, AND SOLUTIONS IN TRAINING WORK AT VIETNAMESE HIGHER EDUCATION INSTITUTIONS

4.1. The current situation of human resources in Vietnam

According to statistics from the Vietnam Labor Market Information Update in 2022, the labor force aged 15 and over is 52.1 million employees, an increase of 1.4 million workers compared to 2021, corresponding to a faster growth rate. the increase was 2.7%. Meanwhile, the labor market participation rate is 68.9%, and the labor force with certificates accounts for 26.4%. Employment fluctuations by industry in 2022 have increased and decreased compared to 2021. Specifically, the group of Education and training, the manufacturing and processing industry will increase sharply in 2022, while the Construction group will have a sharp decrease in the number of employees. In addition, under the recovery of the economy after the covid-19 pandemic, many industry groups such as accommodation and catering services, transportation, and warehousing also prospered again in 2022 [6].

Table 4.1. Changes in the Labor force

Evaluation criteria	2021		2022	
	Number of employees (Million people)	Ratio (%)	Number of employees (Million people)	Ratio (%)
Labor force 15 years and older	50.7	100	52.1	100
Labor participation in the labor market	34.3	67.7	35.8	68.9
Labor with a certificate	16.4	26.1	16.3	26.4
Labor has a job	49		51	
Service	17.9	36.5	17	33.4
Construction industry	16.8	34.3	19.9	39
Agriculture forestry seafood	14.3	29.2	14.1	27.6

Source: Compiled from Vietnam Labor Market Update Newsletter

Regarding recruitment trends: In 2022, recruitment demand for staff positions increased sharply compared to the same period in 2021 from 24.1% to 64.8%. In addition, the enterprise also recruits mainly in two positions: senior management and middle management. Positions such as Occupation in agriculture, forestry, fishery, Craftsman, Machine assembler and operator, and Simple occupation, demand for recruitment decreased sharply in both 2021 and 2022. Causes of the shortage This labor shortage is due to the gradual recovery of the economic situation and businesses resuming operations, so many human resources are needed to restart. In addition to professional qualifications, employers still mainly choose workers with degrees, most of whom are workers with university and college degrees [6].

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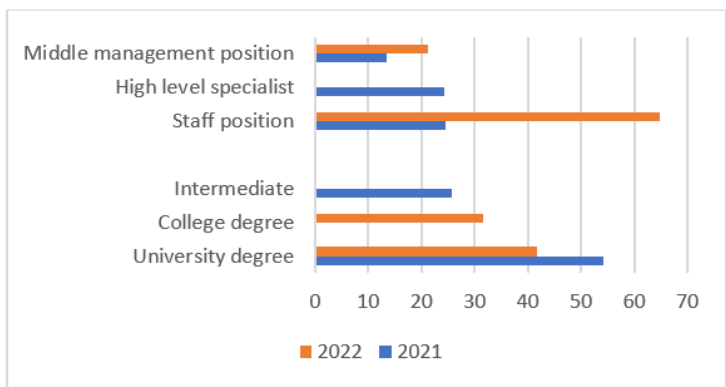


Figure 4.1. Recruitment trends

Source: Compiled from Vietnam Labor Market Update Newsletter

4.2. Impact of the fourth industrial revolution on the Vietnamese Workforce

Industry 4.0 has a direct impact on the workforce. The change in the structure of human resources is a consequence that any country is facing. With the previous industrial revolutions, job restructuring has met the requirements of industrial development. This fourth technological revolution can bring about greater inequality and create the risk of disrupting the previous labor market such as in terms of labor structure, labor supply, and demand... in particular, the labor market. Vietnam's labor market will be directly affected. Machines replace people, increasing the unemployment problem. From the aggregated data of the Labor and Employment Survey Report, the simple occupation group is sharply reducing the number of employed workers over the years. According to forecasts, the impact of the fourth industrial revolution on the labor force is the first simple occupation. Agriculture, forestry, and fishery are also occupations in the labor market's trend of reducing labor. However, industry 4.0 brings the greatest benefits to the group of highly qualified and knowledgeable workers. The reason why high-quality human resources are welcome is that these workers can keep up with the necessary information about technology, production processes, or production methods of Industry 4.0. In addition, the analysis and forecasting of labor market information are affected. The development of Industry 4.0 is difficult to predict, making it difficult for governments, not only for Vietnam, to make development policies and orient the employment structure. Industry 4.0 creates many combinations in technology leading to new industries, such as GPT chat technology.

4.3. Difficulties in training high-quality human resources at higher education institutions

As mentioned, for society, high-quality human resources are the main resource that determines the process of socioeconomic growth and development, while for enterprises, high-quality human resources are the central factor to promote economic growth, promote production efficiency of enterprises. However, we are currently short of this workforce. Many reasons make it difficult to develop high-quality human resources. To address the objective of this study. We focus on understanding the difficulties in training high-quality human resources at higher education institutions.

Firstly, society has not properly understood the role and importance of high-quality human resources in economic development. As an important factor in economic development, high-quality human resources have not been developed in terms of skills training, physical fitness, and work ethics. Currently, higher education institutions only focus on training and developing human resources without having a thorough and proper view of high-quality human resource training. The cause of this existence is due to many factors such as service facilities and teaching quality that do not meet the training criteria for high-quality human resources. Most university training institutions do not have the conditions to organize for learners to practice their profession on advanced technological equipment.

Secondly, training high-quality human resources is still unreasonable in terms of the training scale, structure of professional qualifications, and regional and regional structure; training has not been associated with scientific research and technology application. Currently, the training of human resources at higher education institutions does not follow the rules of the labor market. Mainly, these establishments focus on training licensed occupations and professions, regardless of whether these industries are in short supply or surplus.

Third, there is no connection between training needs between schools and businesses. Training high-quality human resources, in addition to orientation and planning, requires a financial investment and high determination of the university training institution. Therefore, if a group of high-quality laborers is redundant in any industry, it will cause a waste of both human and material resources.

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Fourth, university training programs and contents have not been renewed in the direction of streamlining, modernity, practicality, and relevance. Methods and forms of teaching at the university level are still in the direction of theory. University lecturers have not been standardized at all training institutions. International cooperation in education and training, attracting talented and experienced foreign teachers and scientists, and overseas Vietnamese to participate in training and scientific research Technology at Vietnamese higher education institutions has not been focused on.

Fifth, training high-quality human resources is not commensurate with the requirements of enterprises and society. The results of the PCI-FDI 2022 survey show that personnel is assessed mainly at an acceptable level. About one-third of FDI enterprises assess that the quality of labor meets most of the needs of enterprises. Only 9% of FDI enterprises are satisfied with the quality of human resources, down from 15% in 2021 [2]. Therefore, it can be seen that the labor force in general or high-quality labor in particular still has a lot of room to strive for. The implementation of key vocational development, high-quality vocational schools, and pilot training at international and ASEAN levels under the transfer program from abroad has not yet brought about the desired effect.

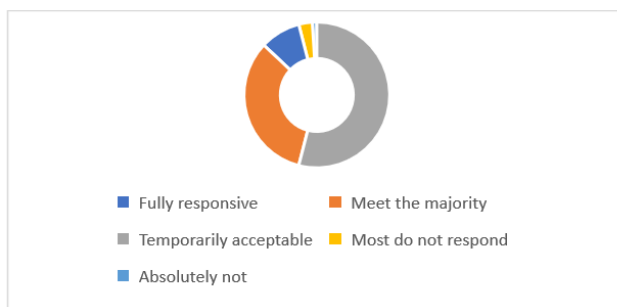


Figure 4.2. Labor quality in provinces and cities as assessed by FDI enterprises

Source: PCI 2022 report

4.4. Some solutions to train high-quality human resources at higher education institutions

The 11th National Congress of the Communist Party of Vietnam has identified three strategic breakthroughs, including the issue of training, and developing human resources in the current period, with the specific content being: rapidly developing human resources, especially high-quality human resources, focusing on a fundamental and comprehensive renovation of the national education; closely link human resource development with the development and application of science and technology" [7]. In terms of awareness and direction, it is necessary to clearly define high-quality human resources as the most valuable resource of the country. Human resources must be used as an alternative resource. Therefore, it is necessary to make all levels, all branches, and people feel responsible for the training, development, and use of human resources, turning the quantity and quality of the country's human resources into a competitive advantage in the world. global aspect. To effectively train high-quality human resources at higher education institutions, the authors propose several solutions as follows:

Firstly, increase awareness about the role, position, and importance of high-quality human resources in the cause of industrialization and modernization of the country through communication work. In the context of the fourth industrial revolution, the Government and state management agencies need to raise awareness for society about building a high-quality human resource development plan in line with the requirements of reality, and the needs of society and the world. social needs and socio-economic development strategies of the unit and the country.

Second, perfecting the education system in the direction of openness and integration, promoting stratification, streamlining, organization, and rearrangement of the education system, especially higher education, and vocational training. Overcoming the unreasonableness of training scale, structure of professional qualifications, and structure of regions and regions; linking training with scientific research and technology application. Paying more attention to the development of the automation industry, investing in in-depth research groups in the fields of digital, information technology, software technology, satellite information, digitization, new energy, materials new materials, and biotechnology and their integration.

Third, identify the right training capacity and needs, enhance the quality of planning, regularly forecast, and provide information on the human resource needs of the society, especially the needs of enterprises, and localities to adjust the size, and structure of industries, occupations, and training levels accordingly. Well, implement mechanisms, policies, and laws on the development of education - training, science - technology; attach importance to university and post-university training, college, and vocational training according to regional and international standards. Create rapid and clear changes in human resource development, especially high-quality human resources for industries and fields with potential and advantages. Promote

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socialization and give autonomy to public universities, colleges, and vocational schools; encourage enterprises to participate in vocational training.

Fourthly, in Resolution No. 29-NQ/TW, it was recognized that the reform of university training programs and contents in the direction of streamlining, modernity, practicality, and relevance, "strongly shifted the educational process mainly from equipping knowledge to comprehensively develop learners' capacity and qualities, learning with practice, theory with practice. Education and training development must be associated with the needs of socio-economic development, national construction, and defense, scientific and technological progress, requirements for human resource development, and the labor market [8]. At the same time, continue to strongly innovate methods and forms of university-level teaching, and quickly standardize university lecturers. Promote international cooperation in education - training and create a favorable environment and conditions to attract teachers and scientists to Vietnam. These innovative contents will be the premise for the training of high-quality human resources in the future.

Fifth, to develop and perfect the overall strategy of developing high-quality human resources in the new period to meet the requirements of enterprises and society. Developing an overall strategy for developing high-quality human resources to meet the country's economic development and the requirements of the 4.0 revolution is an essential task for functional agencies and higher education institutions today. The strategy must clearly define the objectives, scale, roadmap, and overall mechanisms and policies. Which, the strategic objective must give priority to overcoming the contradiction between development in terms of quantity, quality, and structure; determine the appropriate size, quantity, and structure of each type of human resource.

5. CONCLUSION

The fourth industrial revolution poses many new challenges to the workforce in developing countries, including Vietnam. With the gradual loss of the advantage of low-cost labor, the labor market has many major changes in the structure of occupations and is likely to cause unemployment for many workers with simple or untrained occupations. the possibility of decomposition due to fish distance technology and knowledge more broadly. The government, businesses, educational institutions in Vietnam, and the workers themselves need to be aware of and willing to change and have appropriate strategies for developing high-quality human resources in the economic period economic transformation.

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