

## Review Article

## Factors Affecting Training in Human Resources in Vietnam in the Context of the Fourth Industrial Revolution

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**Abstract:** The fourth industrial revolution is expected to cause a series of job losses; In particular, in developing countries. However, the number of new jobs, new jobs created is more than lost. Therefore, countries need to seize the opportunity that digital era brings. The fourth Industrial Revolution will bring new opportunities and workforce to change to adapt, to keep up with the changing science and technology of today, countries need to create conditions and find out new means for human resource development. In this article, the author boldly presents factors affecting the training process of human resources in Vietnam in the context of the fourth industrial revolution.

**Keywords:** human resources, training, industrial revolution for the fourth time.

### INTRODUCTION

The fourth industrial revolution is a hot topic, which has been interested in many forums in the past. But to take advantage of opportunities and catch up to the fourth industrial revolution, many experts say that Vietnam needs to start right from the simplest, most essential and sustainable things, namely, developing human resources. High-tech force. In order to apply new technologies, automate production and business activities effectively, enterprises are forced to seek human resources with professional qualifications and working skills, at the same time, industrial revolution. The fourth time will fundamentally change the way of life, working style and communication methods, especially those that are directly related to products and services such as research and development, product design and production. . This creates pressure and also an opportunity for Vietnamese manpower training schools in the near future. Therefore, what is the important issue that requires Vietnamese human resources to meet the fourth industrial revolution? This is a non-rooted question, the author presents factors affecting human resource training in Vietnam in the context of the industrial revolution in the past.

### 1. The Fourth Industrial Revolution and Human Resource Training

#### 1.1. The fourth industrial revolution

The fourth industrial revolution with the development trend is based on the integration of the high degree of digital-physical-biological connection system with the breakthrough of Internet and the artificial intelligence is changing basic world production background. The fourth industrial revolution characterized by thoroughly utilizing the pervasive power of digitalization and information technology. This wave of new technology is happening in every country, strongly impacting all aspects of socio-economic life, leading to changing the mode and production forces of society. The fourth industrial revolution started in recent years, is the revolutionary smart production based on groundbreaking achievements in the fields of information technology, biotechnology, and nanotechnology. , ... with the groundbreaking foundation of digital technology.

Looking back on history, people witnessed three industrial revolutions: the first industrial revolution (from 1784) occurred when humans invented a steam engine, directly impacting industries such as textile, mechanical manufacturing, transportation. Steam engines are introduced into cars, trains, ships, opening a new era in human history. The second

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industrial revolution (from 1870) until humanity invented an electric motor, bringing civilization to life, increasing productivity many times compared to steam engines. The third industrial revolution (since 1969) appeared when people invented transistors, electronics, connecting the world to communicate with each other. Satellite, airplane, computer, phone, internet ... are the current technologies we enjoy from this revolution.

The fourth industrial revolution has taken place since 2000, called the digital revolution, through technologies such as Internet of Things (IoT), artificial intelligence (AI), virtual reality (VR), and similar. Virtual reality (AR), social networking, cloud computing, mobile, big data analysis (SMAC) ... to transform the entire real world into a digital world.

The concept of "Industry 4.0" was launched in 2011 at the Hannover Fair, introducing the projections of Germany's industrial program 4.0, to enhance the traditional German mechanical industry. Not only Germany with the Industry 4.0 program, developed countries have had strategic production programs in the past few years as advances in science and technology are happening very quickly. The United States has "National Strategy for Advanced Production" for the next three decades. France has "The new face of the French industry". South Korea has "Korea's Future Growth Program". China has "Made in China in 2025". Japan has "Smart Society 5.0", ... Many people also think that the name "the fourth industrial revolution" is predictable and has not happened.

In 2013, a new keyword "Industry 4.0" (Industrie 4.0) began to emerge from a German Government report referring to this term to refer to the high-tech, industry-computing strategy. produce without human involvement. German Chancellor Angela Merkel continues to mention Industrie 4.0 at Davos World Economic Forum in January 2015. Currently, Industry 4.0 has gone beyond the German project framework with the participation of many countries and has become an important part of the fourth industrial revolution.

The concept of the 4th Industrial Revolution - Industry 4.0 On January 20, 2016, the 46th World Economic Forum (WEF) officially opened in the city of Davos-Klosters in Switzerland, with the owner "The 4th Industrial Revolution", attended by 40 heads of state and more than 2,500 visitors from more than 100 countries, including Vice President Joe Biden, British Prime Minister David Cameron, Bill Gates, Microsoft CEO Satya Nadella, Chairman of Alibaba Jack Ma, ... The concept of the 4th CM or Industry 4.0 was clarified in this forum. According to GS. Klaus Schwab, Chairman of the World Economic, Industry 4.0 Forum (German Industrie 4.0) or the 4th Industrial Revolution, is a term that includes a variety of modern automation technologies, exchanging data and fabrication. The 4th

industrial revolution is defined as "a terminology for the technologies and concepts of organization in the value chain" associated with physical systems in cyberspace, the Internet connects everything. (IoT) and Internet of services (IoS)<sup>1</sup>.

### **1.2. Human Resource Training**

Human resource is a combination of structural, quantitative and qualitative factors with a combination of criteria for mental, physical, moral and spiritual qualities, creating human qualities and capabilities. , help them take the initiative, actively participate in the creative labor process for development and social progress.

Human resource training is the process of teaching actively, actively transferring knowledge in a methodical, systematic and practical way for learners to acquire knowledge and achieve a certain level of careers. , can do the job according to the regulations, standards of the rank and profession needed.

The nature of training human resources to meet the requirements of the fourth industrial revolution is shown in the following points:

**Firstly**, human resource training is the process of changing the quantity and quality of human resources in terms of physical, intellectual, skills, knowledge and human resource structure.

Through training to improve the intellectual resources of human resources, equipped with knowledge and professional qualifications, the level of thinking according to the objectives and requirements has been determined. Equipping knowledge is the basic function of training. The development of the forms of training is the expansion and development of transmission knowledge, providing learners with the necessary knowledge and expertise for them to explore and renovate the world, bright labor. create and contribute to society.

**Secondly**, human resource training is the process of creating and stimulating the ability of learners comprehensively for social progress and the improvement of human personality.

Each form of training in each stage, specific level has a certain value for the necessary preparation for workers. Training human resources to define specific content and training programs with values and standards of personality, clearly expressing traditional values, national cultural characteristics and identities.

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<sup>1</sup> Lu Thanh Long (2017), What is the fourth Industrial Revolution, accessed on April 14, 2017, <<http://vnexpress.net/projects/cach-mang-cong-nghiep-lan-thu-tu -la-gi-3571618 / index.html>>.

In addition to equipping knowledge, improving the ability to work, work, train human resources also directly contribute to strengthening health, endurance, toughness, necessary qualities of human resources. Human resources can only develop comprehensively in terms of intellectual, physical and other activities through training forms.

## **2. Factors Affecting Human Resource Training in Vietnam in the Context of the Fourth Industrial Revolution**

### ***Firstly, the impact of the Party's lines and views, the State's policies and laws on human resource training in the context of the fourth industrial revolution***

The 12th Party Congress required fundamental and comprehensive innovation of education and training; in which, focusing on innovating the views, goals, programs, content, teaching and learning methods, exam, examination and evaluation of the results of learners in the modern direction, improving the quality of education; perfecting mechanisms and policies on educational socialization; encourage learning and talent promotion activities, attract talented people and experts; synchronous implementation of training policies, attracting, using and treating worthy talents of scientific talents [3. Tr.114].

Mechanisms and policies to determine the efficiency and quality of training human resources to meet the requirements of industrial revolution 4.0 in Vietnam. Mechanisms and policies of the Party and State affect human resource training on all aspects and stages of the training process. Proper and appropriate mechanisms and policies to attract talented people, increase the quantity and quality of human resources to meet the requirements of developing the knowledge economy, bringing new vitality to the cause of innovation, construction and protection National defense. Unsuitable mechanisms and policies, hindering training, restraining the dedication of workers, limiting talents, restraining the process of revitalizing the cause of education and training of the country.

Currently, policies and mechanisms for training human resources of Vietnam are still limited and inadequate, such as: "Unpaid salary and income policies have been attached to officials, public servants and workers. devoted to the work "[3, p.168], causing the " brain drain ", working in moderation is quite common in all sectors and areas of activities of social life .

Today, human resources are the most important factor determining the size, speed, nature and efficiency of socio-economic development of national interests - the Vietnamese nation. Training of human resources to meet the requirements of industrial revolution 4.0 is the responsibility of the Party and the

State, the political system, the population community and each citizen of the Socialist Republic of Vietnam.

### ***Secondly, the impact of industrialization and modernization development is associated with the development of knowledge economy***

Human resources play a decisive role in the speed and quality of socio-economic development. In order to promote industrialization and modernization associated with the development of knowledge economy in the context of the fourth industrial revolution, it is necessary to have a high level of intellectual standards, employees with creative ability, desire to learn, self-awareness, Highly adaptable to new conditions. To do so, to take care of human resource development, improve people's intellectual standards, train human resources and foster talents, prioritize the development of education and training, really consider education and training as a national policy. First, investment in education and training is investment in development.

Managers and teaching staff are forces capable of detecting, supplementing, perfecting goals, programs, content and proposing proper solutions to improve the quality of human resources, meeting request to promote industrialization and modernization of the country. In other words, the trained labor force, especially the high-quality labor source is superior to other resources and it can exploit never exhausted. Because, "Knowledge has a never-ending nature."

Therefore, our Party determined: "The main direction of intellectual development of Vietnamese people is shown in the fields of science, technology, training to improve the intellectual standards, human resource training and fostering. talent "[4, p28].

### ***Thus, training of human resources in our country both meets the requirements of quality and meets the requirements of quantity, scale, structure and qualifications.***

Development practices of different industries, in different territories, training of human resources must be associated with practical needs: need to use manpower to solve imbalances, both deficient and moderate Excess manpower today. Orientation of "Improving the quality and effectiveness of education, developing the scale of education of the whole population and spearheading on the basis of ensuring quality and adjusting the training structure, combining training with the requirements of economic development - Social, training use "[3, p.126], is absolutely need to be resolved, as soon as possible. It is directly related to the sustainable development and national interests of the Vietnamese people.

Training human resources in the context of the fourth industrial revolution is a process of self-awareness, initiative and positive with specific mechanisms and policies suitable to the conditions, circumstances and feasibility. determined by the Party and State. In training human resources, the Party and the State are the leaders and managers, deciding mechanisms and policies, prescribing orientations and objectives and expanding the scope of human resource training in each period and tasks. socio-economic development.

***Thirdly, the impact of quality, effective fundamental innovation, comprehensive education and training***

According to the forecasts of scientists by 2020, the total demand for human resources of Vietnam is about 63,000 - 65,000 people, the total trained labor needs to reach 44,000 people; in which, university trained manpower is about 5,500 people, about 300 people graduate

Deeply aware of the importance of the above issue, our Party and State always pay attention to the training of human resources; invest in renovating the national education and training system in terms of programs, content, forms and methods to improve the quality of human resources comprehensively. Actively recruiting many students and graduate students to study and research abroad, so that they can quickly approach and absorb modern scientific and technological achievements. At the same time, there are preferential policies, especially for scientists with excellent research projects, especially young scientists. Implementing the human strategy, attaching importance to the development of education and training, science and technology, construction of industrial parks, hi-tech parks and a system of national key laboratories. Gradually improve the legal system, implement intellectual property protection; create all favorable conditions for the talents of science and education to contribute and revive the country's education.

The team of experts, good intellectuals, good managers and businessmen, through these activities, their knowledge and experience are promoted and their qualifications are increasingly improved. It is an important basis for them to fulfill the mission of "planting people", raising intellectual standards, training human resources and fostering talents for the country.

***Fourth, the impact from the development and application of science and technology***

Science and technology must be the driving force, deciding the competitive advantages and the development speed of the whole process of promoting industrialization and modernization associated with the development of knowledge economy to meet the requirements of the fourth industrial revolution. . The essence of industrialization and modernization is the development of science and technology. Therefore, our

Party determines science and technology together with education and training as the top national policy, the foundation and driving force of industrialization and modernization of the country. Strongly focus on improving labor productivity, renewing commodity products, improving the competitiveness of products, businesses and the economy in the market. Building and promoting all potentials and strengths to develop advanced science and technology. Speeding up the process of building two national high-tech centers in Hanoi and Ho Chi Minh City, considering it a flagship, a typical model for technological development of the country and an attractive place. nurturing new technologies and intellectuals of the country. Create a favorable environment for transnational corporations to not only invest in building production facilities, but also build on-site training facilities of high quality human resources, proficient in professional skills. Encouraging international students and students to study abroad, having appropriate remuneration policies to attract students to return home to work and start their careers after completing the course.

Rapid development of science and technology market to ensure all knowledge and technology are exchanged, traded, transferred smoothly in the market, nurtured by a spirit of fair competition. Using credit and taxation tools to encourage businesses to bypass intermediate technology generations, go directly to advanced technologies and high quality technologies.

***Fifth, the impact of the environment on the process of training human resources***

After 30 years of renovation, our economy has made important changes in a positive direction, but also faced many difficulties and challenges that are hindering the development. The 12th National Congress of the Party pointed out the limitations and shortcomings that are hindering the process of promoting industrialization and modernization associated with the knowledge economy.

**Impact of Socio-Economic Conditions**

Socio-economic conditions positively impact; proactively create an environment, favorable conditions for training human resources to meet the requirements of industrial revolution 4.0 in Vietnam. Reality shows that high quality human resources are both the subject and the product of socio-economic conditions. Socio-economic conditions are the basic impact factor, reflecting the relationship between economic development and training and human resource development. The level of socio-economic development and human resource development is closely related, creating conditions for each other to develop. In particular, modern production technology equipment always requires the quality of human resources to be met and appropriate. At the same time, development, economy - society allow people to improve their intellectual, physical, and conditions to develop

education, training, health, culture, and implement social policies. developing high quality human resources training. Difficult socio-economic conditions, the downside of the market economy dominates strongly, negatively affecting the training of high quality human resources.

Training human resources in the context of industrial revolution 4.0 has made the subject participating in training not only lack of development conditions, dedication, but also a thought of raising material, cultivating money, lightly, even, indifferent, indifferent to political and social issues. Therefore, distorting the motivation and purpose of workers. Therefore, all levels and sectors must take into account its downside to take remedial measures in the process of training human resources to meet the fourth industrial revolution in Vietnam today.

#### ***Sixth, the impact of culture, psychology, customs and practices***

Culture, psychology, customs, habits ... are factors that significantly affect the process of training human resources to meet the requirements of developing knowledge economy in Vietnam. Human resource training is also developing people for socio-economic development needs. Cultural, psychological, customary and cultural conditions have many positive, progressive and appropriate factors that are an important basis to form good human qualities, promote and source training process. human resources that meet industrial 4.0 requirements in Vietnam. These are solid foundation factors that, on that basis, each employee and human resources are developed. The good traditional cultural values of the nation mingle with the revolutionary cultural values, forming a great spiritual force in fighting foreign invaders and building and defending the country. National independence associated with socialism, patriotism developed into socialist patriotism; revolutionary heroism not only in combat but also in production and construction of the country; hard work not only for yourself, your family but also for the society, striving for the happiness of the people. The whole good spiritual value has profound impact and creates a solid basis, a "pedestal" for the formation of good qualities of the process of training human resources to meet economic development requirements. knowledge in Vietnam today.

#### ***Seventh, the impact of human resource use***

In fact, using human resources only includes a number of components of the process of human resource management such as: recruitment, layout, use, evaluation, remuneration, salary and bonus. Using the right people is to use, promote their strengths, their "strengths and weaknesses", use people in the right place, at the right time, promote the work motivation of each person. That is something especially important.

Using human resources is the process of creating conditions for people to participate in production activities, creating material and spiritual resources to serve production needs and consumer demand of the society. The process of production labor is the process of combining labor force with other elements of the production, exploitation and promotion of human resources that cannot be separated from the organization of production with the way of development. Socioeconomic. Using human resources is to stimulate and promote all potentials and strengths of people into reality and turn labor into labor in the process of socio-economic development. The process of using human resources is always linked to production, so the outcome depends on innovating the way of organizing production management, technological improvements and greatly depends on the development of education and training, science and technology.

Vietnam is a developing country, implementing industrialization and modernization, the human resources are quite abundant but the quality and qualifications are still low. Therefore, in the process of using human resources, attention should be paid to the use of labor in the direction of combining both quantity, quality and reasonable structure.

#### ***Eighth, the impact of actors participating in human resource training***

Training of human resources in the context of the fourth industrial revolution depends on the efforts of each employee to strive and train as the subject - the component of human resources in the training process, improve the quality of labor efficiency.

Subjects participating in training in the context of the fourth industrial revolution include: the subject of training is the contingent of lecturers and managers of training human resources; Trained subjects are university students. This is a requirement of practice, which has a very important meaning, the basis for the subject to participate in training to determine the content, measures to develop capacity, quality, personality and meet development requirements. knowledge economy in Vietnam today.

The positiveness of the trained subject manifests itself in the realization of its capabilities and qualities in the professional work, which is the unity of the right motive with practical activities in the work. To accomplish the mission, achieve the set goals, bring the best products for socio-economic development. Overcoming all difficulties and harshness of the working environment, difficulties and hardships in poor conditions to do their job well.

***Ninth, the impact of international integration requirements***

International integration promotes the development and improvement of the quality of human resource training. Good experts, intellectuals, leaders, managers at all levels, business executives, business people, skilled workers ... will be tested in a new environment brought about by international integration. . Thereby, the level of thinking, knowledge, expertise, the ability to work creatively, collective work experience, management capacity, all qualities, their capacity is raised, improving quality. each person and the process of training human resources.

**CONCLUDE**

International integration has created an opportunity for the development of the country, has set many new problems in training human resources in the context of the fourth industrial revolution, especially high-quality human resources, with many risk if there is no suitable integration and development strategy. Human resource training in the context of the fourth industrial revolution is influenced mainly by factors, but the factor of education and training, development and application of science and technology is the impact factor. Powerful, comprehensive, basic and direct. Vietnam is a developing developing country, human resources are abundant but the quality and qualifications are still low. Therefore, in the process of using human resources, attention must be paid to the use of labor in the direction of combining both quantity, quality and reasonable structure. The favorable social environment for human resource training is an important factor, but it cannot bring about the desired results. Because, it also depends on the activeness, self-awareness, and positiveness of the trained and participating subjects.

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