THE FOURTH INDUSTRIAL REVOLUTION: CHALLENGES FOR HUMAN RESOURCE IN THE HOTEL INDUSTRY

Do Dieu Linh
Falcuty of Tourism and Hospitality - HUFLIT
linhdd@huflit.edu.vn

ABSTRACT: The Fourth Industrial Revolution (4IR), which is characterized by artificial intelligence, Internet of thing and big data, is impacting all economies and industries in every nation both in extensiveness and depth, and signals the transformation of the entire management system. Hospitality industry is not outside of this circle of influence. Keeping pace with the Fourth Industrial Revolution is a great challenge for hoteliers in Vietnam since modernization requires a large investment in technology, equipment and highly qualified personnel. Human resource management, due to its aspect, is considered deeply influenced by Industry 4.0, meanwhile effective management of human resource is more important to the success of every organization. Therefore, this paper is dedicated to examine the strong influences of the Fourth Industrial Revolution on the human resource of hospitality industry. It discusses some opportunities, highlights the challenges and suggests some solutions. Despite many challenges, this is an opportunity for the hotel industry to take advantage and make a big step in providing customers with exceptional services. The Fourth Industrial Revolution needs to be human-centered and technologies should serve human in sustainable and inclusive ways. In order to do that, educational institutes together with hospitality enterprises play a vital role in creating an environment that allows the entire community to pursue lifelong learning and contribute to a progressive society through various industrial revolutions.

Keywords: Fourth Industrial Revolution, Human Resource, Hotel Industry, Challenges.

I. INTRODUCTION

Technological progress has been the engine of the development of human society since the dawn of civilization. Over time, the concerns of the scholars in economics have evolved in parallel with the evolution of technology. So far, this evolution has been marked by four major leaps, known as industrial revolutions, generated by major inventions [1] The term Industrial Revolution that has been mentioned a lot in recent years describes the trend of automation and data exchange in manufacturing technology and promotes development in other areas of the economy and society. The first three industrial revolutions are marked by mechanization, high electric energy usage, and automation, respectively [4]. The Fourth Industrial Revolution includes 3 core elements: Artificial Intelligence (AI), Internet Of Thing (IoT) and Big Data in 3 main areas including Biotechnology, Digital and Physics. According to Klaus Schwab - CEO of World Economic Forum (WEF), the breakthrough speed of 4IR has no precedent in history since the 4IR affects almost every industry in every country both in extensiveness and depth and signals the transformation of the entire management and its system [2]. It will be a major turning point for people to liberate physical labor, therefore, focuses on creativity. Hospitality management industry is not outside this circle of influence.

II. EMERGING OPPORTUNITIES IN THE HOTEL INDUSTRY BROUGHT BY THE 4IR

Currently, the main labor force in hospitality enterprises is still human, however, the 4IR has opened a new prospect. At present, in many of the world's hotels, the facade has become the place to convey interesting stories and messages about locals and hotels thanks to lighting technology and, thereby, the facade has improved the efficiency of advertising and interaction with visitors. In addition, the corridors and balconies are not only places to move but are also an exhibition space through the use of electronic screens. The traditional furniture is also gradually being replaced by intelligent furniture to make the most of space. Electric equipment is also centrally managed through push buttons on mobile controls [3]. These new technology applications not only provide the best experience for travelers, but also make hotel management more convenient because all the facilities of the hotel are connected to the system, from opening and closing doors, to automatic controlling of room temperatures, and automated check-in and check-out, that can save human resources, costs and fuel. Meanwhile, the hotel manager also has the opportunity to be exposed to large data sources, analyse the tourist trends and habits of customers to propose promotional strategies. Smart travel trends require that hotels should consider the ability to integrate technology applications in operating and managing hotels and providing the best quality of service, from the design stage [10].

AI will help humans produce functional robots that replace parts of the workforce. Robots will gradually play a major role in simple and physical jobs such as receptionist, housekeeping, porter and kitchen assistant. Currently, in some technology-driven hotels around the world, except for certain higher positions of the organization, a lot of the rest has been replaced by robots and machineries which enable works to be done effortlessly, therefore reduce the cost for recruitment, counseling, screening and training of the human resource.

The 4IR also has a strong impact on the hotel management system. Managing hotels will become easier when all equipment and functions of the hotel are connected to each other. With AI and a smartphone, the hoteliers can regulate the entire operation of the hotel as well as receiving reports and information via online tools. Likewise, hoteliers can take advantage of Big Data to analyze tourism trends, preferable destination and guests’ expectation to have an appropriate...
marketing strategy for each marketplace. This helps the hotel to reduce the amount of labor force, improve service quality, and increase customer experience and satisfaction [10].

III. RISING CHALLENGES FOR THE HUMAN RESOURCE OF THE HOTEL INDUSTRY

The implementation of new technologies affects both employees operation in industry as well as organization. Temporarily, the majority of accommodations in Vietnam are small and medium-sized that have restricted financial capacity, human resources and technologies. Keeping pace with the 4IR is a great challenge for these hoteliers since modernization requires a large investment in technology, equipment and highly qualified personnel [8].

Human resource has been for long not met the demands of the industry. At present, there are 346 tourism-training institutions at all levels in Vietnam. Particularly in Ho Chi Minh City, there are currently 63 tourism training establishments (with 24 universities, 20 colleges and 19 secondary schools) providing about 3,000 employees per year nationwide [3]. This number is inadequate compared to the demand of the industry. According to The Ministry of Culture, Sport and Tourism [8] each year the industry needs about 40,000 employees, but the actual number of students graduating from the field is only about 15,000, more than 12 % of whom have college or university degrees. Therefore, the issue of meeting the tourism human resources in the 4IR to ensure the quality and quantity is quite urgent and problematic.

Moreover, personnel working in the hospitality industry are afraid that robots will take over their workplace; therefore they could lose their job. In fact, some changes in terms of abilities tasks have been observed. Some physical works that can be substituted with robots has already been replaced [1]. In the future, many hotel activities will become automated; many positions in the hotel will not require human interaction [10]. At the workshop “Housekeeping in the Industry 4.0 - Opportunities and challenges” recently held by Vietnam Executive Housekeeper Association (VEHA), the hotel managers and travel experts proposed many solutions, which aim to make the most of the advantages of the opportunities from revolution 4.0, to manage and develop hotels efficiently [3].

As the matter of fact, the structure off the technological model of production has changed from the model: information + knowledge + innovation, corresponding to the knowledge economy, to the model: human intelligence + new information technologies + information + innovation, in the 4IR [4]. In this stage, the creativity of an individual, and the information of human capital are the qualitative basis of the service. Therefore, human capital have significant participation in the work and will undergo a redirection of jobs and learning. This stress the necessary to adapt the education system to the new development requirements of the society since under these new conditions, only the knowledge gained will contribute to the development of 4IR and its safe development [7].

IV. SOLUTIONS FOR IMPROVING THE EFFICIENCY OF HUMAN RESOURCE

Hospitality industry, which is service-related, requires communication, interaction, emotion and creativity in many positions; thus, replacing the human resource with robots is not easy. Robots can be very flexible to check guests into the hotel but cannot make guests feel welcomed with warm smiles and greetings. Robots with mechanical power will do a great job of transporting luggage, but do not have the sophistication of employees to predict and fulfill the guests’ needs being asked. It is not difficult to realize that the current technology cannot replace the position of the competent human resources. Therefore, hotel industry students must equip themselves with the knowledge and skills to avoid being replaced by technology instead, yet master the technology.

A. Education for hospitality industry in the era of IR4

The 4IR has brought many benefits like endless data sources; numerous approaches that are expected to gradually elevate learning activities and proficiency. Since data can be accessed from endless sources, skills become more critical to human resource and need to be included in the training program learning outcomes.

Educational institutes need to comprise the relevant job skills related to the job requirements of the industry such as restaurant skill, front office skill, and guest room attendant skill. In addition, learners need to be equipped with other necessary skills for a new economy including: critical thinking skills - challenge the standards, find different ways to bring more effective solutions, skills in information technology - not only use technology but can quickly adapt to technological changes, interpersonal skills - speak clearly and persuasive creative ideas, the ability to learn - acquire new skills in a timely manner, problem-solving skills - troubleshoot the problem and deal with it, leadership skills - to become a dynamic leader [5].

The workforce is also expected to have a balancing theoretical knowledge with practical learning [2]. In order to do that, educators should be equipped with practical experiences that assist learners to solve each specific case in the work situation. To do this, educational institutions need to promote cooperation with hotel enterprises in researching and training to provide educators with the opportunity of understanding practical business activities. Practical experience therefore can be applied and adjusted in the curriculum for realistic knowledge and experience, yet keeping their academic nature. However, knowledge is dynamic, expanding and constantly changing, learners need to persistently update and take proactive initiative in accumulating knowledge. Therefore, educating people to learn the method and pursue a lifelong learning is the highest goal of education.

The infrastructure for education in 4IR will be raised to a new level. Virtual reality with interactive simulations and simulated exercises have been used to bring real experiences to learners in some countries such as the United Kingdom,
U.S.A and South Korea [4]. In Vietnam, virtual reality has also started to be deployed by some training institutions. In the near future, hospitality institutes are expected to implement these technologies to enhance the ability of experiencing and skill practicing for learners. In addition, training institutions need to heavily invest in hotel operation technologies to help students become familiar with the management software being used at hotels.

However, with extremely rich digital learning resources that enable learners to exploit data at anytime and anywhere, training institutions should utilize online classes to remove the limitation of time, location and high organizational cost. The digital environment allows learners and educators to interact and communicate with each other while supporting software tools to ensure the quality of the course systematically [7]. Most importantly, this system makes education more widely accessible as well as significantly increases transparency for learners. Transformation of the general educational system will result in creating the new generation of young, motivated individuals that capable of coping with challenging working environment once they enter the job market.

B. Life-long education strategies ensures the sustainability of the organization

There are fears of employees about the future impacts of IR4 over job security. According to WEF report [1], less than 5% of jobs comprise of activities that are 100% automatable, while 62% of occupations have at least 30% of automatable tasks. With the spread of robots, technological unemployment will arise, with an exception of some service-related industries. In the long run, however, the human workforce will grow both in quantity and quality. Besides, records from the first three industrial revolutions have proved that industrial revolutions helped to expand the labor force rather than eliminate it [7]; the 4IR is expected to make no different. Modern technologies are not supposed to replace workers but provide the opportunities to change the nature of works. Hoteliers should embrace 4IR to increase the social aspect of the company, connect the employees, make the personnel feel secure about their job security, thus form better social relationship within the organization. Once workers feel useful, secured and worry-free about being replaced by machines, they will have better motivation and inspiration that result in greater achievement.

Nevertheless, the most important step in implementing IR4 is providing the staff with proper and continuous education since the sustainability of any system lies in the collaboration of every individual involved in it. Conjoining automatized system can be done easily with AI; yet the role of human in the process remains vital since they have to ensure the process doesn’t do more harm than benefit.

Jobs will not be lost, yet transformed to some new multifaceted professions. While manual jobs will be likely automatized and simplified, new working positions will demand workers to re-skill and up-skill themselves for more complex task [4]. Human must not only learn how to work, but also learn to communicate in new working environment, apply technology to commute with robots, regulate and enhance their work. In the IR4, human-human, human-robot and robot-robot interaction is crucial to the success [5]. The collaboration between human and robot might be unpleasant at first but eventually will uncover the new fields and circumstances so as to generate best probable outcomes.

However, IR4 as well as any future trend, will make a great impact on the industry, and demand radical changes and implementations. Innovative knowledge and technology should be acknowledged and employed constantly within the organization to diminish any fundamental changes in the future. Minor and continuous alterations make it easier to implement and require lesser investment. Therefore, not only extra tutoring needed but also the new mindset of life-long education has to be comprehended within every organization. This kind of attitude ensures the sustainability of the overall system.

V. CONCLUSIONS

For the past few year, hospitality industry in Viet Nam has prospered unceasingly with a large number of hospitality organizations. It is a service business which intensely depend on human labor. Therefore, human resource quality unquestionably plays a crucial role in the quality of service provided. Entering the era of 4IR, technology is proving to have a profound impact on many areas of socio-economic life, including the hospitality industry. Fear has been elevated amongst the work force that complete automated process might result in losing the jobs, but the reality is entirely opposite. Despite many difficulties, this is a great opportunity for the hospitality industry. Taking advantage of the revolution will make incremental progress that helps hotelier to make a big step in the hospitality industry and customers to experience unmatched services. Resistance to change will create obstacle within the company that might slow or break the transformation process Professor Klaus Schwab, the founder of the concept of IR4, said that the 4.0 Era should be human-centered, and technologies should serve human in sustainable and inclusive ways. Therefore, if workers can prove their role and importance, certain job opportunities will still expand. The threat of losing job should be replaced by the expectation that more new jobs will be created. Educational institutions together with hotel enterprises play a vital role in providing and helping learners gain practical knowledge and skills and update new trends. Finally, the highest purpose of any society is to create an environment that allows the entire community to pursue lifelong learning to survive and contribute to a progressive society through various industrial revolutions.

VI. REFERENCES


