UNIWERSYTET SZCZECIŃSKI
WYDZIAŁ NAUK EKONOMICZNYCH I ZARZĄDZANIA

Studia i Prace WNEiZ US
nr 52/3 2018

PROBLEMY TEORETYCZNE I METODYCZNE

DOI: 10.18276/sip.2018.52/3-12

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EMPLOYEE 4.0 FROM THE COMPETITIVE PERSPECTIVE

Abstract

The purpose of the article is to answer the following research questions: How will the way of work change in the era of the Fourth Industrial Revolution? What are the so-called competences of the future? How can one develop these competencies to ensure the proper quality of human capital for enterprises? The theoretical and practical nature of the article influenced the choice of research methods. In order to carry out the identified purpose such research methods as literature studies were used in combination with scientific reflection.

Keywords: Fourth Industrial Revolution, competencies of the future, HR development methods

Introduction

Management of the future will be characterized by diversity, flexibility and quick responsiveness to the environment. The technological and socio-economic environment is developing very fast, thus new opportunities for management systems are being created (Jamali, 2005, pp. 104–105). The so-called Fourth Industrial

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Revolution is being formed by a range of new technologies and innovations. This Industry has four main characteristics, i.e. vertical networking with individualized production, horizontal integration across countries and continents, through-engineering and acceleration through exponential technologies (Deloitte, 2015).

The world is changing along with the way of work. As a result of the aforementioned transformations a change in the expectations addressed to employees also occurs. The so-called competences of the future are being identified. Analogically, one can talk about an employee 4.0. How will the way of work change in the future? What are the so-called competences of the future? How can one develop these competencies to ensure the proper quality of human capital for enterprises? Answering the above research questions is the purpose of this article.

The theoretical and application oriented type of the article influenced the choice of research methods. In order to carry out the identified purpose such research methods as literature studies combined with scientific reflection were used. The databases accessible at the Wroclaw University of Economics Library was used in order to perform the analysis. The key filter criteria were the presence of the phrases "industry 4.0" or "future work skills" in the article title, abstract or in the list of the key words. The author also used the Google search engine to find business reports about changes in the job market and educational programs introduced in Poland.

1. Job execution in the new era

In the Industrial Revolution 4.0 the initiation of the transformation process is not driven directly by the industry itself. The invention of social networks and intelligent devices used by employees should be considered the primary driving forces (Sekhar, Patwardhan, 2015, pp. 82–93). Continuous organizational changes include the reorganization of business processes, decentralization and a "loosening" of organizational boundaries. These factors result in a redefining of employees' roles and wider scope of the duties performed (Schaper, 2004, p. 194). Due to the occurring demographic changes, the timespan of a worker's professional activity will be prolonged (Fox, O'Connor, 2015).

In the report "Future work skills 2020" one can find the following factors affecting the change of requirements for employees: the increase in using machines

to perform repetitive activities, the world moving towards programmable systems and the environment of new media. In future employees will not be able to perform as many repetitive tasks as they do now. Moreover, the shelf life of specific technological knowledge is becoming increasingly shorter. The situation implies the need to unlearn the specific methods of performing tasks and to learn new ones. The implementation of Internet technology has also led to organizational changes towards virtualization. Employees function as "Tele-employees". The number of cloud computing contracts concluded between employers and freelancers will increase, as well as the possibility to monitor not only work but also other staff activities.

According to M. Castells (2005 cited by Farkas, Török, 2011, pp. 69–70) the future division of labor should be based on a three-dimensional typology:

1. Dimension of value creation. It refers to tasks to be completed within the framework of IT processes as well as to actors performing these tasks (e.g. R&D personnel).
2. Relationship dimension. It refers to skills associated with establishing relationships for occupational purposes.
3. Dimension of decision making. It refers to the position held in the decision making system as well as to one's ability to contribute to the decisions made.

Boston Consulting Group says that by 2025 there will be about 350,000 new professions on the job market (Lorenz, Rüßmann, Strack, Lueth, Bolle, 2015). In turn, by 2033 half of the existing professions will disappear (Ciski, 2017, pp. 44–49). The German Institute for Labor Market Research states that the aforementioned changes will stimulate the demand for high-skilled employees along with a reduction of jobs for people with lower qualifications (Spermann, 2016, pp. 335–346; Weber, 2016).

2. Competencies of the future

Competencies can be grouped into categories, most often divided into knowledge, skills, qualifications and attitudes. In 2009 the project "Foresight of modern economy human resources", commissioned by the Polish Agency for Enterprise Development, was implemented. 70 experts pointed out that new technological solutions will be increasingly frequently developed on the borderline of several disciplines. Spatial mobility and the ability to retrain, information technology skills,

command of foreign languages and functioning in an international team will be required from workers (see: Zadura-Lichota, 2009).

The report "Employers" perception of graduate employability", prepared by the Gallup Organization in 2010, presents the results of research carried out in the form of interviews with recruits from 7,036 enterprises located in 27 EU countries and 4 non-EU ones (The Gallup Organization, 2010, p. 4). The competencies indicated as very important for university graduates – according to the decreasing scale of their importance (from 1 to 5) are as follows: teamwork skills, technical skills, interpersonal communication skills, computer literacy, adaptability and functioning in a new situation and reading/writing skills.

In the report "Future work skills 2020" a list of ten competencies required from employees in the future job market was identified. The list includes the following: cognitive load management, sense-making, transdisciplinarity, cross-cultural competency, social intelligence, novel and adaptive thinking, new media literacy, design mindset, computational thinking and virtual collaboration (Davies, Fidler, Gorbis, 2011).

An analysis of competency requirements, conducted among Polish employers in 2013, showed that employers – regardless of industry sector – presented an extensively range of expectations (especially in the area of self-organization, interpersonal contact and professional, computer and cognitive skills) addressed to candidates for the positions of white-collar workers. From those applying for a blue-collar positions vocational, technical and self-organization skills were required, related to workplace preparation and maintenance (Górniak, 2014, p. 42). In turn, the research conducted in 2014 by the Association for Academic Career Development Centers shows that employee skills most valued by employers include creativity and three types of abilities: adaptability, task completion and teamwork (Stowarzyszenie ABK, 2014).

The results of the latest research conducted in 2017 by the Association of Internet Industry Employers in Poland identified the following qualities among the competencies related to the 4.0 revolution: technological and IT skills or the ability to acquire and analyze information (Kolenda, 2017, pp. 70–73). In turn, according to the report "The Active + The Future of Labor Market" the following competencies are the most important ones – apart from professional knowledge (Lisowska, 2017):

- digital competencies, i.e. the ability to use the Internet and computers,
- assessment of sources' credibility and the ability to use them in a smart way,
- social intelligence, flexibility and openness to change.

The above-mentioned report highlights the fact that in order to stay on the labor market employees will be challenged with combining multiple competencies, including primarily the strategic, business and IT-related ones. A worker capable of using and combining them is already referred to as an e-leader. By 2020 the European Union economy will need a million of such workers (Lisowska, 2017). The employee 4.0 should be a person characterized by continuous learning. At this point it should be mentioned that the concept of "Learning 4.0" is already functioning and pertains to the process of lifelong learning with the help of modern technologies (Spermann, 2016, pp. 335–346).

3. Methods of employee 4.0 competence development

The attempt to acquire competencies desired by employers requires the involvement of many entities. It is the educational system which has a decisive influence on competency development. Due to the fact that a society learns at each stages of its life, all levels of education play a very important role. It is worth emphasizing that, according to regulations of the Ministry of National Education in Poland on the core curriculum among the most important skills to be acquired by a primary school pupil the following should be listed (Rozporządzenie, 2012):

- reading with comprehension and the ability to communicate in one's native and a foreign language,
- mathematical and scientific thinking,
- the ability to use modern information and communication technologies,
- the ability to learn and work in a group.

Thus, at the level of primary education the focus is already on these types of competencies which are referred to as the competencies of an employee 4.0. However, in order to develop the discussed competencies both innovative teaching methods and an appropriate technological foundation are necessary. Meanwhile, schools come across certain deficiencies related to limited training opportunities and inadequately equipped workplaces, for example (Piwowar-Sulej, 2016, pp. 47–59). Poland lacks a unified and internally cohesive educational model. Moreover, Polish universities are not equipped to address the ongoing changes in communication methods in relation to the digital reality (Kolenda, 2017, pp. 70–73).

For the majority of professionally active Poles – according to a representative study carried out in 2015 by Benefit Systems (2015, pp. 8–9) – professional development means upgrading qualifications. However, the same research shows that this dimension of their professional career was reported as the most important for only 4% out of 1,000 respondents. In fact, individual workers should develop their competencies on their own, i.e. through postgraduate studies. In line with the new career model an employee is responsible for developing his/her own professional career.

The results of the report "The Active + The Future of Labor Market" are also surprising. Nearly half of Poles believe that in 10 years they will continue to perform the same tasks as they do now. Poles hope that changes on the job market will not affect them. Only 30% of Poles develop their skills, 20% attend courses and training programs to upgrade their professional competencies. Labor market analysts are already aware of the gap between employees' skills and employers' requirements (Lisowska, 2017).

In the age of digitization, getting an attractive position on the labor market depends on well-developed digital competencies. In this respect Poles are still behind other Europeans. One in five Poles has never used the Internet and only 39% use a computer at work, whereas in the European Union this percentage amounts to 50% on average. Only 13% of Poles broaden their knowledge in terms of new technologies (Lisowska, 2017).

Finally, it is important that competencies are developed in the workplace. Practical information technology training is gaining importance, along with coaching. It is estimated that return on investment in coaching amounts to 545% (McGovern et al., 2006, pp. 1–9). Currently, in Poland, coaches function predominantly in the world of business, where they are employed for the needs of senior management staff. In the future, due to the increasingly complicated work relationships and the growing pressure of competition, the profession of a coach may become widely popular (Zadura-Lichota, 2009).

At this point it is worth emphasizing that the growing knowledge resources – which are not easily absorbed – new business models, a new working style and the general social pressure to carry out a policy of lifelong learning present the potential to create a substantial labor market for various types of employee "caretakers" – starting from traditional coaches and trainers – who will add "e-" or "tele-" to their

job titles, and ending with the popularization of personal coaches and psychologists, also available in the "tele-" version (Zadura-Lichota, 2009).

Conclusions

The presented article discusses transformations occurring in the modern economic reality. They are mainly related to the Fourth Industrial Revolution which is associated with an enormous technological progress. It discussed the changes occurring in working methods and the related requirements from employees. Summing up the review of the subject literature on the competencies of the future it can be concluded that digital competencies and soft skills will be among the most important ones.

At the same time, the latest research points to a certain laziness among Poles regarding the development of new competences. Employers may be optimistic about the fact that the representatives of Generation C, those – born after 1990, also referred to as "always on" – are entering the labor market. The term "C" originates from the English word "connected", meaning always being linked or being in constant contact. This name reflects the role the Internet plays in the life of Generation C. The other words to which the name refers are as follows: communicating, content-centric, computerized, community-oriented, always clicking and change (Wojtaszczyk, 2013, p. 23). Cloud computing will remain a natural form of work for Generation C.

The article focuses on appropriate school education and workplace training. It is worth developing not only these competencies which are indispensable for an employee 4.0, but also the awareness of the continuous changes in the socio-economic environment. Currently, there are many challenges to be faced by the education and training sector.

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PRACOWNIK 4.0 Z PERSPEKTYWY KOMPETENCJI

Streszczenie

Celem artykułu jest udzielenie odpowiedzi na następujące pytania badawcze: Jak w erze czwartej rewolucji przemysłowej zmieni się sposób pracy? Czym są tzw. kompetencje przyszłości? Jak rozwijać te kompetencje, by zagwarantować przedsiębiorstwom odpowiedniej jakości kapitał ludzki? Teoretyczno-aplikacyjny charakter artykułu wpłynął na dobór metod badawczych. Dla realizacji wskazanego celu wykorzystano takie metody badawcze, jak studia literaturowe połączone z refleksją naukową.

Słowa kluczowe: czwarta rewolucja przemysłowa, kompetencje przyszłości, metody rozwoju personelu

Kody JEL: E24, M12, M53