

IMPORTANCE OF SOCIAL COMPETENCIES BETWEEN INDUSTRY 4.0 AND 5.0 – WHERE ARE WE?

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Abstract: The development of science and technology has conditioned the need for the development of numerous social competencies that would maintain and improve technological progress and development. The increase in knowledge and the flow of information also contributed to the expansion of social skills and abilities, which, in order to have a purpose, must be turned into competencies, that is, ways in which existing knowledge can be used in the most optimal way and turned into new value. This paper analyzes the necessity for social competencies of employees, as well as the possibilities of their development in new business conditions. Also, authors seek answers to the question of whether educational processes sufficiently develop the social competences of students, that would be useful for both business success and private well-being. Current position of social sciences in our society, and therefore in education, is not sufficiently developmental, and the preparation for Industry 5.0 will imply new approaches to educational processes, with equal participation of social science disciplines, especially in higher education.

Key Words: social competencies, Industry 4.0, Industry 5.0, work, employees

1. INTRODUCTION

Industry 4.0 refers to the increasing digitization and the present trend of automation and data exchange in manufacturing technologies, ad hoc networking between intelligent machines, production facilities, components as well as storage and transportation systems via the Internet to form powerful value networks. Industry 4.0 is the way to the future, based on enhancing automation with big data collection and real-time connectivity that will impact all sectors of modern life. Although Industry 3.0 already brought significant changes in required skills and competencies of employees, Industry 4.0 posted new demands, especially for social competencies in working environment. Expected global uncertainty in the working market impacted particularly the countries where the extra vulnerability due to transitional process exists.

When it comes to the future, the story of Industry 5.0 cannot be avoided. Industry 4.0 largely dominates the present developed societies, with its patterns of work and life in general. Industry 4.0 is focused on "smart" technology and production, while Industry 5.0 emphasizes the importance of human participation, in order to create ideas and enable change, in the sense of "rehumanizing" automation. The initial idea of Industry 5.0 was created in 2015, in the article "INDUSTRY 5.0 - from virtual to physical" [1]. The author of the named text believed that after the implementation of the Industry 4.0 concept, total automation will occur, in which human species will be redundant, and that there will be a complete dehumanization of the work process. Industry 5.0 is about bringing back people and the human influence in production, and about increasing collaboration and connectivity between people and smart systems, with the goal of long-term success. It is not against automation, but emphasizes the intelligent use of automation, advancing the roles of both humans and machines. Concept of Industry 5.0 states that the future is about creating a harmonious relationship between humans and machines and enabling them to work better together (rather than separately), to build more successful businesses in the long term. Critics of this thesis about Industry 5.0 nevertheless claim that it is neither a technical nor a developmental continuation of Industry 4.0, and especially not a new fifth industrial revolution, but rather represents a practical and relatively cheap solution to the problem of work in production, which is primarily intended for areas of work in which there is no cost-effectively introduction of a higher level of automation. It helps to solve the personalization of products, which are always individual, and often require creativity and skill of people. In this context, critics believe that it was pretentious to introduce the name Industry 5.0, which suggests that it is a new higher step forward in the sphere of society, or a continuation of Industry 4.0 [2]. Nevertheless, the idea of Industry 5.0 endured the mentioned challenges, and as its main idea states, it brought back human in the center.

When there is human narrative, there must be a word or two about society, since many people wanted to bring the human, social and environmental dimensions back into the equation. They felt this wasn't the case in Industry 4.0 and initially mainly focused on the human touch. Therefore, the importance of social competencies in the Industry 5.0 will be the topic for future research.

2. SOCIAL COMPETENCIES AS COMPELLING ARGUMENT FOR INDUSTRY 5.0

Social competencies refer to the use of knowledge, skills and abilities in creating and maintaining quality and successful interpersonal relationships [3]. The ability to maintain mutual relations largely represents a set of skills of understanding other people's mental characteristics-intellectual, ethical and emotional performance, which all are the basis of quality functioning in a changing environment. Social competencies are characteristics of the individual that relate primarily to empathy, social sensitivity, tolerance of other people's attitudes, spontaneity, independence, ability to communicate, openness, tolerance to conflict situations [4]. Technical competencies related to the performance of work are the basis of successful work, but they are not sufficient for changing business conditions in which social competencies are also very important. For example, engineers, with their technical competencies, are the leaders of modern industrial revolutions, but it is noticed that there is a significant discrepancy between their expert knowledge and social competencies in changing working conditions [5].

In the Industry 5.0, social competencies that will be specially developed are the competencies of cooperation, conflict prevention, decision making and prosocial behavior with an emphasis on uncertain business conditions. Cooperativeness is a prosocial behavior that is manifested through the willingness to cooperate, and also through tolerance and willingness to respect different opinions from one's own, by offering assistance during the work process, as well as through awareness of the common goal that can be achieved. The attitude towards conflicts is a part of social and personal competencies that is manifested through readiness for constructive conflict and prevention of destructive conflict, as well as tolerance to situations that induce conflicts, such as risky situations. Quality decision-making in risk conditions is a prerequisite for overcoming problems and developing work processes. Knowledge of the ways and styles of decision making by engineers in uncertain conditions is an essential competence in work processes. Prosocial behavior is a form of social behavior that is based on helping others and moral support, empathy and altruism, with the goal of benefiting the community and individuals in it.

The development of social competencies is closely related to advancement of different social components, that can contribute to the ability to share knowledge, information, time, and context in a proper way, from the perspective of humanism, economics, social relations, and legal frameworks. The role of social components primarily reflects in improved communication, better interpersonal relations, and easier use of professional competencies in the business environment. Expected outcomes include an increase in social components, such as systems, rules, programs, instructions, manuals, concepts, and anything else that contributes to development. Modern business conditions put new demands on employees to improve work performance and results. Due to constant market and environmental changes, the adopted professional identity profile may quickly become outdated, which creates the need to revise it, and sometimes the need to develop a completely different model.

The basic precondition for accepting the new requirements of work in both 4.0 and 5.0 Industry is the preparation and development of employees and future employees for new aspects of business that require new competencies. Within the global trends of industry development in the world, Industry 4.0 has an unavoidable role, which is also one of the priority areas in the adopted strategy of smart specialization of the Republic of Serbia, with approved programs of Long Life Learning in Serbia and competencies within the following standards: SRPS ISO 10018:2013 and SRPS ISO 14001: 2015. Social competencies are of great importance in conditions of increased uncertainty when there are no surroundings for complete information, due to the effects of negative tendencies, elements of chance, but also objective events in the direction of negative changes.

Constant and accelerated changes in the business sphere also require changes in employees who are expected to respond adequately and contribute to the development of the system. In business conditions where there is no knowledge of the outcome, or an assumption of the degree of risk, such as the probability of a favorable outcome, the conditions are considered uncertain. Negative changes can also occur as a socially constructed category, which arises on the basis of non-fulfillment of certain value components in a certain business and also contributes to general uncertainty. Education does not offer the development of personal competencies at the required level, especially in the engineering professions.

The higher education system should certainly emphasize the following social competencies: pro-social behavior, eagerness to accept responsibility for one's own life, communication and openness, willingness to work in a team, acceptance of dissimilarity, democratic discussion, tolerance for diversity, etc.

Educational processes in new business conditions should be aimed at constant improvement that would keep up with the developments in science and technology, as well as providing methods and techniques for education that would guide the creation of opportunities for adding value in business processes. Industry 5.0 will imply the existence of capacity for growth and development, the foundations of which are formed during earlier stages of education. Also, the development of a value system that focuses on the creation and development of social competencies would improve internal motivation and strengthen sociocultural mental states. The basic precondition for accepting new work requirements is the preparation and development of students for new aspects of business, including the establishment of coherent social competencies. Higher education involves the development of a wide range of knowledge, skills, and competencies that shape and enable a particular profession. A number of influencing factors of a modern occupation is not possible without the development of certain social components of business behavior.

The most important social competencies, which require special attention in the educational process, are:

- The ability to communicate clearly - problems in communication often cause issues at work, conflicts, and demotivation;
- Sincerity - an individual who has learned to communicate in accordance with their thoughts and feelings will have simpler communication with other people;
- Enthusiasm in cooperation with other people - constructive and positive energy expressed through ideas, emotions, behavior, and communication style;
- Optimism is a trait that develops and is learned, and often contributes to noticing favorable opportunities for achieving goals;
- Self-confidence - self-confident people understand and respect their own needs and rights, but also respect the needs and rights of other people. Their communication is calm, honest, direct, and positive, and they are willing to help others selflessly, as they do not see others as personal competitors;
- Openness to new ideas and changes is an essential characteristic of development;
- Consistency - if something is said, it must be done, and in social frameworks it is the basis for establishing trust and understanding;
- Empathy - the willingness to understand the feelings of others and understand other people's needs, which facilitates the creation of desirable social frameworks;
- The ability to listen - a skill that is easier to learn than some others, and is important for the quality of communication;
- Wit - represents a cohesive fabric in social relations, and it is learned, and can contribute to the development of both groups and individuals;
- Creativity – finding new, creative solutions or finding creative, unusual ways to solve problems, as well as the ability to communicate with others in a creative and clear way creates developmental social frameworks;
- Tolerance to diversity and tolerance to failure – rigidity in thinking and behavior is a consequence of personal insufficient psychological development dominated by fear and negative motives. Therefore, it is extremely important to develop tolerance, which is developed and exhibited only in the presence of others;
- Responsibility towards oneself and others-represents the basis of quality interpersonal relationships. Personal and collective irresponsibility often reflects immaturity in personality, but also the underdevelopment of social competences.

The essential advantage of social competences is reflected in the numerous outcomes they contribute to on a business and personal level. Since all listed social competences are learned and developed, educational processes should use new methods of working with students that would create benefits both socially and professionally.

3. CONCLUSION

The fact certainly remains that the necessity of lifelong learning, as one of the imperatives of Industry 5.0, is a reality priority. There are proposals in developed countries, to allow current students, after graduation, to return to college in 10-15 years, based on the principle of vouchers, in order to acquire new knowledge. The new knowledge that will be needed in the twenty-first century starts from digital literacy, skills and knowledge about communication with humans and robots, through different platforms and technologies, up to solutions of multidimensional real problems in work processes so that risk and safety analyzes can be carried out at the best the way. For example, the jobs of a digital mentor would entail knowledge about both human and society (e.g. anthropology, sociology, philosophy and psychology), along with knowledge about technologies. According to research by the US Department of Labor, in the next 10 to 20 years, the most popular jobs will be in the field of medicine and technological innovation. In recent years, approaches to economy and business from the aspect of neuroeconomic, neuromarketing and bioethical scientific achievements have been rapidly developing [6]. Digitization of society in which personal contact is decreasing, but in which personal influence is also decreasing, should also include work on increasing digital capabilities and ethical aspects of digital communication, so to speak - digital competencies. Digital competencies are focused on the responsible and safe use of digital technologies for work and leisure. But it is not just about information literacy with digital competencies. It is primarily about readiness for cooperation, openness to new things, speed and dexterity in solving problems and understanding the relationships that exist in society with, without or despite - digital technologies.

Industry 5.0 has started with AI-based systems taking over repetitive tasks, allowing individuals to focus on more valuable and productive tasks. Although it is still in its initial stages, many companies are still prioritizing Industry 4.0. However, this is expected to shift as more businesses align with the objectives of Industry 5.0 [7]. The future of Industry 5.0 entails the production of robots, including industrial robots, with enhanced AI and cognitive computing technologies to enhance efficiency and speed up delivery, while also allowing individuals and society to focus on other areas.

4. REFERENCES

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