COVID-19 Influence and Future Perspectives of Artificial Intelligence on the Labour Market

Victor-Alexandru BRICIU[1],
Arabela BRICIU[2]

[1] Lecturer, PhD, Transilvania University of Brasov, Brasov, Romania,
victor.briciu@unitbv.ro

[2] Lecturer, PhD, Transilvania University of Brasov, Brasov, Romania,
arabela.baican@unitbv.ro

Abstract: *The objective of this short communication is suggested by the labour market that has become very unpredictable and it is difficult to say what it will look like in five, 10 years or even more. New jobs appear, while others disappear. And all this is happening against a background in which Artificial Intelligence (AI) plays an increasingly important role and it would be very difficult for us to imagine our lives without it, especially since robots save lives today. Technology has become a necessity, many jobs have changed due to robotics, and we must evolve and adapt with it, even though the new rules that came with the onset of restrictions and mutations in the labour market due to the new coronavirus pandemic that spread worldwide. The main idea reflects the possibilities reflected by the Singularity Hypothesis, as new intelligent technologies may alter our human lives and eliminate some jobs, change others and create completely new job categories, but as long as we know the opportunities are there for us, we need to be proactive by providing the skills for the future.*

Keywords: *labour market; future jobs; Covid-19 Influence; Artificial Intelligence; skills; Singularity Hypothesis.*

1. Introduction

"What do you want to do when you grow up?" - We all heard this question as a child and if then we answered without too much hesitation, later we start to think differently about our future career. We discover (at some point) our true values, passions and then we can think of a job that represents us. However, new technologies are developing rapidly. This is already discussed using philosophical, sociological or anthropological arguments (Popoveniuc, 2016) in regard to what the Singularity Hypothesis predicts: "an era completely different from the previous ones – in fact, a phase that in some sense may be regarded as a post-human one. Machines superior to any human intellect could then evolve (while surpassing man) at a pace which would mean a veritable explosion of intelligence, leading to a Singularity, a major discontinuity in the evolution of human civilisation and even a transformation of our species" (Nagâț, 2014, p.79). This is seen as the moment of the emergence of self-aware artificial intelligence, whose computing capacity exceeds the human power (Popoveniuc, 2016). Connectivity, smart cars and new media influence our daily lives and, implicitly, the way we work. The labor market has also become very unpredictable and it is difficult to say what it will look like in five, 10 years or even more. New jobs appear, while others disappear. And all this is happening against a background in which Artificial Intelligence (AI) plays an increasingly important role in the field of current discussions with an emphasis on the technology of AI and technological singularity (Popoveniuc, 2016) and it would be very difficult for us to imagine our lives without it, especially since robots save lives today. In medicine, the robot's hand is much more precise, it does not tremble, in the army there are robots that save people's lives by defusing bombs, as well as they can end lives. We also see smart homes, autonomous cars, drones, social robots, etc. We live in a permanent change. All this is becoming part of society, simplifying our lives more and more. Technology has become a necessity, many jobs have changed due to robotics, and we must evolve and adapt with it, even though the new rules that came with the onset of restrictions and mutations in the labor market due to the new coronavirus pandemic (COVID-19), which "was first reported in Wuhan, China and spread rapidly worldwide through human-to-human transmission" (Wen et al., 2020, p. 1). It is important to say that "this is not the first time a coronavirus has taken the public health community by surprise. Most will remember the severe acute respiratory syndrome (SARS) coronavirus outbreak of the early 2000s" (Jamal & Budke, 2020, p. 182). So far we know that Coronavirus 2019 (COVID-19) "is an infectious disease caused by

severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)" (Bakar & Rosbi, 2020, p. 189). The rate at which the COVID-19 virus was transmitted caused it to reach the globe, with Europe soon becoming "the epicenter of the pandemic, but has since been overtaken by the United States" (Johns Hopkins University, 2020; Wen et al., 2020, p. 1). COVID-19 is spread mainly through contact with an infected person when they cough or sneeze, or "when a person touches a surface or object that has the virus on it, then touches their eyes, nose or mouth. COVID-19 virus can live up to 72 hours" (Bakar & Rosbi, 2020, p. 189). As COVID-19 becomes more and more widespread, scientists are working hard to prevent and control this spread of the virus. Different areas of specialization and "professionals in these sciences are facing great public pressure to research and develop vaccinations and medications to save lives" (Wen et al., 2020, p. 1). It is during this period of acute pressure that several factors seem to be decisive along with climate change and global health emergencies: Artificial Intelligence and the reconfiguration of the labour market.

2. The Economic Fields in which AI is Present

As Wisskirchen et al. (2017) argue there are two types of AI: Weak AI or Narrow AI, in which "The computer is merely an instrument for investigating cognitive processes - the computer simulates intelligence" (Wisskirchen et al., 2017, p. 10). It does not have our ability to evolve; it always remains at the same stage at which he was programmed. It does not have the ability to learn from itself or from other robots, it is just a code that simulates intelligence; Strong AI, through which the computer has the ability of "self-learning processes (Wisskirchen et al., 2017, p. 10). But AI can not only be classified by main types, it can also be classified by functionality (Chethan Kumar, 2018). In general, AI can be divided, from an economic point of view, into several categories (Dettmer et al., 2016; Wisskirchen et al., 2017, pp. 10-11): (1) Deep learning - For humans, machines are less likely to make mistakes. They are capable, just like people, of noticing a mistake and avoiding it. If we get tired, we can work a few hours and then we have to rest, the machines can work non-stop; (2) Robotisation - Robots do not need rest and do not have to be paid overtime. Given that they do not get tired, they are not as prone to mistakes as we are; (3) Dematerialization - Moving things from physical format to another format, and standalone software will collect the necessary information and send it to employees who need it; (4) Autonomous driving - Vehicles have the ability to govern themselves through sensors and navigate alone without human action, so some current jobs will disappear and most likely others will appear instead;

(5) Gig economy - including two types of work: "crowdworking" and "work on-demand via apps", by means of structured networking applications and platforms. "There are more and more independent contractors for individual tasks that companies advertise on online platforms (eg, 'Amazon Mechanical Turk'). Traditional employment relationships are becoming less common. Many workers are performing different jobs for different clients" (Wisskirchen et al., 2017, p. 11). Thus, it can be argued in the light of the Singularity Hypothesis that „the non-biological species capable of self-awareness will be able to dethrone the human from his claims of being a thinking reed, placing him in the position of a demiurge, overthrown by his own creation" (Sandu, 2016, p. 182).

3. The Future of Jobs and the Applicability of AI

When we discuss the job predictions or the future of jobs, these concepts may be misunderstood; it would be better to analyze the work skills we will use in the future: skills and abilities for future jobs. Global connectivity, smart cars, AI and new media are some of the things that will change the way we think about work or what constitutes work and the skills we will need to be productive in the future. Barbara Stöttinger, Dean of the WU Executive Academy, part of the University of Economics and Business in Vienna, talks about how AI will affect the labour market. She believes that AI will have a significant impact on our lives, our jobs, but it will not go over all hierarchies. From a medical point of view, no one would want a computer to talk to a patient about a serious problem; it will still need a human for this job. As a human being, you have to use more senses, not just thinking. "I think that at this moment, this is the reason why artificial intelligence will not replace us so quickly" (Olteanu, 2019). Therefore, the human factor has an important role in today's medicine but also in the medicine of the future. We are social beings, so we need to communicate with other people. Interpersonal relationships will be necessary in the future because robots cannot interrogate with the same warmth with which a doctor can do it. On the other hand, technology is a step forward due to their indisputable abilities. The human brain cannot store as much information as a computer is capable of. If in Silicon Valley technology is advancing at an astonishing pace and all the inhabitants are enjoying this phenomenon, in Europe things are different. In a recent study (Rubio & Lastra, 2019) that "explores how citizens of eight European countries feel about the technological transformations that are unfolding in their cities and workplaces and how they think their governments should deal with them"

(Rubio & Lastra, 2019, p. 8), when asked if they are worried or excited about the evolution of technology, it is observed that 56% of Europeans are somewhat worried about a future in which robots will perform most of the tasks of the labour market (Rubio & Lastra, 2019). In many areas automation has already taken place, and in many others it follows. However, although people believe that technology has taken our jobs, technology has created more input than it has taken out. Even if we see human job reductions in sectors such as agriculture, manufacturing, many have been created in other areas that require creativity or in the fields of health, technology, or business (Stewart et al., 2019). Thus, the representatives of the Institute for the Future, an independent research organization, analyze current trends to find out how global society will evolve (Davies et al., 2011). Researchers of the Institute for the Future conducted a study regarding the changes that have already begun to occur in society and will have a substantial impact on the organization and functioning of the labor market in the future. Researchers have come up with a set of six indicators of change for 2020, called "drivers of change": (1) Extreme longevity; (2) Rise of smart machines and systems; (3) Computational world; (4) New media ecology; (5) Superstructed organizations; (6) Globally connected world. This new paradigm of "drivers of change" will also have an impact on a social level, leading to the discovery of new models and relationships that have not yet been discovered (Briciu & Briciu, 2020). For much more detailed information see Davies et al. (2011, pp. 3-5).

Based on these indicators, a set of 10 skills resulted, which will be sought in the future on the labor market to answer the question at the beginning of the discussion: what does the employee of the future look like? Is it creative, sociable or focused on career advancement? These, according to the authors (Davies et al., 2011) are: (1) Sense-making; (2) Social intelligence; (3) Novel and adaptive thinking; (4) Cross-cultural competency; (5) Computational thinking; (6) New media literacy; (7) Transdisciplinarity; (8) Design mindset; (9) Cognitive load; (10) Virtual collaboration. In-depth descriptions of these 10 skills can be obtained further from Davies et al. (2011, pp. 8-12).

We can deduct from this that the future human resources will continue to be focused on teamwork or virtual collaboration, as 2020 demonstrated to be a viable continuation of human work in spite of COVID-19 virus pandemic, and expectations regarding employee skills will be closely related to the use of social media in general and those applications defined by AI, in special.

4. Conclusions

AI is a social phenomenon today, it is entering our lives more and more, and this phenomenon should be studied from the perspective of multiple disciplines. AI is very similar to a human. It can learn from the outside environment, it can adapt, it has decision-making power, it can write its own programs, and so it can program other robots. "AI is a smart digital system that learns on its own, develops its own search and learning systems, can even have its own language (without being understood by people), develops artificial neural networks on its own, can write its own programs, but most importantly, it has decision-making power. Depending on the knowledge it has, it can decide the actions it does or does not do, being able to predict their result" (Georgescu, 2018, p. 14).

In conclusion, the new technology will eliminate some jobs, change others and create completely new job categories, but as long as we know the opportunities are there for us – humans – we need to be proactive by providing the skills for the future: from empathy to leadership, from critical and analytical thinking to a better understanding of cultural differences and start to "develop international competence, become globally aware of opportunities and threats and develop strategic knowledge of the global marketplace" (Briciu et al, 2020, p. 24). After all, discussing this possible outcome and it's philosophical potential, we can agree with the point of view that "artificial intelligence will, however, be able to place humanity on an infinite path, for example of cosmo-humanity, of artificial immortality through the digitization of consciousness and the infinite possibilities of communication, correlated with the virtualization of the social space" (Sandu, 2016, p. 182).

References

Bakar, N. A., & Rosbi, S. (2020). Effect of Coronavirus disease (COVID-19) to tourism industry. *International Journal of Advanced Engineering Research and Science, 7,* 189-193. https://dx.doi.org/10.22161/ijaers.74.23

Briciu, V-A., & Briciu, A. (2020). Social Media and Organizational Communication. In D.B.A. Mehdi Khosrow-Pour (Ed.), *Encyclopedia of Organizational Knowledge, Administration, and Technology*, Forthcoming title (Chapter 180). IGI Global. https://doi.org/10.4018/978-1-7998-3473-1

Briciu, V.-A., Mircea, I.-A., & Briciu, A. (2020) Communication and Entrepreneurship in Romania: Dissimulation of First Impression in 30 Seconds. In A. Masouras, G. Maris & A. Kavoura (Eds.), *Entrepreneurial*

Development and Innovation in Family Businesses and SMEs (Chapter 2, pp. 22-38). IGI Global. https://doi.org/10.4018/978-1-7998-3648-3.ch002

Chethan Kumar, G. N. (2018). Artificial Intelligence: Definition, Types, Examples, Technologies. *Medium*. https://medium.com/@chethankumargn/artificial-intelligence-definition-types-examples-technologies-962ea75c7b9b

Davies, A., Fidler, D., & Gorbis, M. (2011). *Future Work Skills 2020*. Institute for the Future for the University of Phoenix Research Institute. *IFTF*. http://www.iftf.org/uploads/media/SR1382A_UPRI_future_work_skills_sm.pdf

Dettmer, M., Hesse, M., Jung, A., Müller, M.A., & Schulz, T. (2016). Mensch gegen Maschine. *Der Spiegel, 36*, 10-18.

Georgescu, L. (2018). Inteligenţa artificială şi impactul ei în societate, mai ales în ce priveşte locurile de muncă. *Revista Română de Dreptul Muncii*, *2*, 13-30.

Jamal, T. & Budke, C. (2020). Tourism in a world with pandemics: local-global responsibility and action. *Journal of Tourism Futures, 6*(2), 181-188. https://doi.org/10.1108/JTF-02-2020-0014

Johns Hopkins University. (2020). COVID-19 Dashboard by the Center for Systems Science and Engineering (CSSE). *Coronavirus Resource Center*. https://coronavirus.jhu.edu/map.html?mod=article_inlinehttps://coronavirus.jhu.edu/map.html?mod=article_inline

Nagâţ, G. (2014). Consideraţii filosofice asupra ipotezei singularităţii. *Noema*, *13*, 79-90.

Olteanu, A. (2019, Martie 10). De ce nu va inlocui inteligenta artificiala oamenii? Argumentele decanei WU Executive Academy. *Wall-Street*. https://www.wall-street.ro/articol/Careers/239280/de-ce-nu-va-inlocui-inteligenta-artificiala-oamenii-argumentele-decanei-wu-executive-academy.html

Popoveniuc, B. (2016). *Filosofia singularităţii. Creierul global, o etică a gândirii fără om*. Eikon Publishing.

Rubio, D., & Lastra, C. (2019). *European Tech Insights 2019*. Center for the Governance of Change.

Sandu, A. (2016). About Singularity | Book Review for the volume "Filosofia singularitatii. Creierul global, o etica a gandirii fara om", author Bogdan Popoveniuc, Eikon Publishing, Bucharest, Romania. *Postmodern Openings, 7*(2), 181-183. http://dx.doi.org/10.18662/po/2016.0702.12

Stewart, I., De, D., & Cole, A. (2015). Technology and people: The great job-creating machine. *Deloitte*.

https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/finan
ce/deloitte-uk-technology-and-people.pdf

Wen, J., Wang, W., Kozak, M., Liu, X., & Hou, H. (2020, May 13). Many brains are
better than one: the importance of interdisciplinary studies on COVID-19
in and beyond tourism. *Tourism Recreation Research*.
https://doi.org/10.1080/02508281.2020.1761120

Wisskirchen, G., Thibault-Biacabe, B., Bormann, U., Muntz, A., Niehaus, G.,
Jiménez Soler, G., & Von Brauchitsch, B. (2017). Artificial Intelligence and
Robotics and Their Impact on the Workplace. *IBA Global Employment
Institute.*
https://www.ibanet.org/Document/Default.aspx?DocumentUid=c06aa1a
3-d355-4866-beda-9a3a8779ba6e