

THE WORKFORCE FIELD CHALLENGES IN THE LIGHT OF THE NEW DEVELOPMENTS OF AI

Roxana MATEFI¹

Abstract: *Artificial intelligence and its development continue to be some hot topics nowadays due to the continuous challenges that they involve. While many are fascinated by AI's accelerated pace of development and embrace the new technologies wholeheartedly, others seem to be more resistant and reluctant and tend to concentrate mainly on its disadvantages. This article deals with the challenges faced by the European workforce field in the context of the increasing developments of AI.*

Key words: *workforce field, AI, challenges.*

1. Introduction

When analysing the concept of Artificial Intelligence, the main question that we need to address is “What is AI”? This question is a fundamental one, with complex answers, considering that AI is used nowadays in so many contexts.

Although the concept of Artificial Intelligence is often analysed in opposition with that of Human Intelligence, some authors argue that “the definition of intelligence as artificial, as opposed to human is not really a significant or determining element”(Robles Carrillo, 2020, p.8, <https://www.sciencedirect.com/science/article/pii/S030859612030029X#section-cited-by>), since on the one hand intelligence is not a quality attributed only to human beings (Robles Carrillo, 2020, p.8, <https://www.sciencedirect.com/science/article/pii/S030859612030029X#section-cited-by>) and on the other hand the human condition is not exclusively determined by intelligence (Boddington, 2017, p. 86).

Artificial Intelligence has various functions which have evolved over the last one hundred years, from all computing to machines that are aware of themselves or can think for themselves if we want to point out the two extremes of the AI spectrum. But between the two above-mentioned extremes there is a wide range and what we generally refer to as Artificial Intelligence nowadays is the cognitive aspects of machines.

The Cambridge Dictionary defines the Artificial Intelligence as “the use or study of computer systems or machines that have some of the qualities that the human brain has, such as the ability to interpret and produce language in a way that seems human,

¹ *Transilvania* University of Braşov, roxana.matefi@unitbv.ro, corresponding author

recognize or create images, solve problems, and learn from data supplied to them“ (<https://dictionary.cambridge.org/dictionary/english/ai>), while Encyclopaedia Britannica defines it as “the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings. The term is frequently applied to the project of developing systems endowed with the intellectual processes characteristic of humans, such as the ability to reason, discover meaning, generalize, or learn from past experience” (<https://www.britannica.com/technology/artificial-intelligence>).

The European Commission’s High Level Expert Group on AI proposed the following definition of AI: “Artificial intelligence (AI) refers to systems designed by humans that, given a complex goal, act in the physical or digital world by perceiving their environment, interpreting the collected structured or unstructured data, reasoning on the knowledge derived from this data and deciding the best action(s) to take (according to pre-defined parameters) to achieve the given goal. AI systems can also be designed to learn to adapt their behaviour by analyzing how the environment is affected by their previous actions.” (https://ec.europa.eu/futurium/en/system/files/ged/ai_hleg_definition_of_ai_18_december_1.pdf).

2. AI developments

AI is largely used in various domains, both in the private and public sector. We can mention just a few examples, like the medical sector in research, diagnosis or treatment, public administration, the banking sector, voice assistants (like Alexa or Siri), voice, image or face recognition, chat bots, autonomous vehicles, applicant tracking systems or even in the beauty industry.

The above-mentioned voice assistants became so popular that according to a survey undertaken by Pew Research Centre in 2017, by that time 46% of American adults affirmed they used voice controlled digital assistants on smartphones (42%), on computer or tablets (14%), on stand-alone devices (8%), and other devices (3%). This kind of devices was more popular among Americans between 18 – 49 years old, while the percentage decreased to 37% in case of the Americans aged 50 or over. According to the same survey, the main reasons Americans use the voice-controlled digital assistants were the possibility to interact with the devices without using their hands (55%), for fun (23%), because spoken language feels more natural than typing (22%), because it’s easier for children to use them (14%) (<https://www.pewresearch.org/short-reads/2017/12/12/nearly-half-of-americans-use-digital-voice-assistants-mostly-on-their-smartphones/>).

3. The Workforce in the New Context of AI. The Fear of Losing one’s Job to a Robot

Nowadays Artificial Intelligence is largely used to replace labour intensive activities, for instance we use robots to lift heavy objects, or to paint automobiles, or to manufacture.

Those robots have become more and more sophisticated, and they can immediately react every time they notice an interruption or a change in their routine. AI is also used in activities where a high accuracy is necessary or where large amounts of data need to

be analysed, such as tracking in real time of a large number of people or activities.

There are also activities which are not possible for humans like lifting heavy objects, or activities that cannot be done so quickly or so well by humans, where AI is also used intensively.

The workforce in the new context of AI became a subject of huge interest since many live with the fear of losing their lifetime jobs to a robot, of being taught by one in schools or universities or of being judged by one in Court.

If a few years ago we could hardly imagine such a perspective, now it is starting to become a reality. The novelty of this rapidly changing new environment brings along plenty of anxiety, since we seem to lack the instruments to deal with it and to adapt to this new reality.

The starting point of this analysis was the joint study undertaken by the US and European Commission on the “impact of AI on the future of our workforces, with attention to outcomes in employment, wages and the dispersion of labour market opportunities” (<https://digital-strategy.ec.europa.eu/en/library/impact-artificial-intelligence-future-workforces-eu-and-us>). The interest for this study was expressed during the US-EU Trade and Technology Council in late September 2021.

When we consider AI applications in the working field, we need to consider both its advantages and the disadvantages. On one hand, “AI is a fast-evolving technology with great potential to make workers more productive, to make firms more efficient, and to spur innovations in new products and services”, but on the other hand it can also be used to “automate existing jobs and exacerbate inequality, and it can lead to discrimination against workers” (<https://digital-strategy.ec.europa.eu/en/library/impact-artificial-intelligence-future-workforces-eu-and-us>).

Like any other tool with a potential harmful effect, this technology requires special attention while applying it, as it can lead to irreparable damage.

The above-mentioned study emphasizes four major downsides of AI for workers, respectively:

- “1. Job losses as it could lead to increased unemployment as machines begin to replace human workers in a variety of industries.
2. Inequality as it could exacerbate existing economic inequality as the benefits of AI technology disproportionately accrue to those who are already wealthy and have access to the best resources.
3. Security risks as it could create new security risks as malicious actors begin to use AI technology for malicious purposes.
4. Ethical concerns as AI technology increasingly begins to impact our human lives in ways that we may not be comfortable with”.

4. Is the use of Artificial Intelligence leading to job losses?

The answer to this question is not an easy one, since many admit nowadays that “AI could be used either to replace or complement what workers do” (<https://www.pewresearch.org/social-trends/2023/07/26/which-u-s-workers-are-more->

exposed-to-ai-on-their-jobs/).

In a global context where Artificial Intelligence is perceived as a huge risk for replacing human workers in various industries, in some authors' views "the worker of the future is expected to be innovative, able to spot opportunities transform industries and provide creative solutions to meet global challenges" (Rampersad, G., 2020, p. 68, <https://www.sciencedirect.com/science/article/pii/S0148296320303118>), the most important elements leading to the development of innovation being "critical thinking, problem solving, communication and teamwork" (Rampersad, G., 2020, p. 68, <https://www.sciencedirect.com/science/article/pii/S0148296320303118>).

Other authors insist on the same idea, emphasizing that workers need to develop the only human skills which include problem-solving, creative thinking, managing difficult conversations, working effectively in teams (Cook et al, 2020, <https://www.sciencedirect.com/science/article/pii/S0166497223000585#bib26>).

The accelerated rate of transformation of the labor market in the context of AI expansion is also highlighted by the International Monetary Fund Staff Discussions Notes, released in January 2024 about *Gen-AI: Artificial Intelligence and the Future of Work*. According to this analysis "almost 40 percent of global employment is exposed to AI, with advanced economies at greater risks but also better poised to exploit AI benefits than emerging markets and developing economies", with direct consequences on income and wealth inequality (<https://www.imf.org/en/Publications/Staff-Discussion-Notes/Issues/2024/01/14/Gen-AI-Artificial-Intelligence-and-the-Future-of-Work-542379?cid=bl-com-SDNEA2024001>).

The same analysis concludes that "college-educated workers are better prepared to move from jobs at risks of displacement to high-complementarity jobs, (while) older workers may be more vulnerable to the AI-driven transformation", and that in order "to harness the AI's potential fully, priorities depend on countries' development levels" (<https://www.imf.org/en/Publications/Staff-Discussion-Notes/Issues/2024/01/14/Gen-AI-Artificial-Intelligence-and-the-Future-of-Work-542379?cid=bl-com-SDNEA2024001>).

According to another analysis, "54% of jobs in China would be substituted by AI in the following decades. Relatively speaking, unit heads are the safest jobs in China, whereas jobs intensive in perceptive and manipulative tasks are highly susceptible to substitution." (Wang, C., Zheng, M., Bai, X., Li, Y., Shen, W., 2023, <https://www.sciencedirect.com/science/article/abs/pii/S154461232300171X>).

On the other hand, the above mentioned study undertaken by the US and European Commission in 2021 on the "impact of AI on the future of our workforces, with attention to outcomes in employment, wages and the dispersion of labor market opportunities" shows that despite the fact that "earlier technologies automated occupations that were intensive in doing routine tasks (e.g. machines operators, office clerks), AI as a prediction technology has the potential of also automating various non-routine tasks across a wide range of occupations" (<https://digital-strategy.ec.europa.eu/en/library/impact-artificial-intelligence-future-workforces-eu-and-us>).

It was also estimated by the European Parliament's Think Tank 2020 that "14% of jobs in OECD countries are highly automatable and another 32% could face substantial

changes” (<https://www.europarl.europa.eu/news/en/headlines/society/20200918STO87404/artificial-intelligence-threats-and-opportunities>). It was also appreciated that “though AI is also expected to create and make better jobs, education and training will have a crucial role in preventing long-term unemployment and ensure a skilled workforce”

(<https://www.europarl.europa.eu/news/en/headlines/society/20200918STO87404/artificial-intelligence-threats-and-opportunities>).

The figures indicated by all those surveys and analyses lead to the same conclusion, namely that the artificial intelligence’s potential to automate routine as well as non-routine tasks and to replace plenty of exiting jobs is not just a possibility, but a reality.

5. Conclusions

Artificial Intelligence is nowadays evolving in an unprecedented rhythm, with several aspects rapidly becoming banal tools. Though it is still a complex area, with its understanding in early stages in terms of how it learns and makes decisions. And most importantly, we don’t have the means to assess the humanity of AI.

While many are afraid of the consequences of the extensive use of AI considering it a potential risk for their jobs, or for their human rights, others consider it a source of plenty of advantages contributing to a better and easier life. These two opposed ways of relating to Artificial Intelligence were suggestively expressed by the Commissioner for Human Rights in a speech given in 2021, where she emphasized that “Artificial intelligence can greatly enhance our potential to live the life we desire. But it can also destroy it” (<https://www.coe.int/en/web/commissioner/-/high-level-conference-human-rights-in-the-era-of-artificial-intelligence>).

It is up to us to maximize its advantages, while minimizing its risks and potential harmful effects and in terms of the labour market we need to focus more on using AI to complement what workers must do and less on replacing human beings.

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Other information may be obtained from the address: roxana.matefi@unitbv.ro