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THE IMPACT OF AI DEVELOPMENT ON WORK, JOBS AND ORGANIZATIONAL LEARNING

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Abstract

Smart technologies, applications and equipment are already a common presence in the everyday lives, not only in the work domain, but for people around the globe, no matter their age, location, background, occupation or education. Artificial intelligence has both admirers and opponents, voices that argue for the benefits of implementing revolutionary means of working, communicating, and even living, and also suspicious perspectives regarding replacement and even dehumanization. Starting from this existing context, this paper sets to explore the interconnections between organizational learning, jobs, and work impacted by the development of artificial intelligence.

Keywords: career, globalization, transformations, vocational counseling, work

Introduction

The development of an organization's human resources represents an already acknowledged need in any economy, been considered a key path towards performance, profitability, wellbeing and other desirable outcomes by every employer. Organizational learning is a bidirectional and also continuous process. Senge differentiated between "adaptive learning" seen as basic, "survival", needed and "generative learning", when creating capacity is enhanced (Senge, 1990, p. 14).

Artificial intelligence (AI) already became part of the everyday interactions for individuals and operations in organisational contexts also. The human centricity paradigm promotes the idea that technology provides tools that serve for the benefit of humankind, that are built according to people needs, around their characteristics and aim to ease their work, making life better for many categories across the globe. On the other hand, there are also perspectives that are skeptical about the development of smart technologies and also fear a future replacement for human operators and deciders, leading thus to the increase of poverty, greater segregation between competitive, powerful economies, countries, organizations and the less gifted ones. These are all questions, or issues still debated and the following sections aim to bring additional information and perspectives on them.

The context

The idea that jobs mostly described by routine, repeatable tasks are more likely to be exposed to automatization compared to those jobs consisting of non-routine tasks represents a generally accepted assumption in the debate regarding the impact of artificial intelligence on the labour market. Automatization addresses both physical and cognitive jobs, as progress undertaken in the AI domain replaces the human operator in various domains, like translation, image or speech recognition, programming, analysing numbers, texts, images, maps, a variety of possible data sources, not only manual operations and procedures. Previous research showed the great impact of smart technologies in different domains, like medicine, teaching (Vlăduțescu, 2019), economy, architecture and design, journalism (Stănescu, 2023).

For the last years, the development of the human resources domain was dominated by two interconnected beliefs in terms of jobs and technological progress. On one hand, it is often mentioned the need that employees learn how to work according to the new possibilities and tasks introduced together with the increased use of AI. On the other hand, rises the idea that employees and even students and young people should focus on jobs and tasks which are not to such a great extent exposed to automatization. Both ideas imprint an even increasing mandatory target in terms of adaptability, continuous learning in rapid changing, emergent contexts. Furthermore, new work conditions and paradigms appear throughout the world, as a consequence of global processes like migration (Porumbescu, 2022), or events, such as the coronavirus pandemic, bringing along new

alterations to the traditional working environments, which now become defined by flexible, volatile frameworks, that allow rapid and continuous transformations and frequently call for tolerance to ambiguity and risks.

Theoretical and methodological framework

Artificial intelligence (AI) is a concept extensively employed by different categories of users and research shows that defining it is a still remaining task. Nevertheless, we can consider AI in the light of Wang's understanding - "intelligence is the capacity of an information-processing system to adapt to its environment while operating with insufficient knowledge and resources (Wang, 2019, p.17). Britanica describes artificial intelligence (AI) 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" (Copeland, 2023).

A long-standing question concerning the impact of AI is whether gaps will increase or, on contrary, implementing new technologies accessible worldwide due to internet connectivity and facilitating access to information and affordable goods for large categories of people will contribute to uniformization and decreasing gaps between more developed economies and the less developed ones, between high skilled and low skilled workers. This still represents a debated issue that may receive different answers in different geographical, organisational and chronological contexts.

Even so, researchers tried to provide a measurement of AI exposure that aims to differentiate between industries and areas (Felten, Raj and Seamans, 2021). Their tool assesses the following levels: AI exposure across occupations – AIOE (AI occupational exposure), exposure across domains or industries - AII (AI industry exposure) and the county level – AIGE (AI geographic exposure) (Felten, Raj and Seamans, 2021, p. 2196). According to their measurements, white collar jobs, as genetic counsellor, financial examiners or actuaries are among the occupations most exposed to advances in AI technologies, while jobs which mostly require physical effort like dancers, fitness trainers or painters are situated at the opposite pole of the same scale, as being least exposed to transformations due to AI exposure (Felten, Raj and Seamans, 2021, p.2204). The tool developed by this team was also used to compare industries in terms of lowest and highest AI exposure.

On the first positions, as domains strongly impacted by new technologies were situated activities from the financial sector, accounting and payroll services. Lowest scoring industries in terms of AI exposure were scored the support activities for crop production services to building and dwellings and constructions (Felten, Raj and Seamans, 2021, p.2205). Other studies showed that professions that require complex cognitive processes, like researchers, managers or teachers are among the occupations less impacted by developments in terms of artificial intelligence and smart technologies (Webb, 2020).

The AI occupational exposure measure could be used in organisational context to understand the AI impact on work content, labour and further reconsider existing structures, practices or workflows and redesign them, if needed, for an improved functioning. Nevertheless, what the authors emphasized regarding their proposed measurement is the lack of connection between their tool and the actual transformations of the labour market, as they linked workplace abilities and occupations to the general applications of AI, considering thus only potential activities and not the actual economic movement. Another worth mentioning feature of the AI exposure measurement is that the tool was developed based on data from United States of America and no validation analysis were deployed in other countries.

As the tool above describes, this type of approaches measure the trends, the potential of AI exposure regarding occupations, tasks, domains and areas, without actually investigating the changes on the labour force market. Therefore, researchers also recommend adding a complementary measurement which can indeed analyse the AI deployment (Georgieff and Hye, 2021). This is the motivation for analysing job posting, strategy that was also used as a mean of understanding the impact of AI on the work domain.

AI exposure differentiates more between occupations compared to the variance between European countries. The states from the northern part of Europe are situated on the first positions in terms of AI exposure. Countries like Finland, Norway, France were occupying in 2012 the top positions of the ranking, with an average of 0.70 regarding AI exposure (Georgieff and Hye, 2021). The differences between the leading countries and the ones situated at the other end of the spectrum (Lithuania, Poland, Hungary) are rather small, around 0.2 (Georgieff and Hye, 2021).

Discussions

Organizational learning is a great importance aspect in any organization, contributing to the optimum functioning, productivity, performance and even wellbeing. Learning also represents a sine qua non condition of development in any context, fostering advancement. What makes organizational learning even more needed and looked after, is the increasing rhythm of transformations, technological jumps in producing new tools, programs, equipment, software, that all call for new practices and different ways of working, both cognitive and physical.

Given this existing context, artificial intelligence impact on labour market already is a major theme for both scientific debate and public discourse. Seen as a possible source to spur economic growth, AI is also feared as being the motivation for workers displacement. These two main contradictory positions are sustained by the assumption that automatization and more performant technologies will replace partly and even entirely the human operator in different activities, leading in this manner to less working hours and massive layoffs. On the other hand, the optimistic perspective is based on the scenario that such equipment, tools and instruments will increase productivity, reduce production costs and more people can have access to goods, products or services at lower prices.

Further questions may address organization's options regarding their employees training and development in terms of AI skills. Two different approaches can be employed here: hiring already trained workers, that have good AI skills, or rather training them, after recruiting. The solutions in practice will probably vary according to existing options, on the local labour markets, organizational practices, the job specifications and the context. Furthermore, outsourcing may also represent an option, especially for small companies, that can benefit from an expert's support, instead of struggling to have an inhouse responsible, who may not be so updated in terms of technology or cannot cover all the requested areas of activity and domains needed within the organization.

On the other hand, many applications and tools are user-friendly, use technologies and approaches aimed to ease and facilitate their functioning. Taking this into consideration, the existence of intuitive instruments, built for less experienced users, one may expect that advanced AI skills are not mandatory, even when working with AI soft, machines, equipment or applications. Nevertheless, the need for continuous organizational learning, as a solution for transition to other jobs, in some situations, is also promoted (Nedelkoska and Quintini, 2018).

References

- Copeland, B. (2023). artificial intelligence. Encyclopedia Britannica. <https://www.britannica.com/technology/artificial-intelligence>
- Felten, E., Raj, M., Seamans, R. (2021). Occupational, industry, and geographic exposure to artificial intelligence: A novel dataset and its potential uses. *Strategic Management Journal*, 42(12), 2195–2217. <https://doi.org/10.1002/smj.3286>
- Georgieff, A., Hye, R. (2021). Artificial intelligence and employment: New cross-country evidence, *OECD Social, Employment and Migration Working Papers*, No. 265, OECD Publishing, Paris. <https://doi.org/10.1787/c2c1d276-en>.
- Nedelkoska, L., Quintini, G. (2018). Automation, skills use and training. *OECD Social, Employment and Migration Working Papers*, No. 202, OECD Publishing, Paris, <https://doi.org/10.1787/2e2f4eea-en>.
- Porumbescu, A. (2022). Integration challenges: labour inclusion of third country nationals (TCNs), *Studia Securitatis*, vol. 16, no. 2, 32-42.
- Senge, P. M. (1990). *The fifth discipline The art and practice of the learning organization*. Currency Doubleday. New York, London, Toronto, Sydney, Auckland.
- Stănescu, G. C. (2023). The impact of artificial intelligence on journalism. Adverse effects vs. Benefits. *Social Sciences and Education Research Review* vol. 10, issue 1. pp. 258-262. <https://doi.org/10.5281/zenodo.8151135>.
- Vlăduțescu, Ș. (2019). Trust as a source of efficiency in educational communication. *Social Sciences and Education Research Review* (6) 2. pp. 165-173.
- Wang, P. (2019). On Defining Artificial Intelligence. *Journal of Artificial General Intelligence*, vol.10, no.2, pp.1-37. <https://doi.org/10.2478/jagi-2019-0002>.
- Webb, M. (2020). The Impact of Artificial Intelligence on the Labor Market. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3482150