



ARTIFICIAL INTELLIGENCE AND ITS RELATIONSHIP WITH HUMAN RESOURCES

Nilmara Gurjão da Silva¹

Werboston Douglas de Oliveira²

Francisco Tarcísio Alves Júnior³

ABSTRACT

The maximization of results and the achievement of the objectives of any organization, whether public or private, depend essentially on the people who compose it and on the technologies that permeate their daily lives. For this reason, it is necessary for organizations to pay attention to the importance of the human factor and its interaction with technologies and to always seek to improve their strategies in this sense. Artificial Intelligence has several benefits that will reproduce a noticeable increase in business productivity, in solutions to gain competitive advantages and mainly in agility in decision making. The main objective of this article is to present how artificial intelligence contributes to the efficiency and productivity of people in organizations. The methodology used was based on a bibliographic review of articles in the CAPES journal from 2010 to 2019 and as a complement to passages derived from the internet and from widely circulated magazines focusing on related themes. The results showed that there is a great conceptual theoretical variety about Artificial Intelligence and there is a promising market for its implementation, and many technological challenges in the management of the human resources of any organization that aims to optimize its tasks and that looks for strategies to gain competitive advantages.

KEY WORDS: Technologies. Artificial intelligence. Human Resources.

INTRODUCTION

Artificial intelligence began during the Second World War, historically, a period when there was a need for machines that made and thought like humans, more advanced studies were then being developed. It is worth mentioning that the current period is that of industry 4.0, that is, years of technological evolution have passed to reach the famous disruptive innovations that are deconstructing the way of life of our society in general every day. It is in this period that artificial intelligence has its marked beginning and is still benefiting companies, organizations, cities, and consequently, great concerns have been raised.

According to contributions by Mendonça, De Andrade and Neto (2018),

Silva, NG, Oliveira, WD, Júnior, FTA; Artificial Intelligence and Its Relationship with Human Resources. Magazine of Entrepreneurship and Management of Micro and Small Enterprises V.4, Nº1, p.58-66, Jan./Abr. 2019. Article received on 2/02/2019. Last version received in 20/04/2019. Approved on 28/04/2019.

This introduction of AI increasingly in the market and in organizations, has as positive aspects the reduction of costs, efficiency gains and the ease of small companies that strongly explore the aspect of innovation, but negative points are also observed, such as: loss jobs, accountability and responsibility, legal changes, financial reporting and risks. (MENDONÇA; DE ANDRADE; NETO, 2018, p. 135)

Still in this scenario, artificial intelligence is accompanied by another tool, which is known as Big Data, it is also, as well as Artificial Intelligence, a technology widely used today and which has an influence in the area of human resources, because its use it optimizes the processes in the treatment of the information so that they fulfill the goals of the company or organization with greater effectiveness and efficiency.

The relationship between artificial intelligence and human resources is an approach that enters into a wide debate about the two concepts, but it must be considered that AI has a major contribution to HR. Still considering that human resources are all people that make up the administrative part of organizations or companies, the use of technologies in this area is a fundamental part of the whole, both for the search for accurate and agile data and for its classification, without needing the user to be there all the time to perform the activity manually.

The overall objective of this article is to relate objectively and clearly the concepts of artificial intelligence with the concepts of human resources, to understand and explain advantages and disadvantages between the relationship of the two terms together with other technologies.

Because of this, according to the context presented, within the relationship between artificial intelligence and human resources, the construction of this project becomes propitious, as its registration justifies the raising of discussions about the importance of artificial intelligence for the area of human resources in order to show through studies that AI provides in the automation and analysis of tasks, bringing gains and increased productivity in your work environment.

Based on what was described above, what contributions does artificial intelligence bring to the area of human resources?

Thus, in order to answer this question, we turn to the methodological procedures described in the following section.

METHODOLOGY

The proposed methodology for carrying out this project is exploratory research, which included bibliographic research, in CAPES journals, looking for scientific articles, magazines and research with specific concepts on the topic addressed in recent years. To present the concept and the relationship of artificial intelligence and human resources, facing new technologies, exploring the relationship between both.

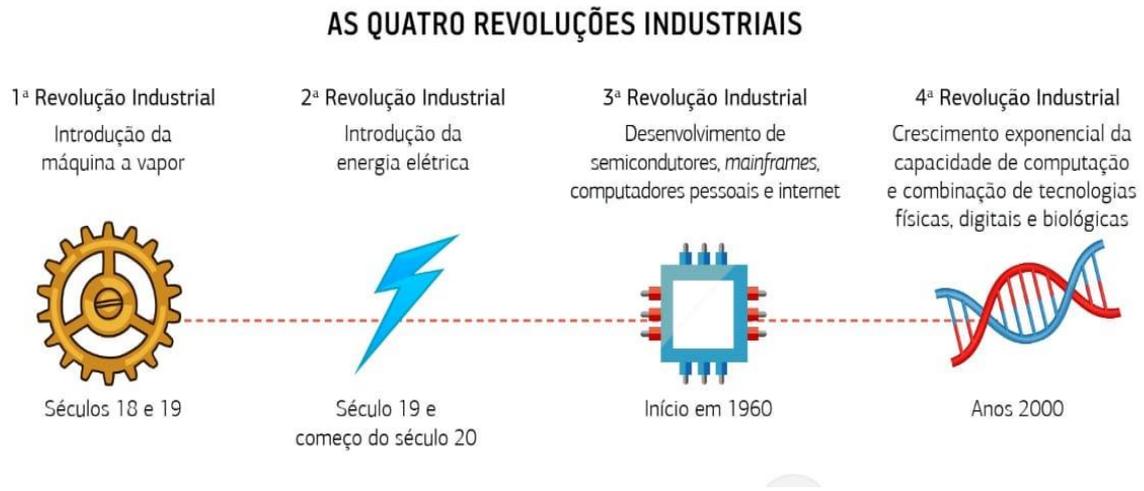
THEORETICAL REFERENCE

Fourth Industrial Revolution

The advancement of industrial production systems currently presents a new concept in which it describes a series of technological innovations in the most diverse industrial processes. The term fourth industrial revolution, more popularly known as industry 4.0 or simply smart factories, has been widely discussed in major scientific publications. Based on the understanding of Morais, Moura and Denani (2018), industry 4.0 refers to machines, products and processes that are right there to make decisions based on the factory's existing demand.

Still sAccording to analyzes by the Institute for Studies for the Development of Industry - IEDI (2019), the great characteristic of the fourth industrial revolution is a connection between physical systems, such as man, machines and equipment with digital systems (computing and artificial intelligence). One of the key parts of industry 4.0 is the advancement of robotization that is increasingly combined with artificial intelligence (IEDI, 2019). In other words, the highlight of this new industrial revolution is the virtual relationship with the real.

Based on this, the table below shows the progress of the industrial revolution and its characteristics with the use of technologies in each period.



Source: Magalhães and Vendramini, 2018.

The first period was marked by the mechanization, the introduction of steam engines. The second period was marked by electricity, the introduction of electricity. The third period was marked by automation, the development of semiconductors, mainframes, personal computers and the Internet itself. The fourth and current period is characterized by connectivity, the exponential growth of computing capacity and the combination of physical, digital and biological technologies.

Artificial intelligence

Artificial intelligence is currently an area that is being highly valued and has applications present in people's daily lives. For example, in expert systems, robotics, visual systems, natural language processing, planning and logistics.(GOMES, 2010).

In this scenario, Nespoli (2004) defines:

Artificial Intelligence (AI) is a branch of computer science that wants to equip computers with intelligence. Since the first computers, the question of intelligence linked to these machines has been the subject of heated debates, often based more on imaginary information than on objective facts.(NESPOLI, 2004, p. 7).

Still in this context, artificial intelligence can benefit various media and groups in which it is inserted, and cannot escape its relationship with other existing technologies, such as Big Data.

BIG DATA

With the evolution of artificial intelligence and the rupture of the fourth revolution, the need for more agile, accurate and automated information is perceived in HR organizations. That is why it comes to know and study the concept of Big Data.

For Mendonça, De Andrade and Neto (2018), research on the subject is growing:

Big Data is emerging as a relevant topic among scholars and professionals, and it is defined as a holistic approach to manage, process and analyze data in five dimensions, and which aims to allow the sustainable delivery of value, measure performance, create competencies and improve the decision-making process. (MENDONÇA; DE ANDRADE; NETO, 2018, p. 136).

But how can big data improve people management?

Big data has emerged as a data analysis tool that allows companies to get to know their customers, employees and the market better, and thus to point out actions that result in better decision making in a more agile, accurate and automated way, in addition to determining information about your talents. Some national and global companies already use this tool such as the Votorantin, Shell and Google group as shown in the figure below:



Source: Ikeda, Patricia, 2013.

HUMAN RESOURCES AND AI

With the advancement of technology, competitiveness in the labor market, creation of companies, and among others, the management of human resources would direct its process towards progress and enrichment in the area, making it a promising part of the contemporary context of innovation.

In this scenario Cruz and Santana (2015), make it clear that:

HR has been responsible for the excellence of organizations and for the contribution of intellectual capital that symbolizes the importance of the human factor in the middle of the Information Age. The sector is directly linked to people, based on this statement, it is necessary that their actions generate direct results for all members that make up the company, however it is somewhat contradictory when this reality is not evident.(CRUZ; SANTANA, 2015, p. 34).

The management of human resources is closely linked to artificial intelligence, either through the use of data for recruitment or in the facial expression of a robot to indicate its favorite dish. In this scenario, HR starts to use AI as an indispensable tool for the organization, getting to know its human capital, making administrative processes more agile and creating an environment conducive to carrying out work.

The contributions of Gil, Rodrigues and Dutra (2018), make clear the importance of artificial intelligence for the area of human resources:

We can see that artificial intelligence brought more agility to processes that previously required a lot of time, and with that HR, can exercise its primary function, which is to manage people, getting closer to employees so that they can observe and analyze needs more easily and solve internal conflicts that may arise within organizations. (GIL; RODRIGUES; DUTRA, 2018, p. 151).

In this scenario, HR starts to use AI as an indispensable tool for the organization, getting to know its human capital, making administrative processes more agile and creating an environment conducive to carrying out the work.

FINAL CONSIDERATIONS

Artificial Intelligence and Its Relationship with Human Resources

The increasingly massive use of information and communication technology causes the market to tend to growth in scale, seeking improvement, efficiency and quality, making it increasingly competitive, looking for viable means and alternatives to obtain compliments, goals and increased productivity.

With that, artificial intelligence is and will continue to radically change the area of human resources, as both are related. The use of artificial intelligence is already carried out to carry out recruitment, performance evaluation, integration between the various systems of the institution, etc. within the HR sector, and considering the premise that people are extremely important parts and that they are behind great corporate achievements, among which he is automating and giving autonomous management conditions to the organization, the human being brings with him the intellectual capacity that comes only from the human (verb) being.

Therefore, based on what has been presented, this research has the objective of giving visualization conditions to organization through artificial intelligence, favoring them to be more autonomous and efficient, changing relationships and activities. In this sense, activities with low added value or that require physical effort would be minimized, with artificial intelligence the HR area becomes not only an operational department, but also a legitimately strategic environment, giving rise to activities that require more critical analysis, knowledge and intellectual capital.

REFERENCES

CRUZ, TA; SANTANA, LC Human resources: present in organizations, but unknown. Scientific Initiation Magazine - RIC. Cairu, v. 2, No. 01, p. 33-56, 2015.

GIL, AM; RODRIGUES, BAA; DUTRA, PMC Organizational culture and the processes of innovation and change: the relationship of human resources and artificial intelligence. REA - Euroamerican Journal of Anthropology, n. 6, p. 143-153, 2018.

GOMES, DS Artificial intelligence: Concepts and applications. Revista Olhar Científico - Faculdades Associadas de Ariquemes - v. 1, n.2, 2010.

Ikeda, Patricia. "The death of the curriculum: with the use of technology capable of processing an exorbitant amount of data, known as big data, large companies are trying to incorporate science into traditional HR processes." Exam, 26 June 2013, p. 103+. Academic OneFile, <http://link->

galegroup.ez7.periodicos.capes.gov.br/apps/doc/A348872486/AONE?u=capex&sid=AONExid=73c7fb1b. Accessed 18 June 2019.

INSTITUTE OF STUDIES FOR THE DEVELOPMENT OF INDUSTRY (IEDI). Highlight IEDI - Competitiveness in the Industry 4.0 era, 2019. Available at: <www.iedi.org.br> Accessed on June 17, 2019.

MAGALHÃES, Regina; VENDRAMINI, Annelise. The impacts of the fourth industrial revolution. Executive GV, v. 17, N. 1, Jan / Feb, 2018.

MORAIS; MO; MOURA, I .; DENANI, AL**The integration between knowledge, innovation and industry 4.0 in organizations.**Braz. J. of Develop., Curitiba, v. 4, n. 7, Special Edition, p. 3716-3731, Nov. 2018.

MENDONÇA, CMC; DE ANDRADE, AMV; NETO, MVS Use of IoT, Big Data and Artificial Intelligence in dynamic capabilities. Contemporary Thinking in Administration Magazine, Rio de Janeiro, Vol. 12, n. 1, p. 131-151, 2018.

NESPOLI; ZB Science, artificial intelligence and post modernity. Educational Dialogue Magazine. Curitiba, vol. 4, n.13, p.31-42, 2004.