REVIEW ARTICLE

ARTIFICIAL INTELLIGENCE AND ROBOTICS AND THEIR IMPACT ON BUSINESS SYSTEMS

Yapay Zeka ve Robotik ve İşletme Sistemlerine Etkileri

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ABSTRACT

Artificial intelligence (AI) also known as unnatural intelligence, presents a great advance for humanity in different economic sectors, by replacing processes and functions with expert systems or industrial robots. However, it is questioned whether AI brings value and development in the work environment for human beings, whether it creates more jobs or just the opposite. The general objective of this work is to present relevant research on artificial intelligence and its controversial impact on employment and unemployment in industries, as the central theme of this document. This also reviews the historical beginnings of AI, the analysis of the different perspectives and its application. This research addresses the explanation of intelligent systems, the main reasons for their use in various economic sectors, the risks and advantages of their application in organizations, the most developed economic sectors in the application of technology in recent years are specified. decades, as well as its evolution in recent years in Peru and the world. The relevance of the topic to be presented is AI and its acceptance in industries, by generating positive results in profits, cost reduction, process efficiencies and profitability. Also the use of the various tools that it provides, such as the use of Chatbots; However, there are also unfavorable consequences of its implementation in companies, such as dispensing with labor or jobs, thus generating controversy. For the development of the research, a correlational, descriptive and conceptual methodology was used. It will be concluded that the social impact of AI is going to be enormous. But there are still key questions without a clear answer, where we ask ourselves if societies are prepared for what is coming and what measures should companies take so that artificial intelligence improves the way of life of the human being in the 21st century.

Keywords: Artificial intelligence; Robotization; Automatization; Robots industriales; Decision making.

ÖZET

Doğal olmayan zeka olarak da bilinen yapay zeka (AI), süreçleri ve işlevleri uzman sistemler veya endüstriyel robotlarla değiştirerek insanlık için farklı ekonomik sektörlerde büyük bir ilerleme sunuyor. Bununla birlikte, yapay zekanın daha fazla iş yaratması mı yoksa tam tersi mi olduğu, insanlar için çalışma ortamında değer ve gelişme getirip getirmediği sorgulanmaktadır. Bu çalışmanın genel amacı, bu belgenin ana teması olarak yapay zeka ve endüstrilerdeki istihdam ve işsizlik üzerindeki tartışmalı etkisi üzerine ilgili araştırmaları sunmaktır. Bu aynı zamanda AI'nın tarihsel başlangıcını, farklı bakış açılarının analizini ve uygulamasını da gözden geçirir. Bu araştırma, akıllı sistemlerin açıklamasına, çeşitli ekonomik sektörlerde kullanımlarının temel nedenlerine, kuruluşlarda uygulanmasının risk ve avantajlarına, son yıllarda teknolojinin uygulanmasında en gelişmiş ekonomik sektörlere değinmektedir. on yıllardır, Peru ve dünyadaki son yıllarda evrimi. Sunulacak konunun alaka düzeyi, kar, maliyet azaltma, süreç verimliliği ve karlılıkta olumlu sonuçlar üreterek yapay zeka ve endüstrilerde kabulüdür. Ayrıca Chatbot kullanımı gibi sağladığı çeşitli araçların kullanımı; Bununla birlikte, şirketlerdeki uygulamasının, işgücü veya işten vazgeçme gibi olumsuz sonuçları da vardır ve bu nedenle tartışma yaratır. Araştırmanın geliştirilmesi için ilişkisel, tanımlayıcı ve kavramsal bir metodoloji kullanılmıştır. Yapay zekanın sosyal etkisinin çok büyük olacağı sonucuna varılacaktır. Ancak, net bir cevabı olmayan, kendimize toplumların neler olacağına hazırlıklı olup olmadıklarını ve şirketlerin 21. yüzyılda yapay zekanın insanın yaşam biçimini iyileştirmesi için hangi önlemleri alması gerektiğini sorduğumuz kilit sorular var.

Anahtar Kelimeler: Yapay zeka; Robot hazır; Automatization; Robots industriales; Karar verme.

1. INTRODUCTION

The subject of this work is ARTIFICIAL INTELLIGENCE (AI) APPLIED IN COMPANIES WITH A GLOBAL APPROACH. The research presents and analyzes the impact that the inclusion of AI has on companies. In such a globalized world, companies seek to be more competitive and improve their processes to generate greater profitability. Technology has been improving rapidly in recent decades since the 1990s, especially in telecommunications and the Internet, by allowing communication and access to information in a faster, easier and less expensive way. At present science and technology are very valuable tools for the economic, educational and cultural development of all societies. The importance of technology has been accentuated along with the improvements in processes both in production and in the markets of goods and services, which is why technological leadership and benefits for companies are sought. Likewise, it is considered in managerial decision-making, since it helps in the analysis of the strengths and weaknesses of the organization. It is important to analyze the good use and management that can be given to AI. Technological progress must go hand in hand with communication for the benefit of society, since from the ethical perspective it could have implications and affect people's working lives.

1.1 Problematic Reality

The application of Artificial Intelligence in companies has revolutionized the labor issue in all aspects, these changes are increasingly constant and it is a challenge to stay at the forefront; Its application brings great advantages such as process optimization, economic improvements and cost efficiency. (Caice, Gómez, Infante, Merchán, & Redroban, 2014) They indicate that artificial intelligence focuses on the creation of automated machines with intelligence similar to human intelligence. What is sought is in a few words to make use of technology and exploit all the knowledge of human intelligence, although this change is good, it is a bit worrying for Fontenla and Calvo (2018) who mention that the arrival of technology will be eradicating half of the jobs in the United States, forcing professionals to specialize more in technological issues, producing an occupational transformation. The fear of the eradication of jobs and a deterioration in the quality of life, is undoubtedly the greatest concern that is approaching in the coming years, however it is necessary to start talking about the transformation of employment and not its elimination . Following the changes that are approaching, the application of AI in companies will destroy low-skilled jobs but will also encourage the creation of new jobs related to maintenance, programming and technology. The idea of empowering the use of AI is to maximize benefits and minimize harm. In the present it is detailed that various bibliographic citations that show a little of its definition, evolution, reasons for use, risks and advantages as well as the variants of employment, leaving aside the idea of modifying the world economic order of the economy.

1.2 Problem Formulation

Faced with these constant changes today, the following is questioned: What are the employment effects of the use of AI and what benefit does it currently provide?

1.3 Justification

At present the application of Artificial Intelligence continues to cause a stir in all aspects of life, the transformative power it possesses leads to face important challenges such as the trust barrier, the risks in security matters and even the impact on the job. The purpose of this compilation of sources is to publicize the reasons why the use and application of technology is justified from a social and business point of view in a given environment. The first reason for its justification is in the social environment, today the various technological innovations are present at all times, in education with the creation of personalized educational systems that motivate learning in children and adults, in everyday life they facilitate life in actions dangerous to humans, in leisure times there are applications that reduce traffic and promote the use of autonomous vehicles in a short term, it will no longer be necessary to learn to

drive a car to be able to have one and it is that from the use of the most advanced cell phones today, simplifies various things. The second reason is the importance of its application in the business aspect, because thanks to the application of AI, different business models have now been created, which allow shortening distances, reducing costs, increasing productivity, improving processes, promoting innovation and being at the forefront of technology. This change has taken place progressively, there is still fear of a possible change in the labor market, especially in the reduction of jobs, which requires professional re-education and the activation of creativity to be able to devise new business models that create new jobs and that allow you to lead a good lifestyle. Finally, this compilation of citations from different authors shows different points of view and the relationship with the current environment so that one can have an idea of its risks, advantages and consider the use and application in companies.

2. RESEARCH

2.1 Definition and Evolution of AI

Intelligence is the faculty of the mind that allows us to learn, understand, reason, make decisions and form a certain idea of reality. The artificial is a replacement for the natural based on a similarity or an imitation. As detailed by Russell and Norving (1996, as cited in Chicas, Contreras, Cortez & Gutierrez, 2004, p.17), AI is an intelligent system determined by the approach of thinking rationally and built to make correct inferences. However, making a correct inference does not always depend on rationality, since there are situations in which there is not something that can be considered correct, and yet a course of action must be decided. There are also ways of acting rationally that by no means involve any inference. For these authors, AI is focused on laws of thought and based on intellectual competencies, where what interests the intelligent system is to respond to a certain object or event. Artificial intelligence focuses on the creation of automated machines with an intelligence similar to human intelligence, what is sought is to make use of technology and exploit all the knowledge of human ability (Caice, Gómez, Infante, Merchán, & Redroban , 2014). Palma and Marín (2018) detail in their book that "the four main objectives of AI are to model, formalize, program and implement support machines capable of non-trivial interaction with the environment" (p.3). The authors define that the pillar of AI is to create systems capable of fulfilling roles similar to those of the human being, which is why they consider AI as Science and Knowledge Engineering.

Understood as science, the task of AI is analysis. Its phenomenology encompasses the set of facts associated with neurology and cognition, from the sub-cellular and neuronal levels to the superimposed mechanisms and organizations from which the global functions of perception, memory, language, decision, emotion and action that have emerged emerge. place to what we call intelligent behavior (Palma, 2018, p.7). The scientific position of AI is the search for a matter of formal models that can be processed in a calculation system and have the prediction of its solution. Considered engineering, "The applied branch of AI, known as Knowledge Engineering, has clear and achievable objectives in the short and medium term" (Palma, 2018, p.7), and concludes that the objective is observation, modeling and transformation of processes at the same or higher level. The vision of AI as engineering is to demonstrate its usefulness as a procedure in problem solving and control of application domains. For Goertzel & Pennachin (2007) AI has two approaches: the first indicates that AI has the ability to solve simple problems, in a very human-like way.

The second, called Narrow AI, indicates that it allows the performance of complex tasks, far superior to those that humans would solve. According to Sosa (2007) There are two fundamental approaches within the broad spectrum of Artificial Intelligence. One is symbolic Artificial Intelligence, which is characterized by a high level of abstraction and microscopic view. Classical psychology, knowledge-based systems, symbolic machine learning, search techniques, and natural language processing belong to this category. The second approach is characterized by a low level of abstraction and microscopic biological models. Neural networks and genetic algorithms fall into this category

(p.157). The origin of AI dates back to 1950, when Alan M. Turing published an article in Mind magazine, entitled "Computing Machinery and Intelligence", in which he reflected on the concept of artificial intelligence and established what would later become known as the Turing test, a test that allows determining whether a computer behaves according to what is understood as artificially intelligent or not. There are some posts where the authors claim that Turing is the founder of AI, but he did not actually work on any related programs. However, he investigated the thinking characteristic of machines. In 1956 a conference on Artificial Intelligence (AI) was held at the Massachusetts Institute of Technology, where John McCarthy, Marvin Minsky, Nathaniel Rochester, and Claude E. Shannon laid the foundations for artificial intelligence as an independent field within of computing. Artificial intelligence was not very successful in the sixties, because it required a significant investment for the time, and most of the technologies were typical of large research centers. Between the 1970s and 1980s, significant advances were made in Expert Systems, with the introduction of PROLOG LISP. For Terrones (2018), AI is "the idea of creating and shaping computer programs or also machines that are capable of developing behaviors that would be considered intelligent if performed by a human being" (p.145). For the author, AI will facilitate or replace functions performed by the user, by improving the results that are achieved in operational processes within an organization. According to Nilsson (2001, as cited in Terrones, 2018, p. 146), artificial intelligence, in a broad and somewhat circular definition, aims to study intelligent behavior in machines. In turn, intelligent behavior involves perceiving, reasoning, learning, communicating, and acting in complex environments. One of the long-term goals of AI is to develop machines that can do all these things with equal performance, or perhaps even better than humans. Another goal of AI is to understand this type of behavior, be it in machines, humans, or other animals.

In other words, AI is the field of study that focuses on the explanation and emulation of intelligent behavior based on computational processes, in other words, it is sought through artificial intelligence, to capture the way of speaking, forms to absolve problems, gestures, among other human acts. The idea that people can be replaced by machines in companies is not far off. Leyton, Rodríguez and Correa (2014) indicate that "in synthesis, AI can be defined as the set of means through which a certain technological team can carry out tasks that would normally be performed by human experts" (p.214 For Torres, Lugo, Piñero, Torres, Perdomo, Cuza & Aldana (2014): The project management tools and systems in the modules or functionalities that are used for the management of human resources processes and the tasks associated with them process a considerable volume of information that can be used to help project administrators or managers in the training of team members (p.43). These authors define that computer science and technology are developing rapidly today , which is beneficial for problem solving within organizations, staff development and streamlining processes.For Meuter, Bitner, Ostrom and Brown (2005) the management Business ón has evolved in recent years, with the help of the internet and technological application tools, and thus large industries have opted for the implementation of Artificial Intelligence in their commercial and operational areas. However, the services area has been the most benefited in all its processes. Artificial Intelligence and Robotics are expected to be the next industrial revolution, due to technological changes in systems; therefore, there will be changes in business models from here to the future (Fontenla and Calvo, 2018). There are risks in these changes if citizens are not capable of appropriating technologies and knowledge, because then they will lose rights and democracy will be put at risk, yielding all power to those who control information and technologies (Pérez, 2018)

2.2 Reasons For Using AI

In such an agile and globalized society, companies must be fast and efficient in all their areas to respond to customer needs, which is why they are constantly changing and the impact of innovation in different industries intensifies more and more and is necessary measure the use and what you want to achieve with your application. Porter and Millar (1985, as cited in Barua, Konana, Whinston and Fang, 2014) point out that the use and application of artificial intelligence have been well accepted in

companies, businesses are beginning to take into account technological changes, allowing achieve fairly efficient improvements in processes, and this has been possible thanks to the digitization that has been applied for a few years, which helps to have valuable information to be able to analyze costs, processes and decision-making at the managerial level. Scott (2015, as cited in Reijers & Coeckelbergh 2016) indicates that there are four positions regarding the use and application of AI in the financial system: the first is that it is not used collectively, due to social differences; the second is the excessive use of some social classes, creating a gap in terms of gender, social class, race and education. The third is that it is used for criminal activities, producing a negative abuse in its use. And the fourth is the proper use for continuous improvement of companies, by creating a positive impact. That is why Parkes & Wellman (2015) have the following question: will AI manage to develop the rational ideal in a machine? No matter how hard he tries to create machines that replace man, they will not be able to achieve absolutely perfect rationality, since human reasoning is unattainable, which is why the big question is whether mechanical agents have finite computational resources so that the technology is close enough to the ideal. In recent times, machines are being treated as rational beings, responding to knowledge, objectives and intentions to act similar to those of the human being. There is considerable information from the scientific literature arguing that automation will displace some jobs or create demand for labor. While automation increases productivity, it also causes unemployment. Some of the effects of implementing AI systems are the increase in the demand for products, the development of new skills and the increase in new jobs (Vermeulen et al., 2018). For Vermeulen et al. (2018), the demand for industrial robots is higher, because their use has improved productivity considerably, however, their application causes a general loss of jobs, generating positive and negative automation, depending on the type of industry. One of the valid tools to increase productivity is digitization, which consists of the reinvention of a company through the use and application of technology. For Srinivasan et al (1994, cited in Barua et al, 2014), higher levels of digitization can be monitored more efficiently and allow better coordination of the actions to be taken, also help to improve the development of the acquisition and movement of inputs among other assets of the company and thus reduce inventory costs. As Autor (2015) indicates, this process has eliminated jobs, and has also served as a complement to enhance the activities of various sectors, consequently increasing productivity, profits and also labor. Entering the digital world today is a necessity rather than an option, more than 50% of companies use software for internal processes such as sales administration, payroll payments, purchase management, skills evaluation, election processes, training , among others. For Ariely (2000, cited in Barua et al, 2014) the interrelation that exists between digitization and the user is very important, since it allows to improve internal processes and access to information instantly, thus improving the quality and perception of the customer regarding care. Artificial intelligence has also been applied in the digital transformation of companies, facilitating commerce through mobile payment. This innovation, also called "mobile commerce", "contactless payment", is a technological means that allows approving the financial exchange for a good or service provided (Taylor, 2016). Other authors such as Raina (2014, p.186, as cited in Taylor, 2016) indicate that contactless payment is a transfer of funds in exchange for goods or services in which a mobile device is functionally involved in the execution and confirmation of the payment.

The author refers to the fact that mobile payment is a tool to achieve commercial exchange. According to Guha (2013, as cited in Taylor, 2016), mobile payment is divided into two types: remote and proximity. The first is associated with an account or an application where cash is previously deposited in order to charge the purchases to be made, such as PayPal, Google, Go payment. Proximity payment allows the commercial transaction only by bringing the device a few centimeters closer through NFC technology. Businesses based on technology and digital platforms show great benefits for revenue and cost reduction, which shows that the application of intelligent systems is a competitive advantage compared to other organizations that have not yet implemented these business models (Zhu, Dong, Xin Xu & Kraemer, 2006). The commercial forces that drive technological development are not always so benevolent. Large companies at the forefront of AI (social media, search engines and e-

commerce) drive the value of their actions by increasing traffic, consumption and addiction to their technologies. It is observed that some technologies such as social networks have a lot of power to modulate human beliefs and behavior, focused on increasing their advertising business, mixing politics, trivia and half-truths, they can generate massive social changes (Yearsley, 2018, p.20).

2.3 Advantages And Risks Of Applying AI

For Sosa (2007), there are two lines of AI research that are the most used in the financial sector and points out that: At present, Artificial Intelligence is being applied to numerous activities carried out by human beings and they stand out among them : robotics, artificial vision, learning techniques and knowledge management, these last two are those that are directly applied in finance, because in this field there is a strong motivation aimed at building information systems that incorporate knowledge and that allow organizations to make efficient and timely decisions in the field of business financial management (p.156).

In recent times, artificial intelligence is an important tool for the development of processes within a company, it is for this reason that it has more and more participation in operations within a business management. As defined by Mavaahebi & Nagasaka (2013, as cited in Leyton, Rodríguez and Correa, 2014, p. 215): Expert systems provide advantages for the industries that implement them, such as cost reduction in the training and education areas of the human talent and product delivery times increase in product quality and in the probability, frequency and consistency of making good decisions; it helps in the distribution of human expertise3 and greater cost competitiveness. The authors highlight the benefits that are given based on the good results due to the application of AI in the business sector, which allows better profitability for companies and collaborators. According to the comments of Freije, A. & Freije, I. (2018), the application of artificial intelligence must be faced and assumed in the processes of all areas of the company, with defensive and offensive strategies, in order to improve the position of the same in the market, and with it improve relations, structural aspects, resources, policies and commercial strategies. The authors refer to the technological revolution in recent times as well as artificial intelligence, and mention that its application is surprising, but also worrying, due to the various risks it fosters. Its application generates opportunities for improvement and development of innovative ideas for clients and workers, all thanks to connectivity (Freije, A. & Freije, I., 2018). Freije, A. & Freije, I. (2018) mention that "the digital industry brings agility to relationships, and one could almost say opportunity with respect to the moment when needs arise" (p.423).

AI enables processes that shorten execution time compared to human labor. Undoubtedly, an advantage of using AI in organizations is that people develop the potential to keep up with technology, which provides better job opportunities, which is why Ivanova & Jarcallov (2018) conclude that: People should develop a better understanding of their own cognitive biases4 and better characterize their own intelligence. This would allow them to develop machine intelligences that are sensitive to their weaknesses, rather than exploiting them (p.14). These changes have brought with them multiple benefits within the companies, including: integration of sales channels into one, efficient inventory control, better business strategies and incentives for employees, and thus a more efficient service (Taylor, 2016). For Ferrara et al. (2016), in recent years the digital environment has evolved in a very dynamic way, and thanks to advances in artificial intelligence there are multiple virtual platforms that allow greater contact with news, experiences or opinions of all kinds, in many cases without verify the content. Customers buy for the added value that is provided to them, which is why the application of technology provides a different approach that allows connecting, attracting and retaining customers, as noted by Fiore and Kim (2007, p.421 cited in Taylor, 2016). Contemporary shopping and experiences are claimed to involve more than consumer acquisition of goods and mobile device offering. Currently the customer experience is valued more than the contracted product.

New information technologies are accompanied by risks for end users, such as external and internal theft, internal errors, process or administrative errors, and interpersonal fraud. However, it is not known in which sectors it has a greater impact (Chapman and Templarios, 2006, as cited in Taylor, 2016). Automation, Artificial Intelligence and the creation of robots affect mid-range work, that is, routine activities that involve order, execution, but not reasoning (Vermeulen et al., 2018). Ivanova & Jarcallov (2018) argue that: In particular, there is great fear of sensitivity in Artificial Intelligence systems, in addition to a high concern about the disappearance of the human species due to the emergence of a sensitive entity with objectives that are not aligned with humans (p.14). According to the article issued by The UNESCO Courier (2018): These risks are of three orders: the shortage of work, which would be carried out by machines instead of human beings; the consequences for the autonomy of the individual, especially for his freedom and security; and the overcoming of the human race, which would be replaced by increasingly intelligent machines (p.9). The greatest fear of human beings is that robots or intelligent machines completely displace them from their work activities or that they are capable of performing operations that were commonly only performed by human hands. Some of the risks of using bots is that they can be used for a malicious purpose, for example, to obtain information or even alter poll or voting results, as Ferrara et al. (2016). Currently there are many cases in which AI is being used not only to replace people, but like all new technologies, it can be used to commit crimes and cause problems (invasion of privacy, weapons of war, data manipulation, fraud, etc.).

2.4 Job Creation And Destruction

The application of artificial intelligence is increasing in various industries worldwide and has a greater presence in developed countries such as Japan, the United States and Asia. For Vermeulen, Kesselhut, Pyka and Saviotti (2018), European countries are more frequently adopting the use of this technology in their processes and operations within the company, however, there is still a gap that does not allow it to fully enter , given that according to studies only 27% of organizations are within this group that is growing with automation. As detailed by Jurkowitz et al., (2014 as cited in Aubert-Tarbya, R. Escobara and Raynab, 2018), the arrival of the Internet caused a considerable reduction in jobs in the press or communications industry, with a reduction of 16,200 newspapers and 38,000 jobs in magazines between 2003 and 2012. To speak of Artificial Intelligence is to speak of Alan Turing and the conception of the Turing Test, which consists of a test that measures the ability of a machine to demonstrate intelligent behavior similar to that of a human. Direct physical interaction between the evaluator and the computer is deliberately avoided, since intelligence measurement required physically simulating a human. However, in the so-called total Turing test, a video signal is used so that the evaluator can rate the perception capacity of the evaluated person, and also so that he can pass physical objects. To pass the total Turing test, it is necessary for the computer to be equipped, in addition to the above capabilities, with a view that allows it to perceive objects, and robotics, to move said objects (Chicas, Contreras, Cortez, Gutiérrez, 2015, p. fifteen). In recent years, technology has generated multiple benefits in business management, but it also causes some concern about the implications for employment, in part due to the application of robotics, which is the application of science and technology in design, the manufacture and use of robots. What until a few decades ago was somewhat uncertain today is already a reality, robotics provides functionality, automatic processes, cost reduction, among other benefits in different areas; The process of replacing humans with robots will have a favorable scope at work, according to the strategic research agenda on robotics for the period 2014-2020 indicated by euRobotics AISBL (2013): Robotics technology will become dominant during the Next decade, it will influence all aspects of work and home. Robotics has the potential to transform lives and work practices, to raise levels of efficiency and safety, to offer better services, and to create jobs. Its impact will be greater and greater, as the interactions between robots and people multiply (p.150). For Fleming (2019), technological innovations not only serve repetitive tasks, but for different industries, and he proposes the concept of limited automation, highlighting social considerations (that is, the price of labor, organizational power relations and the nature of the

task) on the qualities of the technology. Crandall, Oudah, Tennom, Ishowo-Oloko, Abdallah, Bonnefon, Cebrian, Shariff, Goodrich, Rahwan (2018) detail that attention has been paid to the scenarios in which man-machine cooperation is beneficial, but not of greater importance, as there are scenarios where human and machine preferences are not completely aligned. Industrial companies have as a rule organizing their activities in standardized and repetitive ways, that is why factory jobs were always in danger of being replaced by machines as engineering science develops (Fleming, 2019). Robertson (2014), who is especially interested in exploring human-robot interactions in general, mentions that robots are increasing in Japan and it is common to see them in civilian settings, such as hospitals, offices, factories, and family homes. While in the United States, most robots are financed and produced for the defense department and its agencies. According to an article published in El Comercio (2018), in Peru only 30% of Peruvian industries indicate that they use robots for their businesses, in addition three out of ten already use them in factories and 10% use additive manufacturing, that is ie 3D printing for your jobs. This was indicated by a study carried out by Real Time Management (RTM) and the PAD of the University of Piura (par. 1). The interaction of artificial intelligence in technology is powerful, the transformation of the production process into new products is considerable.

It is important to note that communication with society regarding regulation, acceptance and resistance to change is of utmost importance for evolution. So, has employment really been affected by the application of artificial intelligence in companies? There are positive and negative prospects.

✓ Fontenla and Calvo (2018) mention that the arrival of technology will eradicate half of the jobs in the United States, which will force professionals to specialize more in technological issues, producing an occupational transformation.

✓ For Ferrara, Varol, Davis, Menczer and Flammini (2016), a social bot is one capable of spontaneously reproducing information and interacting with humans through digital programs, used mostly in recognized companies. Friendly robots for Breazal (2003) are those that have the ability to interact with humans, obtaining social skills capable of obtaining a friendship relationship. It is also specified that great care must be taken with safety and the impact that this interrelation may cause.

✓ From the inclusion of AI in work activities, it has been considered a tool that facilitates operations to reduce execution times. Over the years the technology is being applied in various economic sectors. There is still no total certainty that the use of AI affects and completely destroys jobs, as well as the volume of jobs that can be created with the implementation of this technology. For many experts in the business environment, the inclusion of AI is an opportunity for improvement for professional workers, since working with another mentality allows creating new business models within the market, changing working conditions and a restructuring of the forms of conventional work. This would indicate that the impact of the application of AI is still a mystery (Carazo, 2017).

According to the Economic and Social Council of Spain (2015, as cited in Gómez, 2018, p.154), the massive destruction of jobs caused by artificial intelligence in robotization will cause "the polarization of occupation "(Gómez, 2018), that is, candidates for jobs with specialization in technological issues will be better valued. Consequently, repetitive and manual work will decrease, to finally be replaced by machines.

✓ Industrial companies have as a rule to organize their activities in a standardized and repetitive way, that is why factory jobs were always in danger of being replaced by machines as technology develops (Fleming, 2019).

✓ For Robertson (2014), twenty years ago Japanese robotics was ahead of the curve in the search for human incarnations and the construction of sociable service robots. Japan remains at the

forefront of human-robot communication, and since 2007 the state has actively promoted the virtues of a robot-dependent society and lifestyle. Surveys at the national level suggest that Japanese citizens are more comfortable sharing living and working environments with robots than with foreign caregivers or migrant workers. As its population continues to shrink and age faster than other states, the Japanese are turning to robotics in the industry to revitalize the economy and preserve the country's supposed ethnicities.

✓ For Schumpeter (1950, as cited in DeCanio, 2016), the introduction of new techniques disrupts production and labor markets. With the replacement of machines, some activities will become obsolete, while new skills may be required to implement the improved technology. At the same time, the increase in total productivity will come from technology, coupled with the fact that it can be associated with new business initiatives and job opportunities. The destruction of some jobs will occur due to the devaluation of some operational forms and their replacement by new jobs or new systems. However, the historical trend for employment and wages to increase as technological progress occurs is a fact that the author believes based on experience and facts. To assess the impact of technical progress on aggregate employment and wages, some measure of the replacement of work by new technology is required, along with a way of calculating the overall increase in production that accompanies technological change.

✓ For Díaz (2007, as cited in Leyton, Rodríguez and Correa, 2014): These systems allow objectivity when weighing the evidence without the influence of emotional reactions on the part of the user. They bring dynamism through the modularity of the structure and free the mind and time of the human expert to allow him to concentrate on more creative activities (p.215).

3. CONCLUSION

After reviewing the different concepts, opinions and criticisms of various authors, the concept and application of artificial intelligence in today's business environment is clearer. The evolution of companies over time leads to reflect on the importance of adapting to change, the truth is that companies that do not innovate in terms of processes and especially in the application of technology, will not have the expected growth. Most companies in Peru today do not have knowledge or do not know how to exploit advances in artificial intelligence in their daily management. Talking about AI in the workplace forces us to analyze whether machines are more intelligent than human beings. According to the UNESCO Courier (2018), the answer of author Jean Gabriel Ganascia is that it is a conjecture from science fiction: However, the success of the expression "artificial intelligence" is sometimes due to a misunderstanding when he uses it to refer to an artificial entity endowed with intelligence and, therefore, capable of rivaling the human being (p. 7). For Goertzel & Pennachin (2007), AI has two approaches: one points out that it has the ability to solve simple problems, in a very human-like way; the other, called Narrow AI, allows the performance of complex tasks, far superior to those that humans would solve. For the recently cited author, there are levels of complexity in artificial intelligence, which could surpass human intelligence in complex tasks. However, it does not detail what types of tasks it refers to; If the action to be carried out optimizes time, efficiency and resources, then it could be said that it is more convenient to make use of AI, but not that it is more intelligent than human beings.

This position is reinforced by Parkes & Wellman (2015), who question whether AI will succeed in developing the rational ideal in a machine. Despite the effort used to create machines that replace man, they will not be able to achieve absolutely perfect rationality, since human reasoning is unattainable, which is why the big question is whether mechanical agents have finite computational resources so that the technology is close enough to the ideal. In recent times, machines are being treated as rational beings, responding to knowledge, objectives and intentions to act similar to those of the human being. So what is AI capable of in the current state of its evolution? The authors indicate that at present the AI does not think, it cannot be compared and it is not even possible to obtain the

same information from a computer as from a human being, since a robot obeys prior programming patterns that allow it to have an interaction, but not a social relationship (The UNESCO Courier, 2018). Could it be said that they have autonomy? According to the UNESCO Courier (2018), the degree of autonomy is delimited by the human being to the extent that the scope of its programming is available. Therefore, they are not an existential threat to humanity, because even when they have technical autonomy, machines do not have moral autonomy, they do not have their own will, and they only fulfill the objectives set. According to the article in the UNESCO Courier (2018), Vanessa Evers indicates: For an artificial agent to assume a true social function and establish an effective relationship with a human being, it should have a psychological, cultural, social and emotional profile. Current machine learning methods don't allow for this kind of evolution. The robots of tomorrow will be our humble assistants, nothing more (p.11). Increasingly, robots are used to clean the house, transport objects, defuse pumps, build prosthetics, assist with surgical procedures, manufacture products. The sectors in which AI has been centralized in Latin America are service systems, software, health, education, mining, marketing, logistics chain, retail, etc. 65% of decision-makers believe that applying these systems are important and that they represent the core of the business and an advantage over the competition. There are 30% of companies that use chatbots (Endeavor, 2018).

In Latin America the use of these technological innovations is not yet widespread, there is not enough specialized talent in these issues, the lack of digitization of information prevents sufficient data for its correct application. It should be noted that there is also misinformation about what the use of AI and the different applications in the business environment implies, and it is difficult to find enough funds for investment, unlike in developed countries.

- ✓ AI studies intelligent behavior in machines, where its main function is that its technology allows creating and shaping programs that analyze behaviors to perceive, reason, learn, communicate and act in complex environments, one of the long-term goals AI is the development of machines that can do all of these things with equal or perhaps even better performance than humans. It is expected that business models will change in the future and that Artificial Intelligence and Robotics will be considered as the next industrial revolution due to technological changes in systems.
- ✓ The main reasons for the use of AI is its easy and rapid acceptance in companies, entering the digital world today is a necessity rather than an option, more than 50% of companies use software for internal processes such as sales management , payroll, purchasing management, skills assessment, selection processes, training, among others. The digitization that has been applied for a few years helps to have valuable information to be able to analyze costs, processes and decision-making at the managerial level, one of the valid tools to increase productivity. In turn, the commercial forces that drive development technological are not always so benevolent. Large companies at the forefront of AI (social networks, search engines and e-commerce) boost the value of their actions by increasing traffic, consumption and addiction to their technologies, where new technologies such as social networks have a lot of power to Modulating human beliefs and behavior, focused on increasing your advertising business, mixing politics, trivia, and half-truths, can generate massive social change.

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