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ORIGINAL

Benefits of Artificial Intelligence and its Innovation in Organizations

Beneficios de la Inteligencia Artificial y su Innovación en las Organizaciones

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ABSTRACT

This article reviews the advances, benefits and contributions of artificial intelligence to business organizations, without ignoring the need for skilled human labor and talent that companies have always required and which is essential for the economic development of a company. The implementation of legal frameworks and regulations that will in turn address issues such as organizational privacy, cybersecurity and liability are important aspects to be addressed in this article. Thus, this paper focuses on the compilation of scientific articles, books and other texts in which important topics were evidenced such as (i). - Innovation and invention, (ii). - Big Data, (iii). -Implementation of artificial intelligence in organizations, and (iv). -legality and responsibility of decisions, likewise, it examines the legal challenges of AI and highlights that smart contracts are a technological innovation that allows secure, fast and low-risk transactions using blockchain technology, this is why the literature review aims to explore how technology, artificial intelligence and communication tools can facilitate the work of the population, decreasing the time spent on some activities.

Keywords: Economic Development; Innovation and invention y Information Technology and Artificial Intelligence.

RESUMEN

Este articulo hace un recuento de los avances, beneficios y aportes de la inteligencia artificial a las organizaciones empresariales, sin desconocer la necesidad de la mano de obra y el talento calificado humano que siempre han requerido las compañías y el cual resulta indispensable para el desarrollo económico de una empresa. La implementación de marcos legales y regulaciones que a su vez permitirán abordar cuestiones como la privacidad de las organizaciones, la ciberseguridad y la responsabilidad son aspectos importantes a tratar en este artículo. Es así que, este documento se centra en la recopilación de artículos científicos, libros y otros textos en los que se evidenciaron temas importantes como: (i). – Innovación e invención, (ii). – Big Data, (iii). -Implementación de la inteligencia artificial en las organizaciones y (iv). -legalidad y responsabilidad de las decisiones, del mismo modo, examina los desafíos legales de la IA y destaca que los contratos inteligentes son una innovación tecnológica que permite realizar transacciones seguras, rápidas y de bajo riesgo utilizando la tecnología blockchain, es por esto que la revisión literaria tiene como objetivo explorar cómo la tecnología, la inteligencia artificial y las herramientas de comunicación pueden facilitar el trabajo de la población, disminuyendo el tiempo empleado en algunas actividades.

Palabras clave: Desarrollo Económico; Innovación e invención y Tecnologías de la Información y la Inteligencia Artificial.

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INTRODUCTION

In this paper, we identified some critical challenges that artificial intelligence has posed in recent years, as well as its most recent innovations and developments in business organizations and how it has become one of the most impactful and promising technologies of our time, understanding how from virtual assistants in smartphones to machine-assisted medical diagnostics, have facilitated the performance of tasks in a more agile and efficient way to business organizations is not only exciting but a challenge for the industry.[1,2,3]

Thus, the present work consisted of a bibliographic review of a series of scientific articles and books to unify some criteria, glimpse the advances that artificial intelligence has had regarding its implementation in business organizations, where technological tools can be used for the automation of repetitive tasks, document review and control of both financial and any companies offering growth to companies that dare to innovate in their production processes.[4,5]

Artificial intelligence presents exciting opportunities for innovation and efficiency in medicine, logistics, and law.[6,7] Its findings and advances in recent years show some tools that artificial intelligence has developed to access personalized learning resources and improve its understanding of complex concepts.[8]

Artificial intelligence chatbots and virtual assistants are used to provide better service, schedule appointments, and answer frequently asked questions, increasing efficiency in companies and understanding that along with these technological advances come challenges.[9]

For this reason, a growing number of voices are being raised in opposition to the use of artificial intelligence in specific scenarios, arguing concerns of growth in some companies due to the reluctance of new hires, so some fear that artificial intelligence algorithms may perpetuate prejudice and discrimination, arguing that this would negatively affect business organizations and groups that do not want to adapt to new technologies.[10,11]

As future leaders and professionals, students play a crucial role in the discussion on ensuring that artificial intelligence is used ethically and in compliance with the law whenever it is indispensable.[12,13,14] It is noteworthy that, in developed countries, they lead various actions related to AI to be transferred to other countries or through companies dedicated to improving and enhancing the industry.[15] This is considered favorable but also raises concerns about the need for governments to adopt national AI strategies.[16]

The importance of the state assuming efficient policies and addressing the professionalization of young people in universities or technology centers in the field of artificial intelligence so that the creation of new companies can count on the latest in technological development in the execution of their productive processes is considered crucial for the future use of these technologies and to avoid job losses, which is why artificial intelligence contributes and benefits companies and countries.[17,18]

On the other hand, the authors have relied on different tools such as interviews, scientific reports, theoretical analysis, and essays to establish their contributions and establish the importance of artificial intelligence (AI) as a strategy for innovation in the present and the future, particularly in the field of service companies.[19]

There is a worldwide trend in the application of artificial intelligence techniques and their impact on various service sectors, achieving advances in their implementation that leave good feelings for those who are just starting out.[20,21]

AI is used in marketing to improve sales forecasting, predict consumer behavior, and improve the analysis of market trends, information on which authors agree. AI also offers personalized value to customers by taking advantage of artificial intelligence tools. Likewise, this can include searching electronic documents, analyzing data patterns, and identifying possible evidence in criminal or civil cases.[22]

However, perhaps the most crucial thing will be to enlighten the reader on topics such as big data, taxonomy, and technological tools for better industrial development using artificial intelligence in an agile and efficient way without ignoring national and international regulations and data protection laws and regulations set standards for the collection, storage, and use of personal data generating peace of mind and security for organizations and their users, information with which it is claimed is the way forward for the future of companies to be stable and lasting.[23,24]

METHOD

The methodology consisted of a literature review or scoping review that was performed on a series of open-access documents to unify in a single document updated information on the implementation of AI in business organizations, using the SALSA (Search et al.) method, which helped this literature review, not only to be well directed but also with a clear objective, allowing any reader to understand the work done. Each phase was essential to ensure the information gathered was relevant, accurate, and valuable for the analysis. The SALSA method is used in fields such as academic research, business decision-making, and problem-solving in general.

This literary analysis used a qualitative approach aimed at the publication of scientific articles and texts duly endorsed by the academic community.

RESULTS AND DISCUSSION

The following are some of the most critical findings from the literature review, as well as similarities and differences, identifying fundamental strategic decision-making strategies that will allow for a comprehensive assessment of the business environment and market competition, fostering a culture of innovation and creativity.[25,26]

Some of the authors agree that the debate should focus on the plausible and possible uses of AI systems and the safeguards associated with their use, advocating a focus on growth, change, and a more comprehensive understanding of the implications of AI systems in business organizations.[27]

Taking into account not only the risks but also the potential benefits.[28,29] Thus, it answers why technological

innovation should be incorporated into business organizations to meet end consumers' expectations and needs.[30]

Using different artificial intelligence techniques in Colombia, some banking entities in their risk management departments have used models to identify customers who may default on their payments, representing a credit risk for financial institutions.[31,32,33] The models are based on three supervised learning techniques: neural networks, decision trees, and support vector machines.[34]

The authors discuss the description and understanding of the "brain-reading" technique that business organizations want to use to make their products stand out and become indispensable to the population, raising questions about possible exaggerations and misrepresentations of the technology.[35]

The ability of "brain reading" as a form of testing to provide relevant data is of vital importance for companies, without ignoring the conceptual, structural, and methodological obstacles that may hinder its introduction into the production process.[36]

Castellanos, on the other hand, criticizes these responses, arguing that they give priority to market demands and neglect the philosophical implications of technology in education, principles, categories, or issues identified that the lack of empirical evidence and consensus on the effectiveness of technological innovation in companies is a point that perhaps they would seem to want to avoid at all costs.[37,38,39]

For their part, authors argue that the relationship between technology and power in large companies is obscured by the focus on the objectives that have been given to artificial intelligence as a reality; the myths that surround it have caused entrepreneurs and investors to be more cautious about making new decisions that include AI.[40,41]

So, Becerra presents the development of the mobile application Navega Seguro, which incorporates big data tools and addresses the legal implications of ICT legislation, such as data protection, terms and conditions, access to information, and cybersecurity.[42,43]

Lladó, for his part, exposes the possible unintended consequences of the introduction of new information and communication technologies in the university environment, specifically about the constitutional rights of the members of this community, the need to reflect on the regulation of the use of technology in teaching and university management to ensure the protection of these rights is indispensable.[44,45,46,47,48,49] The lack of specific provisions in university regulations on cybersecurity is noted as a concern in the public sector.[50]

For such reason, revealing that situations may arise in which the use or imposition of certain technologies may affect the rights of individuals in the university community and that there is currently no regulation that addresses or avoids these issues suggests that comprehensive and specific regulation is necessary to address the cross-cutting and significant role of technology in universities and avoid potential harm to members of the university community.[51]

Chacón and the company recognize the need to incorporate AI in companies, as it would propel them towards success, develop critical thinking and research culture, and improve the performance of organizations' strategies that would benefit organizations' finances. The results would support incorporating new technologies into their business organizations.[52,53,54] Similarly, researchers argue that AI allows virtual education to become a complementary tool in training processes to then be implemented in organizations.[55]

Martín sees the need for a legal framework that guarantees transparency, control, and protection of fundamental rights in the use of big data and artificial intelligence in cyber-patrolling and cyber-investigation activities.[56]

The collection of diverse information by business organizations, including data from closed-circuit recordings, traffic cameras, drones, satellites, and the Internet, and all those technological tools created for this purpose, allow companies to create products targeted to specific population sectors.[57,58]

On the other hand, concern is raised about the incorporation of data into the Integrated System of Operational Management, Analysis, and Citizen Security (SIGO) and the need for sufficient regulation and accountability in the capture, maintenance, and processing of data, highlighting the potential risks of relying solely on algorithmic formulas in business organizations and in other scenarios such as police actions.[59]

One of the findings that perhaps stands out the most is Monteiro's, which indicates that the duty of hygiene and safety in the workplace includes protecting workers' mental health, encompassing the right to digital disconnection.[60,61,62] The digital footprint left by workers can be used to determine the amount of overtime owed to them, which can be declared additional pay; similarly, obstacles that send repeated communications outside working hours can face administrative fines, and workers can report such infractions to the Labor Inspectorate.[63]

Lladó agrees with Trejo in using AI that developing intelligent contracts is crucial for the future of contract law and the digital economy of organizations, despite some opposition from institutions and individuals.[64,65] Smart contracts are an innovative technological solution that enables secure, fast, and low-risk transactions through blockchain technology.[66]

Another critical finding was to facilitate the creation of organizations that can comprehensively meet the needs of their clients, as it involves considerations of life, health, self-determination, and the right to decide what one wants.[67] The use of technology, such as digitization and ICT, can provide an effective solution.[68]

Centeno's main finding is that information and communication technologies (ICTs) are relevant and practical tools for resocializing inmates in the Colombian prison system. Through a qualitative and inductive research approach, highlighting the following key findings: ICTs, such as artificial intelligence, can facilitate inmates' access to education, work, contact with family, and judicial and penitentiary attention, thus favoring their resocialization.[69,70]

Authors analyze the need for regulation to protect fundamental rights in the face of technological innovations. Sees the importance of safeguarding the rights and interests of individuals when using automated decision-making systems, especially in the case of special categories of data, such as health data.[71]

The authors analyze the importance of teaching innovation and using information and communication technologies (ICTs) in teaching international industries.[72] They emphasize the need for students to actively participate in their learning process and highlight

the potential benefits of incorporating ICT tools in teaching. The implementation of ICT in education can lead to improvements in the quality of learning and the acquisition of professional skills. It is pointed out that using digital platforms and online teaching can offer new opportunities for transmitting knowledge and interaction among students. It focuses on protecting minors from harmful commercial content on the Internet.[73] Spanish and European legislation aims to address the problem of inappropriate advertising messages directed at children. It analyzes five legal texts related to protecting minors from inappropriate advertising messages on the Internet.[74] The study stresses the need for responsible measures and regulations to protect minors from the negative impact of commercial messages on their moral and physical development. It highlights the role of Artificial Intelligence (AI) in monitoring and controlling commercial content to ensure compliance with legal requirements and the rights of minors.[75]

Araya explores the legal challenges posed by artificial intelligence (AI) in Chile, considering its impact on society and the ethical debates surrounding it.[76]

The article analyzes the risks of using AI systems, particularly in software-as-a-service (SaaS) applications. It highlights the need for legal frameworks to address these risks.[77,78]

The impact of robots on businesses, with a focus on improving the productive performance of the organization. He highlights the challenges and risks of intelligent robots, including liability and data protection issues.[79] The author stresses the importance of existing regulations and the need for a comprehensive legal framework to address the risks and new situations that may arise with the widespread use of robots. He proposes establishing universal ethical principles for designing and applying AI, ensuring compliance and enabling users to demand adherence to these requirements. It refers to resolutions and recommendations of the European Parliament on the ethical aspects of artificial intelligence and robotics, indicating the relevance of European regulation in this context.[80]

Sanchez recognizes that robots and artificial intelligence systems are disruptive inventions in the digital environment and are here to stay, contribute to understanding current technological change and reflect on the issues raised by inclusive robotics.

The authors highlight the importance of incorporating information and communication technologies (ICTs) into business organizations to improve the quality of their service delivery.[81]

Differences in predictive models of resilience across companies contribute more to women's resilience scores, while burnout contributes more to men's resilience scores. This suggests that gender perspectives should be considered when designing artificial intelligence programs. Researchers see the need to establish a regulatory framework for Artificial Intelligence (AI) in Colombia, specifically regarding the responsibility of AI products and their control; this is why the use of AI systems has the potential to affect several economic and social sectors, so regulation at a global level is necessary.[82]

They warn that artificial intelligence is advancing faster than organizations and that it is essential for business organizations and the state itself to adapt to new technologies that will enable it not only to comply with the constitution and the law but also to meet the needs of its citizens.

Contreras underscores the need to address the ethical implications of AI in personalizing content through voice interfaces, which in the industry have stood out for their great usefulness to people. The evolution of smart speakers and voice assistants as tools to individualize information and the significant growth of these devices in the home has provided reliable AI that, in principle, focuses on increasing consumer welfare.[84]

As previously mentioned, the work consisted of a review of the advances artificial intelligence has had in business organizations. For this purpose, a literature review was carried out using the SALSA method, which allowed obtaining information endorsed by the academic community and people who have dedicated part of their lives to this work. Next, a summary of some advances in artificial intelligence in business organizations will be presented, allowing for a discussion of the feasibility of new technologies and their implementation in different areas of each organization.[85]

Artificial intelligence has made significant progress in automating tasks and processes, including healthcare, justice, finance, and recruitment decision-making. This raises questions about accountability when automated decisions significantly impact people's lives.[86]

Consequently, the use of artificial intelligence often involves the collection and analysis of large amounts of personal data, which is indispensable when making decisions in business organizations whether to bring a new product to market or to innovate new products to keep afloat privacy regulations, such as the General Data Protection Regulation (GDPR) in the European Union, have been updated to address privacy protection in an artificial intelligence environment and that business organizations do not take advantage of this information for other non-business related issues.[87,88]

The most important aspect of this literature review is the relationship between strategic decision-making, innovation, and business competitiveness, highlighting technological advances and their efficient implementation to improve services, speed up response times, and protect workers' rights.[89]

The challenges faced by companies in a dynamic and changing environment, where global markets and changing consumer expectations make it challenging to remain competitive, emphasize the importance of strategic decision-making to address these challenges and achieve success in innovation and competitiveness.[90]

Bias and discrimination

Artificial intelligence algorithms can inherit biases in the data they are trained on, leading to discriminatory decisions when bringing out new products. The fight against discrimination and fairness in artificial intelligence has led to the creation of specific regulations and ethical evaluations to determine who is responsible when something goes wrong when solved with artificial intelligence systems is complicated.[91]

Some jurisdictions are considering creating a specific legal status for artificial intelligence systems or reviewing the liability of artificial intelligence companies and developers.[92] Thus, artificial intelligence is used on both the offensive and defensive side of cybersecurity. This has led to increased attention in legislation related to cybersecurity and the need to protect critical infrastructure systems.[93,94]

Workers' rights

Automation driven by artificial intelligence has led to discussions about the protection of workers' rights, including retraining and access to new job opportunities in fully automated organizations that do not see a need for human talent, which is a critical issue to address and take into account so that false expectations of discrimination are not created by the use of AI.[95,96]

This literature review showed that business organizations could adapt to new technologies due to a pandemic and how artificial intelligence helped preserve thousands of jobs.[97,98] Artificial intelligence was the lifeline for hundreds of companies that found a way to continue providing their services and stay afloat in technology.[99] This is why, when analyzing the impact of artificial intelligence, it is clear that critical thinking, research culture, and the growth of organizations, thanks to AI.[100]

International regulation

Given that artificial intelligence knows no borders, there has been a push toward international regulatory harmonization to address global challenges related to artificial intelligence and business organizations. [101,102]

Legal liability in artificial intelligence decision-making is a complex and evolving topic.[103] This paper explores some solutions related to liability in AI decision-making. It encourages a discussion about how business companies must adapt to address the growing influence of artificial intelligence in our society.[104]

As such, advances in artificial intelligence have transformed numerous aspects of society, leading to the need to update and develop new regulations in business to address the ethical, legal, and security challenges that arise in this new technological environment.[105] AI-related legislation is constantly evolving to ensure that it encourages innovation, protects privacy, and promotes fairness in the use of this technology in business.[106]

CONCLUSIONS

This literature review highlights the rapid evolution of artificial intelligence in business organizations, enabling growth, meeting consumers' needs, and improving some employees' quality of life. Significant challenges in regulation and application to business organizations. The lack of specific laws and the ability of artificial intelligence to make autonomous decisions raise questions about who is responsible in case of incorrect decisions or illegal actions.

On the other hand, it is cautioned that using algorithms for decision-making in companies, such as the suitability of a candidate for a job, raises questions about fairness, discrimination, and the protection of personal data.

To conclude, there is a need for a balanced approach that combines technology with authoritative business methods, ensuring the practical application of ICT in implementing new business organizations, which may be the appropriate way to serve consumers better.

Active student participation and careful planning are essential for successfully integrating ICT into business organizations. This can improve the quality of their products in the future.

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DECLARATION OF CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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