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Artificial intelligence and its impact on accounting summary

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Summary

This scientific article aims to analyze the impacts of artificial intelligence (AI) in the accounting field, discussing its practical, ethical and technical implications. Technological evolution has radically transformed accounting processes, promoting greater agility, accuracy and data integration. The research addresses the main challenges faced by professionals in the field, in addition to the emerging opportunities in light of this new reality. The methodology used is based on a bibliographic review of contemporary authors, case studies and market observations up to the year 2023. It is concluded that AI not only redefines functions, but also requires a reformulation of the professional and academic profile of accountants.

Keywords: Artificial Intelligence, Accounting, Technology, Ethics, Innovation.

Abstract

This scientific paper aims to analyze the impacts of artificial intelligence (AI) in the area of accounting, discussing its practical, ethical and technical implications. Technological evolution has radically transformed accounting processes, promoting greater agility, accuracy and data integration. The research contemplates the main challenges faced by professionals in the area, in addition to the emerging opportunities in the face of this new reality. The methodology used is based on literature review of contemporary authors, case studies and market observations until the year 2023. It is concluded that AI not only redefines functions, but also requires a reformulation of the professional and academic profile of accountants.

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1. Technological evolution and its insertion in accounting

The history of accounting is marked by constant adaptations to technological advances. From manual ledgers to integrated management software, the accounting field has accompanied the transformations of society. The arrival of artificial intelligence represents a new milestone, with the potential to automate previously restricted analytical and decision-making processes to human judgment. According to Brynjolfsson and McAfee (2017), we live in a "second age" of machines", in which algorithms learn from data and make decisions autonomously. With the introduction of AI into accounting systems, routine activities such as postings, reconciliations and audits began to be carried out with greater speed and precision.

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Tools like RPA (Robotic Process Automation) are widely used to perform repetitive tasks, freeing the professional for more strategic functions (Davenport & Ronanki, 2018). This automation represents a significant saving of time and reduction of human errors.

Artificial intelligence also favors predictive analysis and decision-making support, using large volumes of data to generate accounting insights. The ability to cross-reference financial information with economic and market indicators allows the construction of more robust and future-oriented reports. This reinforces the role of the accountant as strategic advisor within organizations.

However, this transformation does not occur in a homogeneous manner. Many law firms small accounting firms still face difficulties in accessing technology, whether due to costs, or due to lack of knowledge. Technological inequality can create a gap between professionals who master these tools and those who still work in a traditional way. According to studies by IFAC (2020), technological capacity building is one of the biggest challenges for accounting class.

The adoption of AI also implies changes in the academic training of accountants. Accounting course curricula need to incorporate subjects focused on technology, data science and digital ethics. The role of the modern accountant requires multidisciplinary knowledge, which goes beyond legislation and traditional accounting. As Ludícibus (2015) states, accounting must keep up with the challenges of society information.

Therefore, the integration of artificial intelligence into accounting represents not only a technical evolution, but a restructuring of the accountant's role. It is up to professionals in the field understand these transformations, adapting to the new scenario to ensure their relevance and competitiveness.

2. Process automation and operational efficiency

AI's main contribution to accounting is in automating processes. Repetitive activities, such as accounting entries, issuing invoices and generating reports, can be executed by algorithms with greater accuracy than humans. This increases significantly increases operational efficiency and reduces the margin of error. According to a study from Deloitte (2020), companies that implemented AI in their accounting processes observed increase of up to 60% in productivity.

With automation, accounting professionals can now dedicate more time to data analysis and less to mechanical tasks. This contributes to a strategic repositioning of the accountant within organizations. Work ceases to be merely operational and assumes a function analytical and consultative, collaborating with management and decision-making. This change values intellectual capital and requires interpersonal and interpretative skills.

Another relevant point is the standardization of information and the integration of systems. AI allows the connection between different databases, promoting a more holistic view of organization.

This favors corporate governance, compliance and transparency of financial statements. accounting. Software such as SAP S/4HANA and Oracle Cloud Financials incorporate artificial intelligence to integrate financial and accounting operations in real time.

However, care must be taken regarding excessive dependence on automated systems. Human supervision remains essential, especially when interpreting data sensitive and in the analysis of situations not foreseen by the algorithms. Error cases in parameterizations or reading errors can cause considerable damage. As highlighted Frezatti (2019), technology should be an ally, not a substitute for the critical judgment of the counter.

Furthermore, automation requires investments in infrastructure, training and updating. constant. Small and medium-sized businesses often face budget constraints to acquisition of intelligent systems. This scenario demands public policies and initiatives from the accounting sector to promote the democratization of technology, preventing innovation from becoming restricted to large corporations.

Therefore, automation provided by AI is a powerful tool to increase efficiency in accounting, but requires careful management, continuous investment and a organizational culture prepared for innovation Artificial Intelligence in accounting auditing

Auditing is one of the areas that has benefited most from artificial intelligence. The use of algorithms for analyzing large volumes of data enable continuous and in-depth auditing real time, which was previously unfeasible with traditional methods. According to PwC (2021), AI is able to identify anomalous patterns in financial transactions, indicating possible fraud or inconsistencies that require investigation. This predictive and preventive capacity transforms the nature of the auditor's work.

Rather than selecting limited samples of data, as was common practice, the systems AI allows the analysis of all transactions. This increases the degree of reliability of audits and increases transparency in processes. In addition, machine learning tools

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learn from historical data, becoming more accurate with each new audited operation. This evolution represents a paradigm shift in the way audits are conducted.

However, this innovation also raises important challenges. One of the main ones is the need to understand how the algorithms used work, which requires auditors technical knowledge in data science and programming. Accounting auditing becomes if, therefore, a hybrid discipline, which combines accounting, technology and computational logic. As Rezaee and Wang (2019) state, the future of auditing requires professionals multidisciplinary.

Another challenge concerns the reliability of the AI systems themselves. Poorly trained or based on biased data can lead to misinterpretations. The auditing, therefore, cannot do without human critical sense. The auditor must act as a evaluator of the results generated by AI, identifying inconsistencies, logical flaws and recommendations that do not make sense in the context analyzed. Human supervision continues being indispensable.

Additionally, there are ethical issues related to the use of artificial intelligence in auditing. The use of confidential data, information security and responsibility for decisions automated are points that require clear regulation and protocols. The General Law of Data Protection (LGPD) in Brazil and the GDPR in Europe are examples of legislation that directly impact the use of AI in accounting audits.

Therefore, AI in accounting auditing represents a significant advance in terms of accuracy, reach and efficiency. However, its use requires new professional skills, ethical responsibility and a regulatory environment that keeps up with the complexity of these innovations.

3. Professional ethics in the face of artificial intelligence

The insertion of artificial intelligence in accounting also brings up discussions fundamental principles of ethics. The automation of decision-making processes raises questions about the technical and moral responsibility for actions taken by intelligent systems. For example, if an algorithm fails to classify an expense or issues an incorrect report, who should to be held responsible: the programmer, the accountant or the company manager?

Professional ethics, in this new scenario, takes on new contours. The accountant becomes a mediator between the system and the client, ensuring that the algorithms operate in a fair, transparent and impartial. This involves not only understanding the input data, but

also the criteria used by AI to reach certain conclusions. The professional must be able to audit the system itself.

Furthermore, there is a risk that over-reliance on technologies will end up suppressing the human judgment. Many companies completely delegate tasks that require contextual interpretation. In this sense, ethics requires that the accountant maintains his autonomy professional, using AI as a support, and not as a substitute for their critical capacity. As highlights Vasconcelos (2022), technology must enhance ethics, not supplant it.

Another crucial point is data privacy. Accounting deals with sensitive information. of companies and individuals, such as payroll, contracts and tax records. The use of AI requires strict data protection and anonymization measures to prevent breaches that can compromise the trust between accountant and client. This involves both technical aspects as guidelines for professional conduct.

Furthermore, the impartiality of algorithms is a recurring theme. Systems based on Machine learning can reproduce biases present in training data.

This can lead, for example, to discrimination in selection processes or denial of credit. based on historical biases. It is up to the accounting professional to question these biases and ensure the fairness of automated decisions.

Faced with these challenges, ethics in contemporary accounting needs to be reconfigured. The professional code of ethics should consider the impacts of AI and establish clear guidelines for its responsible use. The accountant of the future, in addition to mastering the technique, must be a guardian of integrity, transparency and justice in the use of technologies.

4. The new profile of the accounting professional

The technological revolution brought about by artificial intelligence demands a profound change in accountant profile. Traditional technical skills, although still essential, are no longer sufficient to meet the demands of a market that demands agility, analytical vision and mastery of digital tools. The 21st century accounting professional needs to combine knowledge of accounting, statistics, information and communication technology interpersonal. In this new context, skills such as critical thinking, problem solving, complex problems and adaptability gain prominence. The accountant is no longer a mere recorder of accounting facts to become an analyst capable of generating strategic value for the organization. According to a report by the World Economic Forum (2020), the capacity of working with data and emotional intelligence are core skills in the job market

future work.

Academic training must keep up with this transformation. Accounting courses need to incorporate disciplines focused on data analysis, programming, security information and ethics in technology. In addition, it is essential to encourage learning continuous, through certifications, online courses and participation in events aimed at innovation. Lifelong learning becomes a basic requirement.

The market also begins to value the ability to communicate results clearly and visual. Today's accountant must be able to translate complex data into objective reports and understandable to the organization's various audiences. The use of dashboards, visualizations interactive and tools like Power BI become desirable skills, bringing the accounting of executive decision making.

Another relevant aspect is interdisciplinary collaboration. The accountant needs to interact with professionals from IT, marketing, legal and other areas, working in an integrated manner in the processes business. This multifunctional performance requires empathy, flexibility and the ability to transition across different organizational contexts, making the professional more complete and competitive.

Thus, the new accountant profile is not only technical, but strategic, digital and ethical. professional who knows how to combine accounting knowledge with artificial intelligence will be better prepared to face the challenges and take advantage of the opportunities of a constantly changing market transformation.

5. Future prospects and regulatory challenges

The prospects for the use of artificial intelligence in accounting are broad and promising. The trend is for systems to become increasingly autonomous, intelligent and integrated, enabling risk anticipation, service personalization and decision support highly complex. Data-driven accounting emerges as the new paradigm of the profession, with profound impacts on the way of acting and thinking business.

However, this advancement also poses important regulatory challenges. Accounting standards and auditing standards need to be updated to take into account technological reality. Issues such as liability for automated decisions, traceability of algorithms and data governance require specific guidelines. The actions of regulatory bodies, such as the CFC in Brazil and the IASB internationally, will be crucial in this process.

Tax legislation also needs to keep up with innovations. Integration between systems

accounting and tax, mediated by AI, can make inspection processes more efficient and less bureaucratic. However, standardization and interoperability between systems are challenges to be overcome. Furthermore, excessive regulation can inhibit innovation, if is not conducted with balance and dialogue with society.

The issue of digital inclusion also deserves attention. It is essential that small accounting offices and self-employed professionals have access to tools and training technological. Innovation promotion programs, partnerships with educational institutions and stimulus to digital entrepreneurship can contribute to democratizing the benefits of AI and avoiding market concentration. Finally, the construction of an organizational culture favorable to innovation is essential. The adoption of artificial intelligence goes beyond technology: it requires changes in mentality, in the way of managing people and in the internal processes of organizations accounting. Leadership plays a decisive role in this process, promoting engagement and continuous learning of teams.

In short, artificial intelligence is a game changer for accounting. Its impact will beyond automation, redefining functions, competencies and organizational structures. It is up to the professionals, companies and regulators work together to build a technological future, ethical and inclusive for the accounting profession.

6. Conclusion

Artificial intelligence has profoundly transformed contemporary accounting, imposing a new logic based on data, automation and agility. More than a tool technological, AI represents a new paradigm of professional performance, requiring the accountant expanded skills and a strategic vision of your role. Task automation operational, real-time auditing, forecasting of financial scenarios and analysis of large volumes of data redefine the role of the accountant within organizations.

However, the advancement of AI also poses significant challenges. Professional ethics gain new contours, and the need for regulation becomes increasingly urgent. Issues such as data privacy, accountability for automated decisions and fairness in algorithms need to be addressed seriously by the institutions that train and regulate professionals of accounting. Trust, an essential element of the accounting profession, directly depends how these issues will be handled.

Furthermore, the new accountant profile requires constant updating and critical analysis skills. and mastery of emerging technologies. Interdisciplinarity becomes a differential

competitive, and the accounting professional becomes a link between data and decision making. This transition cannot occur in isolation, requiring the involvement of universities, companies and professional associations in building a solid foundation for the future of the profession.

The scenario that is emerging for accounting is one of opportunity. AI allows professionals move away from repetitive tasks and move closer to strategy organizational, becoming agents of transformation in the companies in which they operate. However, This will only be possible if there is a commitment to ethics, ongoing training and construction of a culture of innovation.

Given this scenario, it is possible to state that artificial intelligence will not replace accountant, but rather the accountant who knows how to use AI will replace the one who does not. The technology, when well applied, does not eliminate human value, but enhances it. It is up to accounting professionals take the lead in this transformation, with responsibility, critical vision and openness to new things.

Thus, the integration between artificial intelligence and accounting marks the beginning of a new era, in which the balance between technology and humanity will be the key to ethical action, efficient and socially relevant of the accounting profession.

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