
Artificial Intelligence - Analysis from an Accounting

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Abstract:

Purpose: This study aims to analyze the integration of Artificial Intelligence (AI) within accounting systems, identifying key strengths, weaknesses, opportunities, and threats through a SWOT analysis. The paper seeks to answer critical research questions regarding the benefits, barriers, and recommendations for AI adoption in accounting, addressing both technological and organizational dimensions.

Design/Methodology/Approach The research employs a qualitative methodology combining a literature review, case studies, and a SWOT analysis. Data is gathered from academic publications, industry reports, and documented AI implementations in accounting. A deductive approach is applied to synthesize findings and highlight emerging trends.

Findings: AI offers significant advantages in accounting, including automation of repetitive tasks, real-time financial data analysis, enhanced fraud detection, and improved reporting accuracy. However, challenges such as high implementation costs, dependency on skilled personnel, algorithmic errors, and employee resistance remain substantial barriers. The study highlights the importance of data quality and organizational readiness in successful AI integration.

Practical Implications: The findings provide actionable insights for accounting professionals, business leaders, and policymakers. Recommendations include investing in employee training, fostering organizational digital readiness, addressing algorithmic biases, and establishing clear legal and regulatory frameworks for AI use in accounting.

Originality/Value: This paper contributes to the growing body of knowledge by offering an interdisciplinary perspective on AI adoption in accounting, integrating technological, and organizational viewpoints. It also emphasizes practical solutions to overcome implementation barriers, making it valuable for both academia and industry practitioners.

Keywords: Artificial Intelligence, Accounting, Automation, Digital Transformation, Data Quality, AI Implementation.

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1. Introduction

The dynamic development of technology and the ongoing digitalization of business processes make artificial intelligence (AI) one of the key areas of research in modern accounting. The integration of AI with accounting systems not only revolutionizes the way financial data is processed and analyzed, but also redefines the roles and competences of people responsible for financial management.

In the context of global economic changes and the growing amount of processed information, artificial intelligence appears as a tool with enormous potential, capable of improving the quality of reporting, automating repetitive tasks and identifying risks and irregularities. However, the implementation and use of AI in accounting is associated with a number of challenges, such as high implementation costs, the need for advanced technological competences or the risk of algorithmic errors.

The aim of this article is to conduct a SWOT analysis of artificial intelligence from an accounting perspective, which will allow for the identification of strengths and weaknesses, as well as opportunities and threats related to the implementation of AI in this area.

The main research questions that are sought to be answered are: What are the key benefits of using AI in accounting? What barriers and challenges may hinder the effective implementation of these technologies? What recommendations can be made to minimize risks and maximize the potential of AI in accounting?

The research methodology is based on the analysis of the subject literature, case studies and qualitative analysis of available data. Particular emphasis was placed on critical evaluation of existing research and identification of areas requiring further exploration.

The novelty of the article results from the interdisciplinary approach, combining the technological and accounting perspectives, which allows for a comprehensive view of the problem under investigation. The relevance of the research is undeniable, considering the pace of development of AI technologies and the growing interest in their implementation in the financial sector.

The main sources of information include scientific publications, industry reports and documentation of AI implementations in the area of accounting. Research limitations result primarily from the diversity and heterogeneity of data available in the literature and the dynamic evolution of technology, which means that some conclusions may quickly become outdated.

This article is an attempt to respond to the growing demand for an in-depth analysis of the opportunities and challenges related to the implementation of artificial intelligence in accounting. The research results can be valuable material both for

scientists working in this area and for practitioners looking for effective solutions supporting financial management in the digital era.

2. Literature Review

Artificial intelligence (AI) is becoming increasingly important in many areas, including accounting, where it revolutionizes traditional processes and introduces new possibilities for data analysis and decision-making. Modern accounting systems are based on precise data analysis, pattern identification and process automation, which makes them an ideal field of application for AI technologies (Tyagi *et al.*, 2023; Velinov *et al.*, 2023; Grima *et al.*, 2023).

Thanks to its ability to process huge amounts of data quickly and accurately, AI not only supports accountants and auditors in their daily tasks, but also allows for detecting anomalies, predicting financial trends and optimizing risk management.

The aim of this literature review is to present the key achievements, research directions and challenges related to the application of AI in accounting. The analysis takes into account the latest trends in research, practical applications in the sector and ethical and legal implications resulting from the implementation of AI in this field.

Rasha Alghazzawi in her research on increasing accounting efficiency in Jordan has shown that a high level of AI implementation, better data quality and competent employees can achieve better accounting performance. The analysis also showed that accounting efficiency in Jordan can be increased by an increased level of AI implementation, mainly when there are elements of organizational readiness, such as sufficient infrastructure and a positive organizational culture.

The research results indicate that organizations that are open to innovation and integration of advanced technologies can achieve a significant competitive advantage, while improving the transparency and credibility of their accounting operations. Especially in a dynamically changing business environment, readiness to adapt technology becomes a key element of success (Alghazzawi, 2024).

In turn, Artificial Intelligence (AI) plays a key role in modern accounting, especially in the context of complex regulations and advanced activities on capital markets. Thanks to AI solutions, reporting entities can effectively implement accounting rules, minimizing concerns about their correct application. At the same time, AI is an opportunity and a challenge for the accounting profession.

In the management of derivatives and hedging, which require both financial and accounting knowledge, AI fills the competence gap between the treasury department and the financial controller, operating under the supervision of the CFO. Intelligent systems such as FXpress or Trema, integrated with ERP platforms (e.g., SAP) and

automated general ledger systems (e.g., Oracle), enable effective collaboration between finance and accounting specialists, which highlights that AI supports the implementation of accounting standards such as IFRS 9, which is crucial in the context of financial risk management and reporting, but not only (Le Guyader, 2019).

However, it is worth paying attention to the results of research conducted by Ndaka, Lassou and others on AI-based accounting systems in Africa. Africa is developing a dynamic AI sector, creating new digital spaces and innovations, but the Policy Center for the New South (PCNS) report draws attention to the marginalization of specific African perspectives, which deepens digital inequalities.

Data used to train AI systems often ignore African social norms, economies, and social organizations, which can lead to further exclusion. The problem is the lack of representative data, which is often distorted by Western methodologies and funder interests, ignoring the reality of the majority of African society.

The research suggests the need to take into account local, traditional accounting systems that have been effective for centuries but have been omitted from formal systems. It proposes a reflection on the design of AI tools to reflect African values and realities, as well as introducing accountability for the development and use of these technologies by Africans.

It is necessary to avoid instrumental approaches by large technology companies that could only pretend to take into account African needs. It is important that AI systems actually serve African societies and help reduce the inequality of knowledge and wealth between the Global North and the Global South.

The paper has exposed the lack of inclusiveness and representativeness in AI development, where data and solutions are dominated by Western perspectives, ignoring local African needs and values. He also pointed out the instrumental approach of large technology companies that may deepen digital inequalities instead of reducing them, which in the international perspective raises great concerns about the rapid process of implementing AI in accounting (Ndaka, Lassou *et al.*, 2024).

This article makes an important contribution to the research on the application of artificial intelligence (AI) in accounting, especially through a SWOT analysis, an interdisciplinary approach, and a focus on practical implementation recommendations.

3. Research Methodology

This study uses a qualitative approach to conduct an analysis of the application of AI in accounting. The following methods were used:

- Literature review: The study is based on a literature review from various sources, including scientific articles, industry reports, and case studies on the implementation of AI in accounting.
- SWOT analysis: Based on the collected data, a SWOT analysis was conducted to identify the strengths, weaknesses, opportunities, and threats associated with the implementation of AI in accounting processes. The SWOT analysis included an assessment of internal and external factors that may affect the effectiveness and efficiency of accounting processes using AI.
- Case study: A case study was also included in the analysis, which allowed for a more in-depth analysis of a specific example of the use of AI in accounting. This allowed for identifying practical aspects, challenges, and benefits related to the implementation of AI in real-world conditions.

The results were presented in the form of a SWOT table and graphs, which allowed for a clear illustration of the analyzed categories and their impact on accounting efficiency. This approach allowed for the identification of key trends and phenomena in the context of the use of AI in accounting. The analysis adopted a deductive approach, drawing conclusions based on available data and analysis.

4. Research Results and Discussion

Modern accounting is facing dynamic changes resulting from technological progress, in particular the development of artificial intelligence (AI). This technology, thanks to its ability to process huge amounts of data, automate processes and support decision-making, is increasingly used in corporate financial management.

Implementing AI in accounting not only enables streamlining traditional accounting processes, but also opens up new perspectives in the field of predictive analysis, audit and financial risk management. However, this process is associated with numerous technical, organizational and ethical challenges that require deeper analysis.

The SWOT analysis presented in this paper aims to comprehensively present both the potential and limitations associated with implementing artificial intelligence in the area of accounting. The results of the analysis provide valuable information on the strengths and weaknesses of AI and the potential opportunities and threats associated with its implementation.

The indicated factors have been synthesized in a table, which is a starting point for further discussion and interpretation of the results.

A synthetic summary of the strengths and weaknesses of artificial intelligence from an accounting perspective and the opportunities and threats associated with it is

presented in Table 1.

Table 1. SWOT analysis of artificial intelligence from an accounting perspective.

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> - automation of repetitive tasks (document accounting, generating financial reports), - increasing the precision and accuracy of financial analyses, - the ability to analyse large data sets in real time, - support in identifying irregularities and financial frauds, - reduction of time and costs of manual work. 	<ul style="list-style-type: none"> - high costs of implementing advanced AI-based systems, - the need to have highly qualified staff to manage AI, - the risk of algorithmic errors and their effects on financial statements, - limitations in interpreting the context and nuances specific to a given sector, - lack of flexibility in non-standard situations.
CHANCES	THREATS
<ul style="list-style-type: none"> - development of advanced tools for forecasting financial trends, - the possibility of full integration of accounting systems with AI in real time, - streamlining audits through automation and data analysis at a granular level, - reducing the number of human errors in accounting processes. - Increased advisory role of accountants thanks to relief from routine activities. 	<ul style="list-style-type: none"> - risk of cyberattacks and data theft, - dependence on AI technology providers and their stability, - possibility of bias in algorithms, - legal and regulatory restrictions on the use of AI in accounting, - employee resistance to implementing new technologies.

Source: Own elaboration.

Identification of strengths, weaknesses, opportunities and threats of the use of artificial intelligence as a result of infection, carried out as part of the SWOT analysis:

The SWOT analysis identification of strengths and weaknesses, opportunities and threats resulting from the use of artificial intelligence in accounting leads to the following conclusions:

1) Strengths - Artificial intelligence (AI) brings significant benefits to accounting, mainly by automating repetitive tasks, such as accounting of documents or generating standard financial reports. Thanks to this, accountants can focus on more advanced analyses and strategic consulting. Another significant advantage is the increased precision in the analysis of financial data, which minimizes the risk of errors and ensures greater accuracy of reports. AI also allows the analysis of huge data sets in real time, which significantly improves decision-making and audit processes. AI systems are also used to identify financial irregularities and fraud, which is a key aspect of the financial security of enterprises. Reducing the time and costs associated with manual data processing is another significant advantage that contributes to increased operational efficiency.

2) Weaknesses - Despite numerous advantages, implementing AI in accounting

brings certain challenges. First of all, these systems require significant financial outlays, both for their purchase and maintenance. Additionally, highly qualified staff capable of managing and supervising AI-based processes are necessary. Another weakness is the risk of algorithmic errors, which can lead to serious financial and legal consequences. AI also has difficulties interpreting the context and specific nuances, which are often crucial in accounting. In addition, these systems may lack flexibility in the face of non-standard or unforeseen situations.

3) Opportunities - AI opens up new possibilities for accounting, including the development of forecasting tools that allow for the prediction of financial trends and early detection of potential threats. The possibility of full integration of accounting systems with AI in real time allows for ongoing monitoring of the financial situation of the company. Automation of audits and granular data analysis increase the transparency and reliability of accounting processes. In addition, AI allows for a significant reduction in the number of human errors, which translates into higher quality financial reporting. Relieving accountants of routine activities gives them the opportunity to focus on strategic consulting and financial planning.

4) Threats - Implementing AI in accounting is also associated with numerous threats. One of the biggest is the risk of cyberattacks and theft of sensitive financial data. Companies that base their operations on AI systems also become more dependent on technology providers, which creates risks related to their stability and quality of services. There is also a risk of algorithm bias, which can lead to incorrect analysis results. Additionally, legal regulations and laws regarding the use of AI in accounting can limit its full implementation. Finally, the natural resistance of employees to new technologies is a barrier that must be overcome through appropriate training and educational campaigns.

In summary, AI has enormous potential to revolutionize accounting, but its effective implementation requires a well-thought-out strategy and consideration of both the benefits and challenges associated with this technology. The presented SWOT analysis is a starting point for further research and practical actions in the area of AI implementation in accounting.

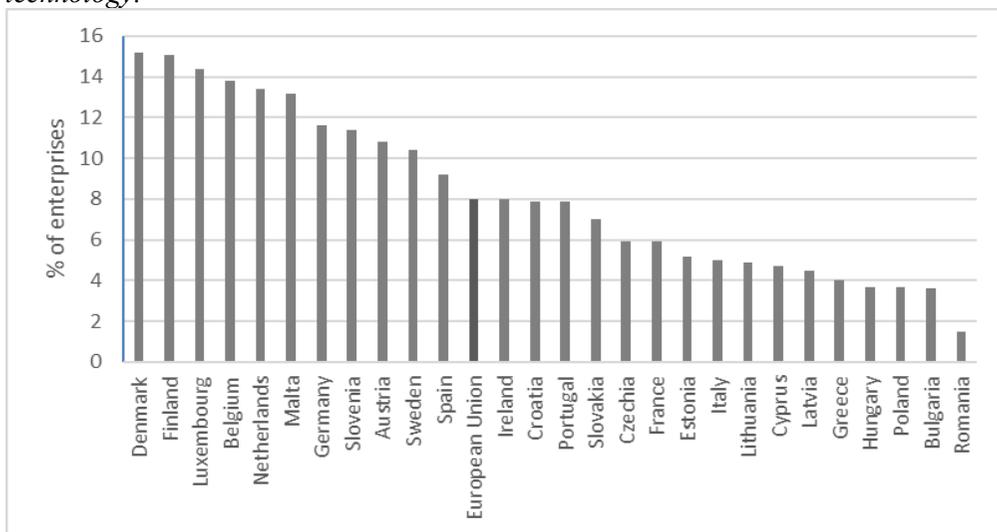
5. The Role of High-Quality Data in the Success of Implementing Artificial Intelligence in Accounting

In the context of considering the implementation of AI in accounting and SWOT analysis, the key element determining the success of AI in accounting is the availability of high-quality data. Data is the foundation for AI algorithms, enabling them to learn effectively, analyze patterns, and support decision-making. In this respect, DESI indicators provide valuable context and reliable data that allow for a better understanding of the current state of readiness of European countries in the field of AI.

In this article, this report serves as a key source of information, allowing to capture the broader context of the implementation of AI technologies. The quality and availability of data are one of the main factors influencing the effectiveness of AI algorithms. The weaknesses indicated in the analysis, such as limitations in data interpretation or the risk of algorithmic errors, are directly related to the quality of input data.

Figure 1 presents the percentage of companies employing 10 or more people that use any AI technology. This data is an important indicator of the degree of implementation of AI solutions in various European countries and reflects the level of technological advancement and organizational readiness to use AI-based tools.

Figure 1. Percentage of companies (with at least 10 employees) using any AI technology.



Source: Own elaboration based on European Commission 2023.

Analysis of the presented data on the implementation of artificial intelligence (AI) in enterprises in European countries reveals significant differences between individual countries. The presented percentages indicate the percentage of enterprises employing at least 10 people that actively use AI technology.

The leaders in this field are Denmark and Finland, where 15.2% and 15.1% of enterprises, respectively, use artificial intelligence. The high results of these countries can be explained by the advanced digitalization of the economy, well-developed technological infrastructure and effective policies supporting innovation.

In third place is Luxembourg with a result of 14.4%, which indicates the high adaptation of modern technologies in the enterprise sector of this small but very developed economy. The next places are occupied by Belgium (13.8%) and the

Netherlands (13.4%), which can also boast a stable and innovative business environment. Malta's high position (13.2%) is an interesting case, as this country, despite its small size, is successfully implementing AI solutions, probably due to the flexibility of its small market and the support of state digitalization programs.

It is worth noting that Germany, Europe's largest economy, is only in seventh place with 11.6%. Although the country is a leader in many industrial and technological sectors, the level of AI implementation in enterprises falls somewhat short of expectations related to the country's economic potential. Similar results were achieved by Slovenia (11.4%) and Austria (10.8%), which present a moderate but stable level of AI adoption.

Among the countries with an average level of AI adoption are Sweden (10.4%), Spain (9.2%) and the average for the entire European Union of 8%. Spain's result suggests some challenges in implementing modern technologies, despite the generally favorable climate for innovation. Ireland, Croatia and Portugal, on the other hand, have reached similar levels (around 7.9%), indicating moderate progress in AI adoption.

At the bottom of the list are countries such as Slovakia (7%), the Czech Republic (5.9%), France (5.9%), Estonia (5.2%) and Italy (5%). France's result may be particularly surprising, considering the technological potential of this country. Italy and the Czech Republic also remain below the EU average, suggesting the need for more decisive actions supporting the implementation of AI technologies in the business sector.

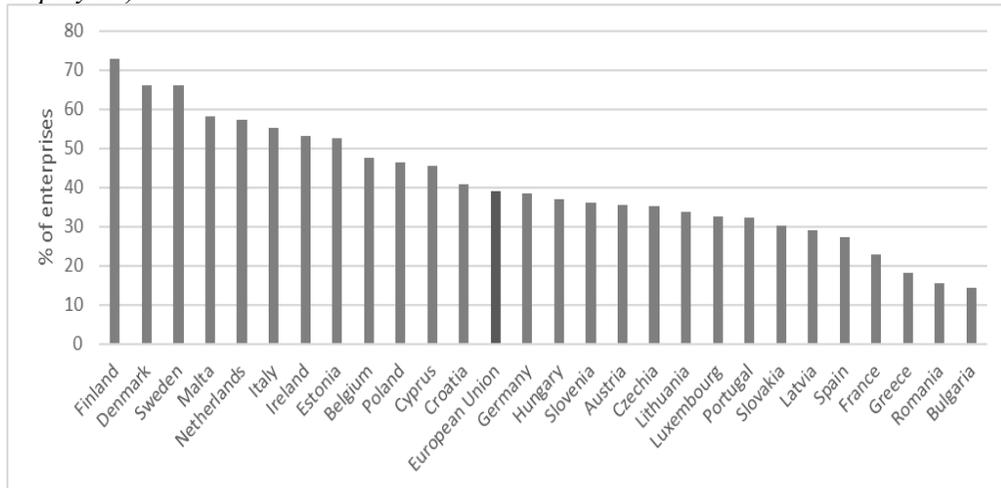
At the very end of the list are Lithuania (4.9%), Cyprus (4.7%), Latvia (4.5%), Greece (4%), Hungary (3.7%), Poland (3.7%), Bulgaria (3.6%) and Romania, which closes the list with a score of 1.5%. The low score of Romania and other countries of Central and Eastern Europe can be explained by the insufficient level of digitalization, limited investment in new technologies and the lack of specialized staff to operate AI systems.

To sum up, the data indicate significant differences in the level of implementation of artificial intelligence in European companies. The Scandinavian and Benelux countries are clearly in the lead, while many countries of Southern and Eastern Europe are lagging behind.

The reasons for these differences are complex and include both economic and social factors, including the level of investment, education and the readiness of companies to undertake innovative activities. Implementing artificial intelligence in companies is a key element in increasing the competitiveness and innovation of European economies, which is why further support and policies aimed at eliminating technological barriers will be of great importance in the coming years.

Figure 2 shows the percentage of companies with 10 or more employees that use cloud computing technology. This data is an important indicator of the technology readiness necessary for the successful implementation of AI-based solutions.

Figure 2. Use of advanced cloud computing services by enterprises (with at least 10 employees).



Source: Own elaboration based on European Commission 2023.

The data on the use of cloud computing by companies in Europe shows significant variation between countries. Cloud computing, defined as the use of at least one intermediate or advanced cloud computing service, includes solutions such as financial and accounting management applications, ERP (enterprise resource planning) applications, CRM (customer relationship management), security applications, database hosting, and computing platforms for building and testing applications. The indicators show the percentage of companies with at least 10 employees that use this type of technology.

Finland tops the ranking, with 73% of companies using cloud computing services. This result can be attributed to the high level of digitalization, developed technological infrastructure, and effective policies supporting digital transformation. Denmark (66.2%) and Sweden (66%) are in the next places, which also show a high level of implementation of modern technologies in companies. The high scores of the Scandinavian countries are evidence of their technological advancement and wide access to cloud solutions.

Malta (58.2%) and the Netherlands (57.4%) also stand out with their high level of cloud technology implementation. In the case of Malta, despite the small size of the market, flexibility and favorable regulations contributed to such good results. In the Netherlands, on the other hand, success results from a strongly developed digital infrastructure and a strong emphasis on technological innovation.

Italy (55.1%), Ireland (53.1%) and Estonia (52.6%) are also above the EU average, which is 38.9%. In recent years, Italian companies have been increasingly involved in digitalization, while Estonia, as one of the leaders of digitalization in Europe, has been developing its infrastructure and competences in the field of cloud services for years. Belgium (47.7%) and Poland (46.5%) are also in the upper part of the ranking, but the difference between them and the leaders is noticeable.

The middle part of the ranking includes countries such as Cyprus (45.5%), Croatia (40.7%), Germany (38.5%), Hungary (37.1%) and Slovenia (36%). Germany's result may seem surprisingly low, considering the country's economic power. This may indicate a more traditional approach to data management by companies and their concerns about the security of their data in the cloud.

Austria (35.6%), the Czech Republic (35.2%), Lithuania (33.6%), Luxembourg (32.6%) and Portugal (32.3%) are in the lower positions.

Although these countries have a well-developed digital infrastructure, the pace of cloud service adoption is slower than in the Scandinavian countries or Malta.

Slovakia (30.2%), Latvia (29%) and Spain (27.2%) are in the lower part of the ranking. Spain's result in particular, as a large country, may raise some concerns about the effectiveness of the implemented digitalization strategies.

The lowest cloud computing adoption rates were recorded in France (22.9%), Greece (18.1%), Romania (15.5%) and Bulgaria (14.2%). These results indicate significant challenges in terms of digitalization and integration of cloud services into business operations. In these countries, there is a lack of not only infrastructure, but also appropriate digital skills and support from government policies.

To sum up, the data analysis shows a clear division of Europe into regions with high, medium and low levels of cloud computing adoption. The Nordic countries, Malta and the Netherlands dominate in this area, while Eastern and Southern Europe have a significant way to catch up. The increase in the use of cloud services is a key element of the digital transformation of companies and their competitiveness in the global market.

Further investments in infrastructure, digital education and regulations supporting digitalization will be crucial for the future of the European economy. The conclusions of the analysis indicate that further investments in digital infrastructure, education and regulations supporting digitalization will be crucial for the future of AI implementation in accounting.

High-quality data is essential to success in this field, and countries that invest in these areas will have a competitive advantage in the global marketplace.

5.1 Case Study

A case study helps illustrate the specific challenges that companies may face when implementing AI. By describing how a company dealt with employee resistance, you can present effective change management strategies that can inspire other organizations. The following examples are used to this end.

Example 1:

Employee resistance to implementing artificial intelligence is one of the most common challenges in the process of digitalization of enterprises. The case study concerns a medium-sized service company operating in the financial sector, which decided to implement advanced AI tools for customer service, data analysis and automation of accounting processes.

The company's management saw the potential in using artificial intelligence algorithms to improve operational efficiency, reduce costs and minimize the risk of human error. However, despite the clear benefits of implementing the technology, the implementation process encountered significant resistance from employees.

The first significant problem was convincing employees of the need for change. Many of them perceived AI as a threat to employment stability and feared that their daily duties would be taken over by machines. This was especially true for older employees who had been basing their work on traditional methods and tools for years.

Lack of trust in new technologies and fear of losing control over financial processes deepened the reluctance to implement AI systems. An additional factor was insufficient communication from the management, which focused on the technical aspects of the project, omitting the psychological and social issues related to employee adaptation to change.

In response to these challenges, the company's management implemented a training program and workshops aimed at increasing employees' digital competences. These trainings were also intended to reduce fears by presenting concrete examples of the benefits of using AI in everyday work. Information sessions were organized, during which it was discussed how technology can support employees, not replace them.

The next step was to introduce so-called technology ambassadors – employees who were the first to undergo training and became the liaison between the technology team and the rest of the staff. The ambassadors acted as mentors, helping colleagues get used to the new tools.

Despite these actions, resistance was still present, especially in areas where it was necessary to break long-standing habits and change the approach to performing

tasks. Some employees showed passive resistance, avoiding training or ignoring new procedures, while others actively criticized the implementation of AI, pointing out its shortcomings and the potential risk of algorithmic errors. The management decided to implement the technology in stages, starting with less critical areas of the business, which allowed to minimize the risk and gradually build trust among the team.

As a result of long-term actions, partial success was achieved. In some departments, efficiency increased significantly, and employees saw real benefits resulting from task automation. However, full adaptation of AI systems still required time and continuous support from the management and IT experts.

The case study shows that the key element of effective implementation of AI in a service company is not only appropriate technical preparation, but also change management at the level of organizational culture. Transparent communication, employee involvement in the implementation process and investments in the development of digital competences are the foundations that allow to overcome resistance and effectively implement innovative technologies in the area of accounting.

Example 2:

Assessing the effectiveness of AI algorithms in detecting financial fraud is a key element in ensuring the stability and security of the banking sector. In the face of the growing number of electronic transactions and increasingly advanced financial fraud techniques, banks must use modern tools for monitoring and analyzing data.

The case study concerns one of the largest commercial banks in the country, which decided to implement AI-based systems to increase the effectiveness of fraud detection and counteracting fraud.

For years, the bank had been using traditional methods of auditing and monitoring transactions, which were mainly based on static rules and manual data analysis. Although these systems were effective in identifying obvious fraud attempts, they were not able to keep up with the rapidly changing patterns of financial criminals. In response to these challenges, the bank implemented machine learning algorithms that had the ability to adapt to dynamic data patterns and independently learn from identified anomalies.

The new AI system was integrated with the bank's central transaction database and began operating in real-time monitoring mode. Algorithms analyzed millions of transactions daily, identifying suspicious patterns such as unexpected transfers to foreign accounts, unusual payment patterns, and sudden changes in account user behavior. AI also used behavioral analysis to compare customer actions with their previous operating patterns, allowing even subtle signals of potential abuse to be detected.

During the first year of the system's operation, the number of detected fraud attempts increased by 40% compared to previous monitoring methods. The AI system successfully identified complex money laundering cases and credit fraud schemes that had previously gone unnoticed.

At the same time, the response time to suspicious transactions was shortened from several days to just a few minutes, allowing funds to be immediately blocked and financial losses to be reduced.

However, the implementation of AI technology was not without its challenges. One of the main problems was generating a large number of false positives. Although the system was extremely sensitive, it sometimes classified legitimate transactions as suspicious, leading to customer frustration and additional workload for analytical teams.

It was therefore necessary to fine-tune the algorithms and better manage input data to improve the precision of the system. An additional challenge was the issue of the transparency of AI algorithms - not all decisions made by the system were understandable to auditors and bank analysts, which raised questions about liability in the event of incorrect decisions.

In response to these problems, the bank invested in additional training for financial analysts and implemented explainable AI mechanisms, which allowed for a better understanding of the basis on which the system makes certain decisions. Additionally, a hybrid monitoring model was implemented, in which AI algorithms cooperate with a team of analysts, enabling more precise verification of suspicious transactions.

The results of the implementation were unequivocally positive. The bank significantly reduced financial losses resulting from abuses and improved its risk management procedures. The AI system became an integral element of the financial security strategy, and the experience from the implementation served as an example for other financial institutions considering implementing similar solutions.

This case shows that the success of implementing AI algorithms in the banking sector depends not only on technology, but also on change management, proper tuning of algorithms and close cooperation between technological and analytical departments. The right combination of human competences with the potential of artificial intelligence enables not only the detection of frauds, but also strengthens the trust of customers in the banking sector as a whole.

6. Conclusions, Proposals, Recommendations

The conclusions from the conducted research clearly indicate the growing role of

artificial intelligence (AI) in accounting, emphasizing its significant impact on operational efficiency, the quality of financial analyses and the transparency of reporting processes. Automation of repetitive tasks, such as document accounting or report generation, not only speeds up processes, but also minimizes the risk of errors resulting from human factors. The use of AI algorithms enables the analysis of huge data sets in real time, which translates into precise forecasting of trends and supports strategic decision-making.

In addition, artificial intelligence plays a key role in detecting irregularities and financial fraud, thus strengthening the security and trust in accounting systems. Nevertheless, the implementation of advanced AI-based tools is associated with significant challenges, including high investment costs, the need to employ highly qualified staff and the risk of algorithmic errors and their potential consequences.

In order to effectively implement AI in accounting, it is necessary to take actions including education and training of employees, development of clear legal regulations and standardization of processes.

The implementation of AI should be flexible and adapted to the specifics of the enterprise, while ensuring appropriate technological infrastructure. Collaboration between the public, private and academic sectors can significantly accelerate the development of innovative solutions.

Further research on the effectiveness of AI in various sectors of the economy, analysis of the risk associated with algorithmic errors and monitoring the impact of AI on the labor market in accounting are also recommended. Taking action for the ethical implementation of AI and the development of hybrid models of human-AI cooperation is also becoming crucial.

Research limitations related to the availability of data, the dynamics of technological change and the adopted research methodology constitute an important context for the interpretation of results. Nevertheless, the value of this study results from providing both a theoretical contribution to the development of science and practical recommendations for decision-makers and enterprises.

Future research should focus on the further development of AI tools and the search for solutions that minimize implementation barriers, which will contribute to the effective and ethical integration of artificial intelligence in accounting.

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