Pros and Cons of using Artificial Intelligence in Accounting: The Dual effect and Financial Control

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ABSTRACT

This paper investigates the opportunities and threats of using Artificial intelligence in accounting by surveying a sample of 300 Jordanian accounting professionals. The results confirm that AI enhances the accuracy, productivity, cost control, and levels of fraud identification by automating routine tasks, therefore improving the decision-making processes. On the other hand, there are also challenges to adopting AI, including high costs of implementation, training requirements due to expertise required, data protection issues, and ethical issues involving transparency and reliability. Responding to these challenges necessitates strategic investments in training programs and the creation of ethical frameworks that will ensure responsible and secure application of AI. The results give actionable suggestions through which policymakers, accountants, and developers of technology will use the benefits of AI through mitigations of its challenges. Further studies will need to involve wider populations and longer-term research to make a more profound statement on the transformation of AI within global accounting practices.

Keywords: Artificial Intelligence, Accounting, Financial Control, Fraud Detection, Accounting Automation
JEL Classifications: M40, M41

1. INTRODUCTION

Recent advancements in technology have greatly transformed the accounting profession. Notably, artificial intelligence has significantly become one of the big disruptors and crates large paradigm shifts Elmegaard (2024). The promise is within machine learning, natural language processing, and robotic process automation, among other AI technologies, by redefining conventional accounting practices with high accuracy, efficiency, and decision-making features (Brynjolfsson et al., 2019). The integration of AI into the accounting system has been described as a game-changer, holding the allure of reducing the insufferable grind of routine tasks, identifying insights from complex data, and strengthening internal controls against fraud by providing real-time anomaly detection (Baker, 2019; Ranta et al., 2023, Black et al., 2022). Although not all issues were put in black and white, some proponents argued that AI adoption would revolutionize

and streamline accounting, making the quality of the data and the efficiency of operations better within an accounting environment (Moll and Yigitbasioglu, 2019; Kuaiber et al., 2024). For example, AI can scan massive amounts of financial transactions at a super-fast pace and with optimal precision, significantly reducing human errors and transactional costs (Leitner-Hanetseder et al., 2022). On the other hand, the issues and potential negative sides of the adoption of AI are also questioned by critics such as high setup costs, skills and expertise requirements, concerns about data privacy and user confidence (Anh et al., 2024; Hasan, 2021). Such discussions point to AI's very complex role in the accounting area as it overlaps with more general trends in technological change, organizational adaptation, and professional ethical issues.

The main problem that this research will address is the two-edged nature of AI in accounting: while its implementation holds the promise of realizing great improvements in practically all aspects

and dimensions of accounting practices, at the same time, it brings about serious impediments that may stand in the way of its smooth implementation in actual practice (Askary et al., 2018; Coman et al., 2022). On the one hand, accuracy and efficiency in operations based on AI technologies are supposed to generate valuable insights that could transform the decision-making process at a very high rate and quality (Eziefule et al., 2022; Cho, 2024). On the other hand, serious barriers to adoption exist due to high implementation costs and continuous need for training, alongside data privacy concerns Noordin et al. (2022). Jordan was targeted as the country of study due to its privileged position as a developing country that adheres to international standards of accounting and auditing (IFRS and ISA). Due to this fact, Jordanian accounting standards are at par with world standards; hence, this research will be highly relevant and comparable in both the developed and emerging markets. As a developing country, Jordan has established a robust governance framework that depicts sound regulatory oversight, transparency, and accountability derived from the organization for economic cooperation and development (OECD) principles. Therefore, Jordan provides the best suite for investigating how AI influences accounting practices. The accounting profession in Jordan is multilayered, from multinationals to SMEs and public institutions; therefore, the landscape on how AI would eventually permeate different organizational contexts. Besides, Jordan is embracing digital transformation; having a well-educated workforce supported by strong infrastructure places Jordan among the leading countries in the Middle East in adopting technology. In this regard, the possibility of exploring AI in the context of the study adds to the insights into challenges and opportunities within a developing country with strong regulation systems. These, in turn, allow relative generalization, thereby increasing the relevance of findings.

This paper aimed to identify the transformational effect artificial intelligence has on modern accounting practice. It determines whether AI is effective and efficient in the accounting process concerning the performance of routine tasks. It will also analyze to what extent AI contributes to improving cost management and productivity in different settings, the study will also seek to identify how effective AI contributes in fraud detection, finally, the study considers some of the challenges that accompany the implementation of AI in accounting and propose some practical solutions for solving them, to improve AI adoption in the accounting field.

As such, this study is relevant in two dimensions: At an academic level and in practical application in accounting research. This paper will show the intricacies of how AI can practically change accounting practices to exploit the resultant stream of benefits while emphasizing any potential implementation impediments. So, with the potential insight that will be shared, the outcomes of this particular research will be used by accountants, technologists, and policymakers seeking informed decisions regarding the adoption and integration of AI in accounting systems.

The current study explores the dual effect of AI on accounting and financial control practices in terms of benefits, which will be realized through enhanced productivity, accuracy, and fraud detection, and challenges in implementation cost, training needs, and related ethical issues. In this respect, the study achieved the following sub-questions: Analysis of the perception of accounting professionals regarding the role of AI in financial oversight, identification of certain specific barriers that impede the effective use of AI in accounting and financial control.

2. LITERATURE REVIEW AND HYPOTHESES

2.1. The Role of AI in Improving the Accuracy of Accounting Information

Previous literature has provided strong support on how AI could help make the accounting process more accurate. AI algorithms can work through substantial data sets accurately, which would reduce the error in accountant judgment. Brynjolfsson et al. (2019) noted that the use of AI in accounting systems increased the accuracy of financial reporting and, therefore, enhanced correspondent regulatory requirements. AI can pick up any discrepancies or anomalies in a set of financial data, increasing the reliability of accounting information (Dongre et.al,, 2020). In other words, AI can particularly execute all complicated reconciliations and even simplify the updating of financial records at all times, thus applicable to effecting accuracy in financial statements (Estep et al., 2024). Automation of data entries, invoices, and reconciliations helps accountants concentrate on higher-strategic jobs. Leitner-Hanetseder et al. (2021) argued that in the case of routine activities, AI can save up to 50% of the time and, therefore, the labor costs. These AI systems work 24/7 without any sign of fatigue, thus ensuring the continued and uninterrupted flow of accounting outputs. AI also enables continuous integration in multinational corporations that have their business in varied time zones Huang et.al, (2022)

2.2. AI and Cost Management

Cost management is a pivotal dimension of accounting activities. AI is supposed to be used actively to change cost management. They are to conduct the costing pattern of spending and deliver areas of reducing cost and optimizing the budget. According to Hasan (2021), any business that used AI to improve costs managed to cut operational costs by 15-20%. Further, AI supports financial prediction and planning; thus, more and better resource allocation can be achieved. Jackson and Allen (2024) argued that AI provides organizations with some sense of predictive analytics which allows them to predict and forecast future financial trends and make appropriate modifications.

2.3. Increasing Productivity with the Help of AI

AI in accounting will be one of the most promising ways to increase productivity. It will help optimize all accounting processes and ensure effective workflow (Alosawi et al., 2024). AI-based tools can perform the most complicated calculations and data analysis thousands of times faster than human accountants. Eziefule et al. (2022) observed at least a 30% increase in business and organizational productivity if artificial intelligence was implemented in the accounting tasks. Real-time financial

reporting and analysis also become possible through AI, meaning managers could easily make necessary adjustments to effectively respond to the changing needs of the market, hence becoming agile players in today's dynamic economic environment (Osasona et al., 2024).

2.4. AI and Fraud Detection

One of the most significant advantages of AI in accounting is the possibility of fraud detection and prevention (Dongre et al., 2020). AI systems can analyze a large volume of transactions to identify anomalies and suspect forged activities. An example was given by Kim et al. (2019), showing that the fraud detection system driven by AI holds more precision than those based on traditional methods for decreasing financial losses due to fraud. Besides, continuous learning abilities with new fraud tactics make fraud prevention measures robust. Wang et al. (2024) pointed out that AI machine learning algorithms mature and operate better with over time sophisticated fraud schemes.

Despite the many benefits that AI might accrue in the field of accounting, there are a number of key challenges that it shall be faced with in its adoption, from the high up-front implementation costs to concerns over issues of data privacy and ethics.

2.5. Initial Implementation Costs

One of the main obstacles to adopting the technology in accounting is the high setup cost. Jackson and Allen (2024) highlight that the cost of acquiring AI technologies and integrating them into pre-existing systems, and then maintaining them may be a cost that is beyond the reach of most small and medium-sized companies. Implementation costs include the cost of the technology and financial burdens concerning system upgrades and support. These needs are extremely resource- and time-intensive. In making it affordable and relatively affordable for the SME, these costs can be such as to outweigh the perceived benefits of AI and thus interfere with its adoption, as normally they work on lower budgets, Chandra and Kumar, (2018).

2.6. Continuous Learning and Training

he adoption of AI in accounting also requires specialized training and skills. According to Osasona et al. (2024), the technologies used in AI require ample training to be provided to accounting professionals if they are capable of using such systems. This involves understanding how to use the AI system, analyze its outputs and integrate any of the AI's insights within the regular accounting process (Anh et al., 2024). There will likely be tremendous pressure for continuous learning, and many entities are disorganized to conduct specialized training programs on such a scale (Ranta et al., 2023).

2.7. Data Privacy and Security

Data privacy and security are two important issues involved in adopting AI technologies. AI systems often deal with financial and sensitive information, thus increasing the risks of data breaches and unauthorized access (Askary et al., 2018) stressed the need for thorough, rigorous security considering both personal and financial data storage and processing through AI systems. Additionally, the AI algorithm's processing of sensitive data shall adhere to high regulatory standards and cumbersome regulations for organizations to meet or comply with in almost all circumstances (Agarwal et al., 2021).

2.8. Ethical and Transparency Issues

The application of AI is imbued as posing ethical dilemmas concerning the decision-making process. Osasona et al. (2024) acknowledge types of risks posed by AI, such as algorithmic bias that etches the algorithms, thus leading to prejudiced or discriminatory outputs against some stakeholders. AI systems are designed to work on datasets that have already encoded biases; thus, they just work to perpetuate it unintentionally. This may skew the results that, in turn, affect decision-making, thus bringing out an adverse effect on the accounting profession. Besides, most AI algorithms are black boxes in nature, and transparency in the process of preference makes it hard to achieve or explain. This lack of ability to be transparent impairs the comprehension of the accountants; therefore, this limits their ability to audit and enforce accountability on AI-driven decisions, jeopardizing the integrity of financial reports (Muller et.al, 2022).

2.9. Trust and Reliability

Trust in AI systems is still one of the most critical areas. Accountants remain suspicious of full reliance on automated systems due to their perceived reliability and accuracy. Aitkazinov (2023) argued that confidence in the accuracy and reliability of AI-based systems is key to user acceptance, inaccuracy in the application of Artificial Intelligence seeds uncertainties. Inaccuracy results in resistance to implementing this technology.

3. RESEARCH METHODOLOGY AND DATA

The data for this study were generated through a structured questionnaire on a purposive sample of 300 accounting professionals. This approach, therefore, enhances generalizability across a range of accounting contexts. The sampling was stratified to capture different levels of professional experience; junior, mid-level, and senior accountants. This had the advantage of allowing a nuanced analysis of how AI adoption may differ with expertise, hence familiarity with technological advancement. In all, 300 responses were retrieved, which accounts for an 85% response rate. Hence, the sample size was adequate to reach the statistical power to perform the statistical analyses, referring to previous research that suggests a sample size larger than 200 for robust quantitative research (Andiola et al., 2020).

The present research undertakes an in-depth study about the influence of AI on such aspects as the accuracy of accounting processes, speed of routine tasks, cost control, productivity, and fraud detection and prevention. Therefore, a questionnaire of 37 questions was designed to assess the pros and cons associated with the application of artificial intelligence in accounting. The statistical data analysis for this study was run using SPSS 23.0.

4. RESULTS AND DISCUSSION

This section discusses the findings obtained on the impact of AI on

the various dimensions of the accounting profession. The analysis begins with the descriptive statistics that are used to present the means and standard deviations in order to identify the overall trends and perceptions by the participants. The descriptive analysis outlines the general attitude and experiences in relation to the use of AI, regarding aspects such as accuracy, productivity, costs, and ethics. To further support our findings, a one-way ANOVA test was conducted to determine whether these differences within the various dimensions were statistically significant. The ANOVA results add important context on which differences between groups can be regarded as representing actual effects due to AI and not to random chance (Leitner-Hanetseder et al., 2021; Eziefule et al., 2022). This duality in the approach provides great strength for this conclusion because a descriptive analysis gave a broad overview, while the ANOVA provided specific statistical evidence. Table 1 presents the results of the one-way ANOVA test.

4.1. Descriptive Statistics of the Sample
Table 2 presents the demographic statistics of the sample, showing a wide variation in age, experience, and knowledge about AI.

The mean age of the participants is 37.2 years with a standard deviation of 8.5 years, showing that accountants fall into several career stages and, therefore, can give a wide range of attitudes and perceptions. This makes it even more credible with diversity included in this study, comparing how younger and older accountants responded and capturing the impact of AI across these categories. So, in this sense, the sample includes both quite experienced and junior accountants, and that will help in understanding how AI affects people in different stages in their careers. Experienced accountants can share ideas of how far regular performance measures compare with new technologies. On the other hand, junior accountants can show how well the young generation adjusts to these technologies. The mean knowledge level in AI is 3.4 out of 5, with a standard deviation of 1.1. This indicates a mix of above-average understanding and usage of this technology on the part of the respondents. Diversification in knowledge will go a long way in the provision of a full view of the extent to which AI has affected accountants who are very acquainted with the technology and others at stages of learning about AI. In sum, this sample is representative and ideal for studying the impacts of AI in accounting, as it is diverse in regard to age, levels of experience, and knowledge levels.

4.2. Descriptive Statistics for Pros
Table 3 below illustrates the descriptive statistics on the pros of using AI in the accounting profession. In the following section, we will discuss the statistics in depth to get a clear idea of these pros along with ANOVA results presented in Table 1:

4.2.1. Accuracy of accounting operations
A high average of 4.1 supports that accountants consent to AI in making the accounting process more accurate. This might be because AI can handle huge amounts of data within less time than humans and with greater accuracy, reducing the probability of mistakes, miscalculations or auditing errors. ANOVA result presented in Table 1 shows A comparatively high value of F-5.23 and a low P = 0.002 show statistical differences in impacts caused

Table 1: ANOVA analysis

Variable	F	P-value
Accuracy of accounting operations	5.23	0.002
Efficiency of routine tasks	3.45	0.031
Cost management	4.75	0.004
Productivity	6.10	0.001
Fraud detection	5.76	0.003
Application cost	2.43	0.021
Training and adoption	1.89	0.048
Ethical and legal challenges	2.76	0.008
Reliability and error	2.41	0.035
Impact on job opportunities	2.54	0.014
Social consequences	2.65	0.006

Table 2: Demographic statistics

Variable	Mean	SD	Minimum	Maximum
Age	37.2	8.5	25	55
Years of experience	8.7	5.2	1	25
Level of knowledge of AI (1: Unfamiliar, 5: Very familiar)	3.4	1.1	1	5

SD: Standard deviation, AI: Artificial intelligence

Table 3: Descriptive statistics (pros)

Dimension	Mean	SD	Minimum	Maximum
Accuracy of accounting operations	4.1	0.7	2	5
Efficiency of routine tasks	3.8	0.8	1	5
Cost management	3.7	0.9	1	5
Productivity	4.0	0.7	2	5
Fraud detection	4.2	0.6	3	5

SD: Standard deviation

by AI on the accuracies of accounting operations performed, meaning the use of AI has considerably improved the accuracy of transactions compared with traditional ones. The idea is reinforced further by a low P-value, which consolidates that the differences between the groups are not by chance. This again consolidates the role of AI toward enhanced efficiency of accounting operations. This result is consistent with (Brynjolfsson et al., 2019), who found that AI systems employ algorithms capable of self-learning from mistakes made earlier and automatically correcting them. Therefore, the reliability level increases over time with the accounting process. The positive impact is evenly spread across the sample, as indicated by a small standard deviation value of 0.7. This may be because larger variances in AI system skills, which different companies employ, can be a vital factor that contributes to such differences; a company may be on an advanced system that guarantees better accuracy.

4.2.2. Efficient routine tasks
The average of 3.8 shows that routine tasks, such as data entry, financial reporting, and invoice processing, are handled better. These are day-to-day activities that take extensive time when carried out manually. Artificial intelligence can highlight patterns and predict routine processes much quicker and more accurately, Banța et al. (2022). Indeed, the high standard deviation of 0.8 at relative levels proves a significant variation among companies or accountants in the level of the foregoing technologies' use. Such variation could be determined by numerous factors from the size

of the company and the complexity of accounting procedures to the ability of accountants to handle these technologies. ANOVA test shows F- 3.45 and the P = 0.031 reflecting significant differences that hold statistically, but less firmly, as was revealed in the comparison between routine tasks efficiency and the accuracy of operations. This still indicates that AI operates by improving routine task efficiency, but not as much as it does with the accuracy of operations. Perhaps this is because some organizations depend more on a certain kind of AI technology in the way of strength or effectiveness or simply because some routine operations are more attached to human intervention. Larger companies may invest more in AI accounting systems and, therefore, have greater gains in efficiency than smaller companies that find AI tools more challenging to use effectively.

4.2.3. Cost management
The viewpoint of accountants on cost management is very different. This is manifested by a large standard deviation of 0.9. Artificial intelligence can introduce more finesse into cost management by taking deeper aspects at the data and suggesting lower costs and efficient spending. This is in combination with a vast array of patterns and trends using predictive analytics and economic models. The average of 3.7 conveys that not all the companies are equal in their advantage, for example, some companies do have advanced tools in artificial intelligence that can enable deep reports on spending and ways of improvement; others may lack them completely or have difficulty exploiting them properly. ANOVA test revealed A very high F = 4.75 and a P-value amounting to 0.004 indicate a strong impact of the use of AI on cost management. This would clearly infer that AI would help in coming up with precise cost analysis and forecasting, which would hence in financial decisions. Small P shows that such an effect is statistically significant. This result is consistent with (AlKoheji and Al-Sartawi, 2022; Jackson and Allen, 2024).

4.2.4. Productivity
The mean value of 4.0 reveals that AI dramatically enhances productivity as accountants manage to divert efforts toward more sophisticated activities that demand intense human intervention as smart systems are carrying out routine tasks, such as data validation and calculation; this result was also documented by Dongre et al. (2020). A standard deviation value of 0.7 shows most participants had one constructive attitude. AI optimizes the productivity of resource allocation by reducing the time of conducting ordinary activities. ANOVA results present a high F = 6.10 and low P = 0.001 reveal that AI helps to enhance productivity within the accounting profession. This suggests that the use of AI contributes to a significant increase in employees' productivity. AI achieves its objective of automating many tasks considered routine, leaving the accountant to perform certain key functions related to strategy formulation. A very realistic application of this result is that AI can analyze a lot of financial data quickly, enabling accountants to make much quicker and more effective decisions. Slight differences in the opinions of the accountants can be attributed to the difference in the quality of the systems applied or even the kind of training that might have been given to the accountants on how best to apply these tools.

4.2.5. Fraud detection and prevention
The results in Table 3 reveal that fraud detection is very consistent, with a mean of 4.2 and a standard deviation of 0.6. Such a level of standard deviation shows that there is near unanimity agreement on the way AI works for this aspect. Concerning ANOVA results that shows F = 5.76, P = 0.003, it proved that AI significantly and effectively affects fraud detection. AI has become an effective tool for detecting fraud much quicker and more accurately in terms of unusual pattern detection. Various AI applications involved in fraud detection depend heavily on big data analysis through running advanced algorithms to uncover suspect patterns that are probably hard to catch by human beings (Kim et al., 2019; Hassan et al., 2023). The practical application would then follow that the findings allow financial and accounting institutions to devise better security systems for finances, reducing the chances for fraud and improving a feeling of confidence when undertaking financial transactions. Given the previous results, the firms are recommended to emphasize training accountants to apply AI technologies most productively, particularly in those areas where the gap is greater, such as cost management or efficiency of routine tasks. This may also imply that the organizations will need to prepare increased budgets for developing the AI system, especially so for those firms that heavily rely on complex accounting processes or have financial departments that demand greater accuracy and efficiency. The systems put in place need to be flexible enough so as to consider the various organizations' needs and expectations as relates to productivity and accuracy.

4.3. Descriptive Statistics for Cons
Table 4 depicts the statistics that trace out the disadvantages of applying AI in accounting, giving an indication that accountants perceive many challenges in adopting the technology. In the next section, we will discuss the statistics accompanied with ANOVA test to get a clear idea of the pros and cons of adopting AI in accounting.

4.3.1. Cost of implementation
The mean of 3.2 points out that the cost of using AI in accounting is only a moderate challenge. The wide variation in opinions, as shown by the standard deviation of 1.0 on this dimension, might originate from the difference in size among the companies and, therefore, the distinction in investments in the technology of AI. ANOVA results (F = 2.43 and P = 0.021) indicate statistically significant differences between groups. Some accountants think this is a serious barrier to realizing AI. The significant differences could also come as a result of a company size. This again suggests that smaller companies have more difficulties realizing AI than larger ones. Hence, the capability of larger firms to handle the associated costs of AI implementations considering a higher

Table 4: Descriptive statistics (cons)

Dimension	Mean	SD	Minimum	Maximum
Application cost	3.2	1.0	1	5
Training and adoption	3.5	0.9	1	5
Ethical and legal challenges	3.8	0.7	2	5
Reliability and error	3.3	0.8	1	5
Impact on job opportunities	3.7	0.6	2	5
Social consequences	3.6	0.7	2	5

SD: Standard deviation

need of financial resources contrasts with wide variations in cost barriers for smaller firms AlKoheji and Al-Sartawi (2022). It would not only include the purchase cost of the system or software but also mean integration with existing systems, their maintenance, and other upgrade costs that can be incurred thereafter. The recommendations for SMEs are based on the consideration of low-cost solutions, or alternatively by adopting systems that avoid high setup resources.

4.3.2. Training and AI adoption

The mean of 3.5 indicates that the accountants find training and adoption is at a moderate level of challenge toward AI technologies. The standard deviation of 0.9 shows that views are relatively different among accountants about the level of difficulty. Training in the use of AI technologies requires an investment of time and other resources. This finding is supported by Eziefule et al. (2022) which indicated that accountants need much time and resources to be trained AI. This is further emphasized by Leitner-Hanetseder et al. (2021) as continuous training that will enable optimization of the AI technologies. ANOVA results indicate statistically significant differences in the impacts at the micro level produced by AI training and the adoption, represented by an F of 1.89 and a P = 0.048, respectively. This means that while some organizations can easily be trained and adopt these technologies, others do not. While this effect size is relatively smaller for the other variables, this finding has again made a case for better training and support for employees to facilitate efficiency in adopting AI technologies. Dongre et al. (2020) argued that scaling up the AI training programs and embedding them within the accountants' long-term strategic plans are necessary for the acquisition of technological capabilities by accountants. Firms are recommended to consider overall training programs in order to ease the use of such technology. And also recommended to scale up the current AI training programs and including them as part of long-term strategic plans.

4.3.3. Ethical and legal issues

Concerning ethical and legal issues, the high mean of 3.8 and a low standard deviation of 0.7 show that accountants agree that ethical and legal challenges arise when using AI in accounting. AI raises several questions regarding privacy, data protection, and legal accountability in case any errors occur. This is being also supported by ANOVA results (F = 2.76, P = 0.008) that suggest statistically significant differences among groups concerning ethical and legal challenges indicating the accountant's concerns regarding privacy, data protection, and legal liability because of the use of AI technology. The application of AI technologies calls for binding ethical and legal policies and controls that aim to assure safe and transparent usage. Moreover, the use of AI may provoke inequality problems, for example, in cases where it is used to drive unfair financial decisions. These qualms thus require an immediate response in the establishment of a strong legislative framework with clear-cut assurances concerning the safe and transparent use of AI. This is consistent with Askary et al. (2018), who required the need for strict data protection procedures and ethical frameworks to address privacy concerns. Furthermore, ethical dilemmas related to algorithmic bias and legal accountability in cases of errors are well-documented, highlighting the necessity for robust legislative

frameworks Anh et al. (2024). Companies must collaborate with regulatory bodies to ensure compliance with both local and international laws (Hasan, 2021).

4.3.4. Reliability and errors

The mean of 3.3 may suggest that accountants view the issues of AI as challenging because of their reliability and potential to make errors. Also, it is very data-driven; if such data are wrong or insufficient, it might pop out untrustworthy outcomes. The standard deviation of 0.8 shows that this issue affects various accountants differently since every firm differs in the quality of the AI system it depends on. Poor designed AI systems could cause deficiencies. Ranta et al. (2023) highlighted that AI systems rely heavily upon data quality. This has been furthered by Leitner-Hanetseder et al. (2021), who argued that old or low-quality systems might further worsen deficiencies. ANOVA results show statistically significant variations in the reliability of the AI systems, and they differ in their potential to generate errors. Dongre et al. (2020) recommended regular audits and investment in data management practices that will strength performance and reliability, this paper suggested that companies take up investments in improved AI systems to ensure that they are sound, reliable, and error-free.

4.3.5. Impacts on employment opportunities

The mean of 3.7 shows that accountants are concerned about the influence of AI on future job opportunities because most accountants might be replaced, given the fact that an artificial intelligence system will take over much routine work in many areas of their practice. However, the common understanding of concerns and rapid tendencies with regard to the automation of current financial processes is reflected by the low standard deviation of 0.6. However, it should be stated that with AI, new jobs related to advanced financial analytics and data management could appear in support of automated systems. ANOVA results show statistically significant differences in accountants' perceptions of AI's impacts on employment and job opportunities; although AI might replace some traditional jobs, it might also help by creating new opportunities in advanced analytics and data management. The results thus suggest that existing employees will have to be upskilled and trained in the digital transformations in the accounting profession. This concern is also evidenced by a study of Leitner-Hanetseder et al. (2021), which pointed out that though AI automates regular tasks, simultaneously, it opens paths for specialized positions in financial analytics and data management.

According to Eziefule et al. (2022), reskilling and upskilling have become urgent, necessary initiatives to facilitate the transition of accountants into AI-supported professions. Therefore, firms will need to invest in the developed skills of accountants in financial analysis and strategic planning, rather than to depend on traditional tasks which would be much more automated.

4.3.6. Social consequences

This result states that accountants are interested in all the social impacts of using AI, most especially on the job and economic environment. AI could further increase the gap between very high-skilled and less-skilled labor and might have lasting social effects from unemployment in some industries. A mean of 3.6 and

standard deviations of 0.7 represents slight opinion variability; some accountants are convinced that new opportunities will open with the help of this technology, while others are sure it endangers their job stability. This result is in line with the views of Brynjolfsson et al. (2019), who, argued that although AI may create new opportunities, it also tends to widen the inequality gap between highly-skilled and low-skilled labors. In this regard, companies are required to enhance professional education and make available continuous training aligned with the demand for skills created by the digital economy (Dongre et al., 2020; Hasan, 2021).

5. CORRELATION ANALYSIS

We used correlation analysis in an attempt to provide useful insights into the relationships between AI usage and perceived benefits within the accounting profession. This correlation analysis of the aforementioned variables will serve to establish the presence of a statistically significant and practically meaningful relationship. This is a foundational step because it shows that higher AI use is related to increased perceived benefit, thus supporting the rationale for the inclusion of these variables in predictive models, such as multiple regression, Leitner-Hanetseder et al. (2021).

Table 5 illustrates the correlation analysis results, which provide a broad view of the associations between the level of AI adoption in accounting and various perceived benefits and challenges.

5.1. AI Use and Accuracy
The value of the correlation coefficient $r = 0.67$ denotes a strong positive relation between the use of AI and the level of accuracy in accounting processes supporting the previous results achieved by (Eziefule et al., 2022; Leitner-Hanetseder et al., 2021), who found that AI enhances the accuracy level through proper data analysis. ANOVA analysis also supports this result, showing significant group differences in perceptions of accuracy: $F = 5.23$, $P = 0.002$, meaning that increased AI use contributes to higher perceived accuracy. We argue that AI usage minimizes human errors since it automates procedures that would have had many scrutiny details.

5.2. AI Use and Efficiency
The coefficient $r = 0.54$ infers that the relation between AI use and efficiency in routine activities is moderately positive. The more the accountant uses AI, the more efficient he becomes in performing the tasks. This result supports the premise that AI decreases the time taken to perform tasks such as data entry and analysis; thus, the accountant can do an extra, more complex, productive task.

Table 5: Correlation analysis

Variable	Coefficient (R)	Significance (P)
AI usage and accuracy	0.67	0.000
AI usage and efficiency	0.54	0.000
AI usage and cost management	0.48	0.000
AI usage and productivity	0.59	0.000
AI usage and fraud detection	0.63	0.000
AI usage and training challenges	0.49	0.000

AI: Artificial intelligence

This is supported by Jackson and Allen (2024), who indicated that AI automation promotes efficiencies in tasks that allow accountants to contribute to strategic activities. The results of ANOVA further supported this result that revealed statistically significant differences in perceptions of routine task efficiency ($F = 3.45$, $P = 0.031$). The results imply that continued use of AI enhances routine efficiency and forms the basis upon which organizations could institute processes for smoothing operations and maximizing resource utilization.

5.3. AI Use and Cost Management
This positive correlation between the use of AI and perceived cost management benefits was supported by significant ANOVA results: $F = 4.75$, $P = 0.004$, hence, indicating that perceptions vary meaningfully across the different levels of AI usage. This result is in line with Eziefule et al. (2022), who stated that AI helps in cost forecasting and cost management hence facilitating better financial decisions. The integration of AI tools into financial analysis for better budget planning and cost saving is what all firms should seek to improve in cost management practices.

5.4. Productivity and AI Use
The correlation analysis shows that AI use and productivity were significantly statistically related. This is in line with the above descriptive analysis whereby the mean score for productivity was among the highest perceived benefits from the use of AI. One-way ANOVA Analysis revealed significant group differences across groups regarding perceived improvements in productivity: $F = 6.10$, $P = 0.001$; this suggests a significant enhancement in perceived productivity with increased AI use. Leitner-Hanetseder et al. (2021) indicated that as AI automates complex tasks, general productivity would increase.

5.5. Fraud Detection and Use of AI
The correlation coefficient r is 0.63, and the $P = 0.000$, showing a strong positive relation between AI usage and fraud detection capability. This result infers that AI identifies abnormal patterns in data that correspond to fraudulent activities. Advanced AI analyzes financial behavior to identify normal and abnormal transactions to improve firms' timely and successful fraud detection capabilities. The ANOVA analysis also confirmed this result by indicating significant differences in perceived fraud detection effectiveness with $F = 5.76$, $P = 0.003$. This is consistent with Hasan (2021) who argued that AI systems are able to spot anomalies more efficient compared to conventional systems. Consequently, firms are recommended to utilize AI-based fraud detection tools to reduce risks and enhance control.

5.6. AI Use and Training Challenges
The correlation coefficient $r = 0.49$ shows that there is a positive relation between AI use and challenges in training; that is, with the higher AI use, there is more challenge for accountants while being trained on such systems. The $P = 0.000$ implies that the relationship is significant. What this means is that AI requires accounting professionals to be endowed with new skills, which leads to the challenge of training employees on such systems. Efficient and continuous training is necessary to make the desired impact in adopting technology.

5.7. Multiple Linear Regression

We used multiple regression to examine the influence of AI usage, AI experience, and AI training on perceived benefits derived from using AI in accounting. Table 6 presents the multiple regression results by the regression coefficient β, standard error, t-value, and P-value, indicating the magnitude of each effect for each variable. Multiple linear regression analyses were performed based on a model which shows from the viewpoint of perceived benefit how various factors influence AI in accounting:

$$Pros_i = \beta_0 + \beta_1 \text{ AI use} + \beta_2 \text{ AI experience} + \beta_3 \text{ AI training} + e_i$$

5.7.1. AI usage and the perceived benefits

The results in Table 6 reveal that the higher the use of AI in carrying out accounting activities, the greater the benefits accruing from such use in terms of increased accuracy, efficiency, and productivity. Also, the $t = 3.75$ presents this effect to be significant. In complement, the very low $P = 0.000$ contains very strong statistical significance; hence, depending on this result we argue that the wider the diffusion of AI and the greater the integration with their accounting system, the more realistic the benefits the accredited organizations enjoy in the improvement in accuracy of data, reduction of errors, and automation of routine processes. This concurs with the notion of investing in the extension of AI usage in accounting, making an extraordinary positive difference in overall performance. This result is supported by those revealed by Jackson and Allen, (2024), who found that continuous use of AI improves operational effectiveness and strategic results, hence, associated with significant positive perception in improvement.

5.7.2. AI experience and the perceived benefits

The positive β coefficient of 0.21 indicates that experience with AI serves to positively influence the benefits perceived from its use but with a lower magnitude when compared to direct use. This effect is statistically significant because under $t = 2.65$, the $P = 0.009$-that is a reliable result. Thus, a reasonable interpretation would be that accountants having more experience in the use of AI technologies tend to benefit from this more. This result infers that greater experience in AI leads to increased perceived benefit from the use of AI. This again supports the work of Eziefule et al. (2022), who observed that experienced accountants are more liable to harness AI capabilities for greater benefits. This again stresses the need for long-term exposure to AI tools for the best results.

5.7.3. AI training and the perceived benefits

The results also indicated that AI training positively impacts perceived benefits; the regression coefficient β is 0.34. The $t = 3.09$ shows this to be statistically strong. The P-value further confirming that training in AI may have a strong effect on the accountants' use of AI technology. Training brings a better understanding of the more effective use of such systems, eradicating the resistance that would otherwise emerge due to technical complexities. This result is in line with Leitner-Hanetseder et al. (2021) who argued that training is an important part of effective usage. This perhaps suggests that companies should invest in such training programs in order to enable their staff to have better overall performance.

Depending on the multiple regression results, we argue that all three variables are significant; the purpose of AI use is to develop the perceived benefit of AI in accounting, while experience and training make a huge difference in taking full advantage of the technology at hand. In other words, the findings tend to suggest that only those organizations that continue to invest in the extension of AI use, in the accountants' expertise, and in continuous training will realize realistic benefits arising out of efficiency, accuracy, and reduced errors. The findings indicate that organizations adopt three axes-first, improving the adoption of AI in the various accounting processes; second, investing in accountants' expertise so that they would be able to use the new systems; and lastly, periodic training would ensure their awareness of newer and latest developments and possible applications.

6. CONCLUSION

The present research encompasses a broad analysis of the two-way effect of artificial intelligence upon the profession of accounting and financial control, focusing on benefits and challenges of adopting AI in accounting. The findings revealed that AI plays a transformational role in enhancing accuracy, productivity, cost management, and fraud detection by the process of automation and enhanced data analysis. These benefits are at the same time potentially offset by important challenges: high implementation costs, special training requirements, data privacy, and ethical issues related to the transparency of algorithms and their reliability.

Addressing these challenges is important to make a responsible AI deployment sustainable. Investment in continuous professional training should be made as stringent as putting in place robust legal and ethical frameworks that create trust and ensure transparency. Taking such actions allow organizations to safely overcome the challenges in AI adoption while ensuring compliance and operational excellence.

This research is not without its limitations; the sample was restricted to 300 Jordanian accounting professionals, this may minimize the extent to which the findings can generalize to other countries with diverse regulatory environments and states of technological readiness. Future studies should strive for a more diversified sample and undertake comparative, cross-regional research. Longitudinal analyses are needed to demonstrate how the influence of AI will evolve over time.

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Table 6: Multiple regression results

Variable	Coefficient (β)	SE	T	Significance (P)
AI usage	0.45	0.12	3.75	0.000
AI experience	0.21	0.08	2.65	0.009
AI training	0.34	0.11	3.09	0.002

SE: Standard error, AI: Artificial intelligence

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