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THE CONTRIBUTION OF ARTIFICIAL INTELLIGENCE IN ENHANCING ACCOUNTING EFFICACY
-A SURVEY OF ACADEMICS AND PRACTITIONERS-

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Abstract:

This study examined the transformative influence of artificial intelligence in accounting, as it aimed to highlight the contribution of AI applications that led to the re-engineering of traditional accounting practices by introducing improvements to increase the accuracy of accounting outputs while improving accounting professionals' technical and cognitive efficiency.

We used the IMRaD methodology for structuring this paper and employed the questionnaire as a tool for statistical analysis of sample data, The findings indicate that AI applications have become indispensable in the accounting field due to the human similarity characteristic, as they contribute to raising the critical thinking skills of accounting students, providing deeper insights into modern financial trends and patterns, while in the professional side, these systems work to automate routine tasks, process Big accounting data, and generate predictive analytics.

Finally, it offers policy recommendations to strengthen the understanding of accounting professionals, academics, and policymakers regarding the paradigm shifts shaping the future of accounting.

Key words: Artificial Intelligence, Accounting Practices, Accounting Education, Big Data, Cloud Computing.

JEL Classification: O33, M41, I23, C45, C55.

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1. INTRODUCTION

Due to the rapid advancement in information technology (IT) and the growing reliance on digital solutions, accounting professionals and academics must adapt to artificial intelligence (AI) technologies, which have demonstrated profound impacts across industries and professions.

As a critical societal profession, accounting plays a pivotal role in regulating and managing financial resources for institutions and individuals. The integration of AI is poised to fundamentally reshape accounting practices, including work methodologies, performance standards, and operational efficiency. Notably, major accounting organizations – such as the Big 4 accounting firms- have actively adopted AI-driven solutions despite persistent challenges, including incompatibility between legacy financial systems and AI tools, necessitating the restructuring of accounting roles and workflows, revising educational curricula to embed AI competencies, and up-skilling professionals to ensure mastery of these technologies.

Even with challenges, the advantages of AI in accounting are apparent. AI-driven systems reduce the risk of errors and fraud through the financial reporting accuracy, and also permit businesses to access real-time financial analysis by the timely relevant financial information (Odonkor et al., 2024).

To identify the primary challenges facing the use of AI in accounting, to analyse the relationship between AI applications and the performance of both professional and academic accountants, and to determine how the integration of these technologies influences the effectiveness and accuracy of accounting data, the study question is: **How artificial intelligence can contribute to enhancing accounting practices efficacy?**

We used the questionnaire as a data collection tool. We chose the axis questionnaire because it was divided into three principal axes, with different aspects of the study through several paragraphs that all share the duplicate content and context, as well as the personal data axis to define the characteristics of the study sample.

This paper is structured in the IMRAD format. The IMRAD layout facilitates the adequate and comprehensive presentation of scientific research. It allows authors to present: what is known what is not known, and why the study was done (Introduction); who the participants were, how the research was carried out, and how the results were evaluated (Material and Method); what was found (Results), and what the study means for the general appraisal of the topic (Discussion) (Todorovic Ljubonir, 2003).

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

This chapter reviews key concepts and theories related to the impact of artificial intelligence applications on accounting practices to highlight gaps in the literature and related studies that dealt with this topic and expand the scope of our research.

The emergence of AI has reshaped traditional accounting practices, through a pivotal shift in how financial data is managed, analyzed and reported that was previously dominated by manual processes and linear workflows (Odonkor et al., 2024).

According to the research of (Li & Vasarhelyi, 2024) the emergence of large language models (LLMs) presents significant opportunities in accounting, including optimizing current processes, extracting new information, and updating accounting measurements. These models, such as Chat GPT and GPT-4 by OpenAI, are emerging as powerful tools for textual analysis tasks in accounting research. GLLMs can solve any textual analysis task solvable using no generative methods, as well as functions previously only solvable using human coding (de Kok, 2025).

In addition, (Ballantine et al., 2024) confirm that the recent accelerated growth of AI, especially LLMs, presents a unique opportunity for accounting academics to address the uncritical and problematic functionalist view of the discipline and the technical reductionism of accounting. The study also, calls for action to embrace AI in learning and teaching practices in a way that brings about a renewed focus on the human dimension of accounting, incorporating broader social and critical perspectives, thereby addressing longstanding calls for change in AE to move beyond the technical, managerial, and financial focus (core of the AE curriculum) that has dominated the discipline for many decades.

The study by (Begenau et al., 2018) demonstrates that Big Data attracts more financial analysis, which improves investors' forecasts and reduces equity uncertainty, thereby lowering the firm's cost of capital. When investors can process more data, large firm investment costs fall by more, enabling enormous firms to grow larger.

The multifaceted role of Big Data also attaches to the educational accounting; therefore, the study of (Gamage, 2016) proposes that Big Data topics be embedded in existing courses across accounting curricula, which include the following skills for undergraduate programs developed by PricewaterhouseCoopers(Appiah-Kubi, 2023):

- Learning about legacy technologies (e.g., Microsoft Excel and Access);
- Understanding of structured and unstructured databases (e.g., SQL, MongoDB, Hadoop);
- Obtaining and cleaning data;
- Introduction to data visualization (e.g., Tableau, SpotFire, QlikView);
- Univariate and multivariate regression, machine learning, and predictive tools;
- Early coverage of programming languages such as Python, Java, or R.

AI is enhancing cloud computing services like automation, decision-making, and scalability. In particular, Cloud computing has had a significant impact on accounting practices. It has allowed for more flexible and scalable accounting solutions, enabling businesses to access financial data and accounting applications from anywhere, at any time. This flexibility has been especially beneficial for small and medium-sized enterprises, which can now leverage advanced accounting tools without the need for substantial IT infrastructure (Odonkor et al., 2024).

Cloud computing, which is essential for students, accelerates educator and student interaction and collaboration from any internet-enabled device enhancing an inclusive education environment (Lemon et al., 2024), allows endless cooperation between students and educators, and is an alternative to physical classrooms. Cloud-based applications facilitate students' working on assignments or projects despite their geographical constraints (Sun & Shen, 2014), also adopting cloud computing into the accounting education system tackles critical concerns like funding constraints, accessibility challenges, and the need for modernized curricula.

In summary, all this studies concluded that the adoption of artificial intelligence by accounting has enabled to automate all tasks, to provide high-quality services to the customers and to improve the quality of financial data, ensure its reliability, and increase its accuracy.

Yet gaps remain regarding the overall integration of AI technologies into accounting in both professional and academic contexts. This study addresses that gap by focusing on the use of AI technologies in the accounting education process, taking into account whether these applications are practical in the post-graduation work environment and what the accounting labor market needs and requires, which must be included in the curricula to ensure good training for students and thus ensure their efficiency in the future.

Informed by the research of previous and theoretical studies related to the subject of this research, and based on the research question and its objectives, this study is based on two sub-hypotheses as follows:

H_A: There is a statistically significant relationship at the 5% significance level between the use of AI technologies and the effectiveness of accounting education.

H_B: There is a statistically significant relationship at the 5% significance level between the use of AI applications and the performance efficiency of accountants.

3. METHODS

This study adopts a descriptive and analytical technique to assess the impact of the use of AI technologies on accounting practices, both professionally and academically, as an applied study on a group of financial accountants and accounting professors.

3.1 CONTEXT AND SETTING OF THE STUDY

The research was conducted at Ibn Khaldoune University - Tiaret - Department of Finance and Accounting Sciences, Higher School of Economics in Oran, as well as a group of financial accountants and accounting professors in a group of Arab countries (Libya, Egypt, Iraq, Syria), from January 2025 until the end of June 2025, a sufficient period that allowed the sample interviewed to respond carefully and accurately to the questionnaire.

3.2 POPULATION AND SAMPLING STRATEGY

The sample study consisted of a group of accountants and financial and accounting professors from a group of Arab countries distributed as shown in the table above using the appropriate random sample method. The study was conducted using the questionnaire to gather information. 150 questionnaires were distributed, including 30 paper questionnaires and the rest online, distributed through email, of the 80 recovered, 6 questionnaires were not valid for analysis due to the existence of unanswered questions; thus 74 were valid for statistical analysis.

3.3 THE RELIABILITY AND VALIDITY OF THE STUDY TOOL

To ascertain the validity and reliability of the questionnaire, as well as to ensure the consistency of responses to the items, a thorough examination and evaluation were conducted on the following aspects:

3.3.1 RELIABILITY TEST

Table1: Cronbach's Alpha Reliability Coefficient

Axis	Number of statements	Cronbach's Alpha	Total
Axis 1	07	0.869	0.958
Axis 2	08	0.906	
Axis 3	08	0.906	

Source: Prepared by the authors based on the output from SPSS version 28.0.

The results of the table above indicate that the overall Cronbach's alpha coefficient for the three axes is high, and the reliability coefficient is 0.979.

The reliability analysis was conducted on a 3-axis questionnaire designed to measure the impact of the use of AI technologies on accounting practices. The results indicated excellent internal consistency, with Cronbach's alpha of 0.96, suggesting that the items are highly reliable and consistently measure the impact of the use of AI technologies on accounting practices. So the questionnaire is stable and reliable in analyzing the data, testing the study hypotheses, and interpreting the results obtained.

3.3.2 VALIDITY TEST

A test of the validity of the questionnaire was conducted using Pearson's Product-Moment correlation. The validity test, Product-Moment Pearson Correlations, was done by correlating each item's questionnaire scores with the total score. An item-item questionnaire that significantly correlated with the total score indicates that the items are valid.

Table2: Items correlation coefficients with the overall score of its axis 01

N°	Items	Coeff.	Sig.
01	Advanced technology tools are necessary to handle relevant information due to the growing volume of Big Data.	0.758	0.01
02	The strategic application of AI technology is essential at the organizational level.	0.716	
03	Advanced methodologies and intelligent systems are employed in the design of AI applications, which have characteristics similar to those of human intelligence.	0.779	
04	AI systems perform tasks at a fast pace, reducing time and effort.	0.778	
05	Highly complex tasks can be automated with the help of AI predictions.	0.824	
06	AI systems use past experiences and apply them to future scenarios.	0.840	
07	Technological developments have a significant impact on accounting practitioners.	0.569	

Source: Prepared by the authors based on the output from SPSS version 28.0.

Table 2 shows that the results revealed a strong and statistically significant positive correlation between the items of Axis 01 and the overall score of its axis $r\ (56.9;\ 84),\ p< .05$.

This indicates that all items in the axis "the determinations and dimensions of AI technologies" have achieved scale validity.

Table3: Items correlation coefficients with the overall score of its axis 02

N°	Items	Coeff.	Sig.
01	Technological development helps raise the scientific and technical competence of learners in the field of accounting.	0.790	0.01
02	Creating a virtual class based on an AI system (cloud computing) for the department of financial and accounting sciences can help to develop students' skills.	0.791	
03	Google sheets spreadsheets are used as an alternative to excel to enhance student's skills in learning spreadsheet functions.	0.756	
04	AI techniques (multimedia) are an alternative to acquiring, storing, and retrieving knowledge.	0.746	
05	AI technologies (cloud computing) are used in accounting education to prepare its output to keep pace with changes in the professional environment.	0.805	
06	Using AI services (cloud computing) in accounting education enables access to educational files quickly.	0.831	
07	Educational materials are designed to ensure consistency with modern technologies and developments in the field of accounting.	0.683	
08	Accounting science is a cumulative science that requires its information to be stored in long-term memory.	0.831	

Source: Prepared by the authors based on the output from SPSS version 28.0.

Table 3 shows that the results revealed a strong and statistically significant positive correlation between the items of Axis 02 and the overall score of its axis *r (68.3; 83.1), p< .05.*

This indicates that all items in the axis "The impact of adopting AI applications on accounting practices (academically)" have achieved scale validity.

Table4: Items correlation coefficients with the overall score of its axis 03

N°	Items	Coeff.	Sig.
01	AI systems improve output and automate routine accounting tasks.	0.837	0.01
02	AI systems operate within the desired guidelines that help detect accounting fraud	0.797	
03	AI technologies increase the efficiency of accountants and improve adaptive skills in global accounting environments.	0.887	
04	AI technologies enable accounting firms to keep abreast of developments and remain competitive.	0.874	
05	Decisions made by AI systems require the intervention of accountants for their interpretation and analysis, as they are merely mathematical estimates.	0.770	
06	AI technologies require accountants to familiarize themselves with the technical procedures for dealing with electronic files and algorithms.	0.820	
07	AI technologies assist accountants in developing future insights and creating new accounting strategies.	0.871	
08	AI technologies require accountants to adopt new skills as data analysts and information systems developers.	0.806	

Source: Prepared by the authors based on the output from SPSS version 28.0.

Table 4 shows that the results revealed a strong and statistically significant positive correlation between the items of Axis 03 and the overall score of its axis *r (77; 88.7), p< .05.*

This indicates that all items in the axis "The impact of adopting AI applications on accounting practices (professionally) has achieved scale validity.

3.4 DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLE

This section clarifies the personal data, including employment position, qualification, and years of experience, in Table 5, which presents the demographic characteristics of the research sample.

Table5: Demographic characteristics of the sample

Variable	Category	Repetition	Percentage
Employment position	Professor	36	48.6%
	Accountant	38	51.4 %
Qualification	Master degree	9	12.2 %
	MSc degree	17	23 %
	PhD degree	48	64.9 %
Experience	5-10 years	37	50 %
	11-15 years	17	23 %
	More than 15 years	20	27 %

Source: Prepared by the authors based on the output from SPSS version 28.0.

Based on the table data, the study sample is roughly halved between financial and accounting professors and accountants (48.6%; 51.4 %). This indicates that the sample study is closely related to the study's subject and that the investigators have adequate knowledge of the subject, assuring us that their answers will be accurate.

Regarding the qualification, we discovered that 12.2% (n=9) of the sample have a Master's degree, but the majority of participants held a PhD degree, d64.9 % (n=48), and 23% (n=17) have an MSc degree. This suggests that the members of the study sample have the intellectual background and competency required to comprehend the study's subjects and provide accurate answers.

In terms of experience, 50% (n=37) of the participants had 5-10 years of experience, 23% (n=17) had 11-15 years, and 27% (n=20) had more than 15 years of experience. This demonstrates that the participants have expertise in the accounting profession, confirming their ability to provide accurate answers to the questionnaire.

4. Results and discussion:

4.1 Descriptive statistics:

To illustrate the characteristics of the sample members and characterize their responses, we use:

- Frequencies and percentages to quantify the relative frequency distributions of the sample members' attributes and responses to the resolution phrases.
- Arithmetic means calculating the average responses of the sample members to the questionnaire questions.
- Standard deviation is used to quantify the deviation of the sample members' responses from their arithmetic mean.

Table6: Standard deviation and the arithmetic mean of Axis 01

N°.Statement	Standard deviation	Arithmetic means	Trend
01	0.92	4.05	Agree
02	1.023	3.47	Agree
03	1.165	3.23	Somewhat Disagree
04	0.898	4.04	Agree
05	1.034	3.74	Agree
06	1.019	3.69	Agree
07	0.898	3.19	Somewhat Disagree

Source: Prepared by the authors based on the output from SPSS version 28.0.

Table 6 demonstrates that the respondents are:

- Strongly agree that advanced tools are essential for handling relevant information due to the increasing volume of Big Data, as these tools perform tasks quickly and efficiently, reducing time and effort. The low standard deviation indicates a high level of consensus among respondents.
- Agreed that AI is a strategic technology that must be applied at the level of all organizations, as artificial intelligence forecasts help to automate highly complex tasks using previous experiences, and employ them in future situations.
- Some agree that AI applications are designed using sophisticated methods and intelligent systems that emulate characteristics similar to human intelligence. As a result, accounting professionals and academics are significantly responsive to these technological advancements.

Table7: Standard deviation and the arithmetic mean of Axis 02

N°.Statement	Standard deviation	Arithmetic means	Trend
01	0.941	3.93	Agree
02	0.956	3.82	Agree
03	0.879	3.46	Agree
04	1.028	3.64	Agree
05	0.934	3.61	Agree
06	0.927	3.82	Agree
07	1.035	3.57	Agree
08	0.971	3.96	Agree

Source: Prepared by the authors based on the output from SPSS version 28.0.

Table 7 demonstrates that the sample's trends are positive in all paragraphs because its arithmetic averages exceed the measuring tool's mean (3). This suggests that all the study's respondents agreed that accounting science is a cumulative science that requires its information to be stored in long-term memory. They agree that technological development helps to raise the scientific and technical efficiency of accounting learners as it creates a virtual class based on an AI system (Cloud computing) for the Department of Finance and Accounting Sciences to enable learners to access educational files quickly allowing them to keep pace with changes in the professional environment and develop their skills.

They also agree that artificial intelligence (multimedia) technologies are an alternative to knowledge acquisition, storage, and retrieval. Educational materials are designed to ensure consistency with modern technologies and developments in the accounting field. As an example, Google Sheets spreadsheets are used as an alternative to Excel to enhance students' skills in learning spreadsheet functions.

Table8: Standard deviation and the arithmetic mean of Axis 03

N°.Statement	Standard deviation	Arithmetic means	Trend
01	0.979	3.80	Agree
02	1.056	3.62	Agree
03	0.978	3.95	Agree
04	0.902	3.85	Agree
05	1.024	3.78	Agree
06	0.936	3.80	Agree
07	0.884	3.99	Agree
08	0.946	3.81	Agree

Source: Prepared by the authors based on the output from SPSS version 28.0.

Table 8 demonstrates that the sample's trends are positive in all paragraphs because its arithmetic averages exceed the measuring tool's mean (3). This suggests that all the study's respondents agreed that AI technologies contribute to improving outputs and automating daily accounting procedures. They also help accountants familiarize themselves with technical procedures for dealing with electronic files and algorithms, as well as develop future insights and new accounting strategies that enable accounting institutions to keep abreast of developments and continue to compete.

Therefore, AI systems require accountants to adopt new skills, such as data analysts and developers of information systems and technology, so that they can increase their efficiency and enhance adaptation skills to global accounting environments.

They also agree that AI systems operate within the desired constraints that help detect accounting fraud, but the decisions made by these systems require accountants to intervene to interpret and analyze them as mere calculation estimates.

4.2 HYPOTHESIS TESTING RESULTS

- NORMALITY TEST:

As the sample size of the study is larger than 50, in the first place, it is important to use the Shapiro-Wilk test of normality to determine whether the data is normally distributed.

H_0: Data is normally distributed.

H_1: Data is not normally distributed.

Table9: Kolmogorov-Smirnov and Shapiro tests of normality

Tests of Normality						
	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Axe1	0.064	74	0.200	0.990	74	0.851
Axe2	0.081			0.978		0.219
Axe3	0.075			0.984		0.485

Source: Prepared by the authors based on the output from SPSS version 28.0.

The results indicate that we must accept the null hypothesis p>.05 and conclude that the data is normally distributed.

4.2.1 FIRST HYPOTHESIS TEST:

There is a statistically significant relationship at the 5% significance level between the use of artificial intelligence technologies and the effectiveness of accounting education.

H_{A0}: There is no statistically significant relationship at the 5% significance level between the use of AI techniques and the effectiveness of accounting education.

H_{A1}: There is a statistically significant relationship at the 5% significance level between the use of AI techniques and the effectiveness of accounting education.

Table10: One-Sample Test

One-Sample Test						
	Test Value = 0					
	T	df	Sig	Mean Difference	95% Confidence Interval	
					Lower	Upper
Q1	35.943	73	0.001	3.932	3.71	4.15
Q2	34.413			3.824	3.60	4.05
Q3	33.863			3.459	3.26	3.66
Q4	30.418			3.635	3.40	3.87
Q5	33.244			3.608	3.39	3.82
Q6	35.493			3.824	3.61	4.04
Q7	29.659			3.568	3.33	3.81
Q8	35.065			3.959	3.73	4.18

Source: Prepared by the authors based on the output from SPSS version 28.0.

As shown in Table 10, the calculated t-values ranged from 29.66 to 35.94, which exceeded the critical t-value of 1.99 (df = 73, p < .05). These results suggest that participants in the study sample recognized a significant relationship between the use of artificial intelligence technologies and the effectiveness of accounting education.

- **CORRELATION TEST**

To test the strength and direction of the relationship between Axis 1 (Determinants and Dimensions of AI Technologies) as the independent variable and Axis 2 (The Impact of Adopting AI Applications on the Effectiveness of Accounting Education) as the dependent variable, Pearson's correlation coefficient was used. The table below presents the obtained results:

Table11: Correlation Test

Correlations		
		Axe2
Axe1	Pearson Correlation	0.802
	Sig.	0.001
	N	74

Source: Prepared by the authors based on the output from SPSS version 28.0.

Since the correlation coefficient between Axe1 and Axe2 is high (0.802) and the P-value is less than 0.05, we reject the null hypothesis H_0 and accept the alternative hypothesis H_1. This means there is a strong and statistically significant positive relationship between the use of AI applications and the effectiveness of accounting education.

- **REGRESSION ANALYSIS**

Table12: Model Summary

R	R^2	Adjusted R^2	Change Statistics		
			R^2 Change	F Change	Sig. F Change
0.802	0.643	0.638	0.643	129.914	0.001

Source: Prepared by the authors based on the output from SPSS version 28.0.

The coefficient of determination 0.643 suggests that 64.3% of the variance in Axe2 is explained by Axe1.

Adjusted R Square 0.638 provides a more accurate estimate when generalizing the model to the population.

F-value 129.914 with degrees of freedom (df1=1 and df2=72), and the P-value is less than 0.05, meaning the model is statistically significant, and can be reliably used to predict the impact of AI on accounting education.

Table13: Regression equation parameters

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.894	0.254	0.802	3.519	0.001
	Axe1	0.780	0.068		11.398	

Source: Prepared by the authors based on the output from SPSS version 28.0.

Based on the coefficients, the regression equation is:

$$\mathbf{Axe2 = 0.894 + 0.780\ Axe1}$$

$P_1 = 0.001 \quad P_2 = 0.001$

Since P-values < 0.05, this indicates that Axe1 has a strong and significant positive effect on **Axe2.**

So, from the results of tables 7, 8, 9, and 10, we reject the null hypothesis H_0 and accept the alternative hypothesis H_1, supporting the hypothesis that AI applications significantly affect the effectiveness of accounting education.

4.2.2 SECOND HYPOTHESIS TEST:

There is a statistically significant relationship at the 5% significance level between the use of AI applications and the performance efficiency of accountants

H_{B0}: There is no statistically significant relationship at the 5% significance level between the use of AI technologies and the performance efficiency of accountants.

H_{B1}: There is a statistically significant relationship at the 5% significance level between the use of AI technologies and the performance efficiency of accountants.

Table14: One-Sample Test

One-Sample Test						
	Test Value = 0					
	T	Df	Sig	Mean Difference	95% Confidence Interval	
					Lower	Upper
Q1	33.368	73	0.001	3.797	3.57	4.02
Q2	29.502			3.622	3.38	3.87
Q3	34.718			3.946	3.72	4.17
Q4	36.739			3.851	3.64	4.06
Q5	31.788			3.748	3.55	4.02
Q6	34.898			3.797	3.58	4.01
Q7	38.813			3.986	3.78	4.19
Q8	34.647			3.811	3.59	4.03

Source: Prepared by the authors based on the output from SPSS version 28.0.

From the results of the above table, we can see that:

The t-values range between 29.502 and 38.813, which are much higher than the critical table value of 1.993 at a 5 % and 73degrees of freedom; this indicates a strong statistical difference.

The p-values for all items are 0.001, which is much smaller than 5 %. This means the results are statistically significant.

The findings suggest that participants recognize the relationship between using AI technologies and the performance efficiency of accountants.

- **CORRELATION TEST**

Table15: Correlation Test

Correlations		
		Axe2
Axe1	Pearson Correlation	0.743
	Sig.	0.001
	N	74

Source: Prepared by the authors based on the output from SPSS version 28.0.

Since the correlation coefficient between Axe1 and Axe3 is high (0.743) and the P-value is less than 0.05, we reject the null hypothesis H_0 and accept the alternative hypothesis H_1. This means there is a strong and statistically significant positive relationship between the use of AI applications and the performance efficiency of accountants.

- **REGRESSION ANALYSIS**

Table16: Model Summary

R	R2	Adjusted R2	Change Statistics		
			R2 Change	F Change	Sig. F Change
0.743	0.552	0.546	0.552	88.687	0.001

Source: Prepared by the authors based on the output from SPSS version 28.0.

The coefficient of determination 0.552 suggests that 55.2% of the variance in Axe3 is explained by Axe1.

Adjusted R Square 0.546 provides a more accurate estimate when generalizing the model to the population.

F-value 88.687 with degrees of freedom (df1=1 and df2=72) and P-value is less than 0.05 meaning the model is statistically significant, and can be reliably used to predict the impact of AI on the performance efficiency of accountants.

Table17: Regression equation parameters

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.009	0.306	0.743	3.301	0.001
	Axe1	0.775	0.082		9.417	

Source: Prepared by the authors based on the output from SPSS version 28.0.

Based on the coefficients, the regression equation is:

$$\textbf{Axe3 = 1.009 + 0.775 Axe1}$$

$P_1 = 0.001$ $P_2 = 0.001$

Since P-value < 0.05, this indicates that Axe1 has a strong and significant positive effect on Axe3.

Thus, from the results of Tables 14, 15, 16, and 17, we reject the null hypothesis H_0 and accept the alternative hypothesis H_1, that there is a statistically significant relationship at the 5% significance level between the use of AI technologies and the performance efficiency of accountants.

5. CONCLUSION

This study aimed to address the impact that AI systems and applications have on the accounting profession, professionally and academically, by interrogation a sample of accounting practitioners in several Arabic countries, we reached a set of results that, in general, confirmed that integrating artificial intelligence technologies with accounting will necessarily lead to improve the accuracy and the efficiency of accounting practices by automate repetitive tasks from entering routine data to tabulating, classifying and analyzing it, increase the speed of accounting cycle and complete access of information to users and real time reporting, improve management control through the identification of anomalies, enable predictive analytics using dynamic financial modeling for strategic decision making.

It also works to make the accounting educational environment more comprehensive and enhanced, enabling students to keep pace with technological developments in the accounting profession, by relying on augmented reality (virtual classrooms, multimedia, and cloud computing), and developing students' accounting thinking by providing the necessary information to enhance their digital development and innovation.

However, despite the importance of AI in accounting, there are still concerns about protecting customer data and the potential disruption to the distribution of income and wealth, as for eliminating jobs, AI will only eliminate routine jobs that don't require high skills and other innovations, such as electronic marketers and software developers. In contrast, those that need a direct relationship between the organization and customers and require strategic thinking will remain.

Recommendations have been made on the discussion of the literature and the study's findings. First, unifying accounting education standards and integrating them with information technology systems so that all accounting learners can receive the same curriculum at the same pace and level.

Second, AI must be adopted in preparing educational curricula and integrating new axes in accounting as financial data analysts and systems developers, while working to restore accounting education from the market. Third, modernizing training processes in accounting offices by focusing on digital skills to suit the requirements of financial markets.

Four, create algorithms that support the Arabic language so that Arabic users can have a deeper understanding of financial data patterns, conduct analysis, and make decisions accurately and quickly.

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