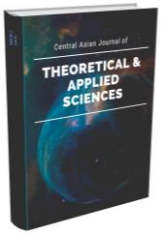

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Article

The Impact of Data Science Applications on the Nature and Scope of Certified Public Accountants' Tasks in the Digital Environment

Ali Abdulkareem Hadi[*1]

1. Department of Financial and Banking Sciences, Imam Alkadhim University College (IKU), Baghdad, Iraq
*Correspondence: ali.abdulkreem@iku.edu.iq

Abstract: The aim of this study is to identify the function of data science applications in the nature and scope of the certified public accountants' job in a group of firms, based on a set of proportions which represents the use of data science such as the artificial intelligence, automation and the data science. The dependent variable can be termed the nature and scope of the assigned tasks carried out by the certified public accountant. The study applied a descriptive analytic approach where a questionnaire was employed as a tool of data collection. The researcher was able to obtain 100 questionnaires from the subjects. The statistical approach to analyse the data was SPSS programme. The study further concluded that there is a significant positive correlation between the application of data science and the nature and scope of the tasks engaged by the legal accountant. Similarly, the independent variable presents 81.6% of the modifications in the nature and scope of the said tasks of the legal accountant. Likewise, the study recommends that firms should establish a special unit which specializes in financial and legal data analysis to enhance strategic decision – making and enhance an atmosphere of transparency and reliable governance as they will rely on genuine reports reinforced by data analysis.

Keywords: Data Science Applications, Big Data Analytics, Artificial Intelligence, Automation, Certified Public Accountants (CPA), Internal Control, Fraud Detection, Professional Decision-Making, Digital Accounting Environment

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1. Introduction

In the era of swift digital modifications that is pervasive across the globe, data science serves as the one of the most essential tools to reshape the nature of work in various domains, most remarkably the accounting profession.

One of the roles of a forensic accountant is no longer restricted to recording of essential financial transactions as well as to prepare traditional statements, but the act of dealing with a large number of data and examining it with the use of modern tools like the artificial intelligence, intelligence automation nd machine learning.

Such tools do not only help to improve operational efficacy, but also to improve the legal accountant's capability to uncover fraud, affirm compliance and offer strategic advice to senior staff of the management [1].

The digital ecosystem has levied a new reality which is characterized by the combination of accounting systems with a big data analytics background, which has broadened the platform of the CPA's jobs to comprises dimensions that are connected to governance, protection of data and genuine support for evidence-inclined decision making.

In addition, dependance on cloud computing and the interface of the dashboards has offered the certified public accountants' greater chance that is flexible in accessing and the analysis of information in the genuine time, that has had a direct effect on the quality of financial and legal choices [2]

Hence, it is essential to study the effect of data science deployment on the nature and scope with regards to the tasks of legal accountants in the digital domain through the identification of independent variables, (big data analysis, artificial intelligence, automation) as well as the dependent variables which include (enhancing internal control, to expand the function towards analytic consultation and the improvement of the quality of professional choices)

This study relationship offers a much deeper perception of how the accounting profession can reshape and opens the opportunity for development of educational curricular and training tools that can keep pace with recent changes as they occur.

Importance of the study

The real-world importance of this study can be inferred from the following: the improvement of professional function through an approved mechanism that can utilize data science to decrease the time and effort being spent on normal tasks and improve the precision of results, additionally, to improve oversight and identifying fraud by the uncovering of unusual patterns more promptly. It can also assist in supporting decision-making by the use of the capabilities of certified public accountants to offer strategic suggestions based on precise data, which enhances the quality of financial and legal choices [3], [4].

From a scientific point of view, the study will contribute towards contributing to fill a gap in current literature by studying the connection between the data science and tasks in relation to certified public accountant.

Study objectives

Some of the objectives of this study can be summarized in the following ways:

1. To examine the link between the data science procedures of big data analysis, automation, artificial intelligence, and the improvement of internal control and financial fraud detection.
2. To assess the effect of data science employment on the expansion of the chartered accountant's function to include analytic consultation and senior management choice support.
3. To elucidate the role if graphic visualization and cloud computing mechanism in the improvement of the quality of legal and accounting choices, in terms of precision, transparency and speed.
4. To set up an applied research conceptual model that can be applied in academic and professional domains to develop training programmes and educational curricula that can keep pace with digital changes.

Research question

Despite the notable advances in data science tools and procedures, the accounting professing can use tool within the digital framework.

In the past few decades, the role of forensic accountant was based on traditional financial practice that is restricted to manual and local reporting. But in recent times, these practices have become more complex and need more strategic approach to detect fraud, and ensure legal consonance.

This study, similarly aims to cover the chasm between the variables which include the big analysis, automation and artificial and improving internal control, improving the quality of professional choices, expanding the function towards analytical consulting, and improving internal control. As this essential gap, raises important queries about the ability of certified public accountants to maintain pace with the digital changes and how science applications can redesign their functions and become more efficient in the digital domain.

Consequently, the following research question was formulated:

1. What is the effect of applying data science on the nature and scope of a certified public accountants' jobs in a digital domain?

Scope of the study

1. The scope of this study will be a set of proportions which is represented by the mechanisms to apply data science and the nature and tasks of the legal accountants' scope in the digital entity.
2. Temporal scope: This study was carried out in November 2025.
3. Spatial scope: The study took place among a group of companies

2. Materials and Methods

Methodology used in the thesis

To answer the proposed research question as well as testing the hypothesis, the. The researcher adopts the following:

1. The research is dependent on the descriptive analytic paradigm, which is one of the recognised scientific methods in the perception of a particular issue in collecting quantitative data, then it will systematically classify and analyse it to achieve a precise interpretation. This study is grounded on the books, periodicals and articles that were published in Arabic and foreign languages.
2. An applied study that is grounded in the application of questionnaire to obtain the opinions of the target sample of the study to assess the effect of applying data science on the nature and scope of the jobs of a certified public accountant in the digital domain.

Study Model

Figure 1 displays the research conceptual model, which illustrates a set of variables that make up the present research, this will provide a preliminary overview of the set of links and influences between the research variables [5].

1. Independent variable: Application of data science and its dimensions: big data analysis, artificial intelligence, automation.
2. Dependent variable: Tasks of the certified public accountant and its dimensions: to strengthen internal control and the detection of fraud, to expand the role of analytic consulting, enhancing the quality of professional decision-making.

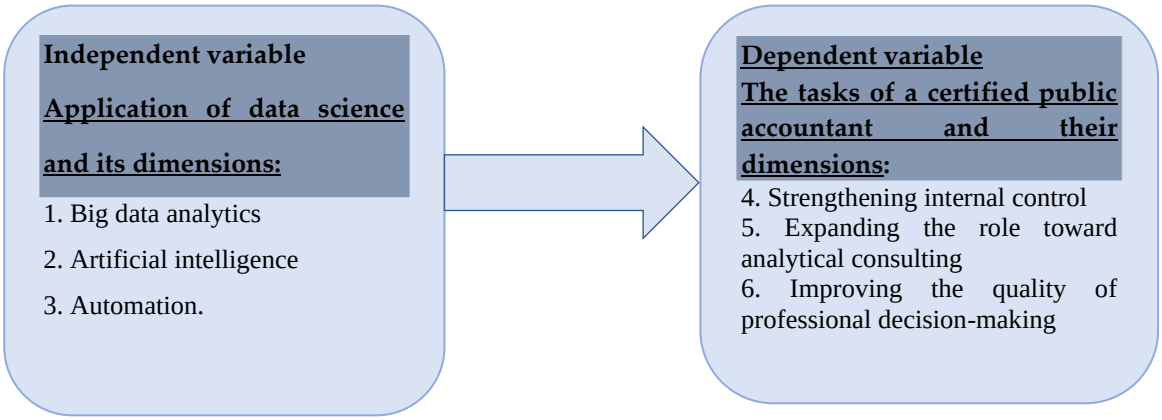

Figure 1. Research model
Source: From the researcher's work

Study Hypotheses

Main hypothesis: There is a numerically significant impact at the 0.05 significance level for the application of data science procedures on the nature and scope of the scope of the tasks of certified public accountants in commercial firms. This will provide the following sub-hypotheses.

1. There is a significant link between big data procedures and the improvement of internal control and the detection of fraud by certified public accountants.
2. There is a significant link between the big data analysis procedures and the enlargement of the scope of the certified public accountants' tasks in the analytic consultant and support of the senior managing in decision-making
3. There is a significant connection between the big data analysis procedures and the improvement of the quality of the certified public accountants' professional choices in relation to precision, transparency and speed.
4. There is a significant connection between the use of artificial intelligence and the improvement of internal control and the detection of fraud by the CPA.
5. There is a significant link between the application of artificial intelligence and the increase in the scope of the certified public accountants' tasks in the analytic with regard to the consultation and support of the senior management in the decision making.
6. There is a significant association between the usage of artificial intelligence and enhancing the quality of the certified public accountants' profession choices with regards to precision, transparency and speed.
7. There is a significant association between automation and the improvement of internal control and the detection of fraud by the CPA.
8. There is a significant link between automation and the extended CPA's tasks and the analytic in consultation and support of senior management in decision-making.
9. There is a significant connection between automation and the improvement and improvement of the quality of professional choices, transparency and speed.

Most important previous studies

Arabic studies

Study (Al-Hawari et al):

The study aimed to assess the effect of digital changes on the performance of accountants' and administrators, which rely a descriptive analytic method with regards to the subject of this study, where the independent variables were contained in the digital changes in the technologies measure (automation cloud computing, artificial intelligence,), whereas the dependent variable was taken by the performance efficacy of accountants and administrators [6].

With the use of the distributed questionnaires, the following set of findings were realized by the researcher:

There is a significant effect of digital changes on the enhancement of performance efficacy.

The researchers offered some useful recommendations some of which are:

The demand to offer training to accountants on digital changes with regards to the need for their inclusion in educational curricula.

Study (Tantawy and Ibrahim):

The study intended to assess the impact of big data on the role of managing accountants in the time of digital changes, to rely on a descriptive analytic method to the subject of this research, where the independent variables were contained in the variables and the characteristics of big data (speed, diversity and size}. The dependent variable was signified by the role of the managing accountant (decision-making, control, analysis) [7].

The researcher distributed a set of questionnaires to staff of the Egyptian institutions and eventually obtained the following results:

Big data had a significant effect on the improvement of the role of managing accountants.

Big data has demanded new skills like the predictive analytics and the usage of graphic visualization tools.

The researchers also offered numerous recommendations, some of which are:

The requirement to engage data science skills into managing accountant training programmes.

Study (Abu Hilal):

The study is expected to assess the effect of big data on the quality of accounting dat in the Palestinian domain, which rely on a descriptive analytic method to the subject in this study, of which the dependent variables were signified by the big data analysis implements, whereas the dependent variable was signified by the quality of accounting data (relevance, transparency, and relevance) [8].

With the use of questionnaires, the following results were obtained:

Big data has a significant effect on the improvement of the quality of accounting information.

The usage of big data analysis tools will improve the precision and transparency of accounting data.

The researcher assumed the following recommendations:

The necessity to invest in data analysis structure and the training of the accounting staff on how to apply them.

Study (Elhoushy et al)

The study is expected to assess the effect of the big data features on the role of managing of accountant as a business partner which rely on the descriptive analytic method to the subject of this study, where the independent variables were characterized by big data features (reliability, diversity and size) whereas, the dependent variable was characterized by the role of the managing accountant as a business ally [9].

The following result was arrived at after the distribution of the questionnaires:

Big data has a significant effect on the enhancement of the role of managing accountants through the support and improvement of strategic choices.

Numeorus recommendations were made by the researcher viz:

The need to the development of accountants' ability in handling the big data and the artificial intelligence.

Study) Leonidas et al)

The study intended to examine the chances and challenges posed through the integration of big data technologies into a unified accounting practice, which rely on a descriptive analytic method to the subject of this study. The independent variables were characterized by the big data applications size, speed, diversity and consistency, whereas, the dependent variable was characterized by the quality of accounting practices (efficiency, transparency accuracy) [10].

The study achieved the following results:

Big data has a significant effect on rhe improvement of the quality of accounting practices.

The researchers also made numerous recommendations as presented below:

The necessity to invest in the training of accountants in data science tools and to strengthen data protection laws to confirm safe use.

Study (Ananth et al)

The study aimed to recognize the effect of big data analysis on accounting practices, which rely on a descriptive analytic method to the subject of the study, where the independent variables were signified by the big data analysis procedure, whereas, the dependent was signified by accounting practices (accuracy, efficiency, transparency) [11].

With the use of questionnaires, the following results were realized:

There is a numerical significant impact of the big data analysis in the enhancement of accounting practices by improvement the precision, of results and reducing errors.

The following recommendations were made by the researcher:

⎩ The necessity to advance an artificial intelligence tools and connect them with traditional accounting schemes.

Comments on previous studies

Similarities	Differences
In the independent variable and some dimensions, the methodology applied and the study tool.	Objectives, findings, dependent variable, study population, and sample.

Theoretical framework of study variables

First: Data science applications

1. Concept:

There are numerous definitions with regards to the concept and some of them will be mentioned.

1.1 General definition:

Data science is a multidisciplinary subject that integrates numerical, as well as artificial intelligence and computing technologies to examine data and obtain knowledge from to obtain support decision-making [12]

1.2 Accounting definition:

Data science applications in accounting can be referred to the application of digital analysis tools like the artificial intelligence to turn financial and digital information into precise and clear information and that helps in monitoring and the detection of fraud (El-Tantawy)

1.3 Functional definition:

Data science usage is a set of implements and procedure that can allow certified public account officers to manage large and tricky databases and turn them into indicators that can be applied to enhance the quality of professional choices tools (Theodorakakopoulos et al)

2. Characteristics:

Its most vital features may include: (Elhoushy et al)

⎩ large size: the ability to handle huge number of financial and legal data.

⎩ Speed: the ability to process and analyse data in a short period of time.

⎩ Accuracy: It can extract precise and consistent indicators.

⎩ Integration: It can link analysis tools with accounting and legal schemes.

3. Importance:

Al-Hawari et al. and Theodorakakopoulos et al recognized a set of objectives as follows:

⎩ It enables certified public accountants to manage huge and complex databases.

⎩ It can enhance the ability to spot fraud and unusual patterns.

⎩ It can support tactical decision-making based on digital signal.

⎩ It can decrease the time and effort being spent on normal tasks and enhance focus on analysis [13].

4. Dimensions:

4.1 Big data analysis:

Focusing on the extraction approaches and anomalies from the big data with the use of tools like Power BI, the CPA can assist to detect fraud and reinforce internal control [14].

4.2 Artificial intelligence:

This encompasses the application of intelligent algorithms to sense risks and detect fraud. It can offer predictive models that can help the forensic accountant to to make precise strategic suggestions [4]

4.3 RPA automation:

This is defined as the automation of routine jobs like data entry and alignments, which can reduce errors and uphold strategic analysis among the CPA [7].

Second: The nature and scope of the duties of a certified public accountant

1. Definition:

There are numerous views on this construct as presented below:

1.1 Traditional definition:

Legal accounting is one of the branches of accounting that deals with the verification of the accuracy of financial statements to detect fraud and ensure compliance with the rule of law and regulations of a particular organization [9]

1.2 Modern definition:

The nature and scope of a legal accountants' jobs in the digital world can be referred to a function that is far beyond the traditional auditing to comprises analytic consultation, internal control and supporting senior managing decision-making.

1.3 Functional definition:

The duties of a forensic accountant may involve a series of activities that can directly affect the data science applications, like to strengthen internal control, improve decision making, detect fraud and the expansion of the role of strategic consultation [10]

2. Characteristics:

Among its most essential features may include:

⎪ Expansion: Conversion from a traditional function to an advisory and analytic function.

⎪ Oversight: enhanced the ability to uncover fraud and ensure submission.

⎪ Quality: enhanced precision and clarity of financial and legal decisions.

3. Importance:

Al-Hawari et al and Theodorakakopoulos et al acknowledged a set of objectives, as presented below [15], [16]:

⎪ improving confidence in financial and legal submissions.

⎪ Supporting the senior management with regards to the accuracy and timely choices.

⎪ To protect the institutions from any potential fraud and legal risks.

⎪ To develop professional skills to align with the digital changes.

4. Dimensions:

4.1 Establishment of internal control and fraud detection:

This can be termed as the ability to apply digital analysis and control mechanics to monitor and manage unusual patterns in financial obligations and to affirm compliance with the standards and laws, thereby seek to contribute to the detection of fraud and mitigation of risks.

4.2 Extension of the role towards analytic consulting:

This refers to movement of the certified accountants from their usual traditional function of auditing to a strategic function that can handle decision-making and as well, improves financial analytic advice to the senior management based on the precise data [17], [18],

4.3 enhancing the quality of professional decisions:

This denotes to the ability of any certified accountant to apply precise data and progressive monitoring to improve the quality of financial and legal choices, this will ensure transparency and credibility and therefore, to reduce the risks connected with the decisions [19]

Third: The connection between data science applications and the nature and scope of the tasks of a certified public accountant.

Theoretical and applied submissions also show that the connection between the independent variable and the dependent variable as one of the direct and essential influence.

The application of data science tools will enable accountants to transition from the traditional role dealing with the manual approach to auditing to a more detail and strategic function. For instance, big data analytics may assist in strengthening of internal controls and identify fraud practices by monitoring rare approaches in transactions, whereas, artificial intelligence, and machine learning can improve the quality of professional decisions and choices in the reduction of errors and speed up the techniques [1], [20], [21].

Data science claims are only technical tools, but they are some factors that can reshape the main tasks of the CPA, and expand their body of work and increase their additional value in the modern digital business domain.

3. Results and Discussion

Practical part

Curriculum

A descriptive analytic method was applied in an attempt to find the connection between data science usage and the nature and scope of the tasks of a certified accountant. This study focused on applying a documentary method through the review of some literature on the said subject and periodicals as well as books.

Research Tools

The researcher also applied a questionnaire as a main tool for data collection in the research. It was developed and tested for the purpose of this study. The data collected was based on the impact of data science applications on the nature and scope of the said tasks of a certified accountant. The study is grounded on Likert's five-point scale.

Very much so.	Agreed	Neutral	Disagree	Strongly disagree
5 degrees	4 degrees	3 degrees	2 degrees	1 degree

The researcher applied a series of appropriate numerical approaches and techniques to examine the study data with the use of SPSS software, which will be explained in the practical part of this study.

The questionnaire contained two parts, as presented below:

Part I: Personal and practical variables of the analysis unit members to measure a series of variables like the gender, years of service, educational qualifications etc.

Part II: Comprises a set of declarations intended at measuring the degree to which the proportions of the study were applied viz:

The first axis for measuring (data science applications) in its studied proportions:

Big data analysis:

Big data analytics tools will assist to detect unusual forms in financial transactions.
Big data analytics will contribute to enhance the precision of accounting information.
Big data analytics offers maximum capacity to enhance internal control greater
Big data analytics will contribute to improve the quality of financial choices.

Artificial intelligence:

Artificial intelligence will assist in predicting the financial risks involved before their occurrences.
Artificial intelligence will contribute in the improvement of the performance of accounting structure over time.
Artificial intelligence will reduce human fault in accounting analysis.
AI will enhance the function of the accountant as a strategic ally in decision-making.

Automation:

Automation will reduce the time spent on normal tasks.
Automation can contribute to increase the precision of accounting period
Automation offers accountants the chance to focus on analytic activities
Automation may speed up the accomplishment of financial and legal reports.

The second axis for measuring (the nature and scope of the tasks of the certified public accountant) with its studied dimensions:

Establishment of internal control and fraud detection:

Data science applications may assist forensic accountants to detect financial fraud quickly.
Digital analysis tools may improve the forensic accountant's capability to assure compliance with the stated laws.
Data science applications offer continuous monitoring rather than traditional periodic audits.
Data science applications may increase public self-confidence in financial reporting.

Increasing the role towards analytic consulting:

Data science tools can enable accountants to offer strategic advice to senior management.
Digital analytics changes accountants into business ally.
Data science applications can assist accountants to provide recommendations based on quantitative provisions.
Digital changes can enhance the function of accountants in financial planning and corporate governance.

Enhancing the the quality of professional decision-making:

Depending on precise data improves the quality of professional choices.
Data science applications can reduce the risks connected with financial choices.
Digital analysis tools offer maximum clarity in the decision-making process.
Data science applications can contribute to speed up the decision -making procedure while addressing accuracy.

Research data analysis methods:

Study of instrument stability

In order to assess the degree of reliability of respondents' responses in the scale, the researcher applied Cronbach's alpha internal reliability test. This test can be considered a measure of the stability of the tool, where a Cronbach's alpha value is greater than or as equal to 0.60 can be termed acceptable and good.

Table (1) below indicate the steadiness of each portion of the study, may include the Cronbach's alpha values for every portion to assess the power of internal reliability between the questions for every proportion.

Practically, the stability coefficient was (0.962) and control of commodity stocks was assigned 1.00 whereas the steady coefficient for the questionnaire as a whole was (0.976). these rates can show that the study tool contain a maximum stability and the capability to attain the objectives of the study based on the reference (Bougie & Sekaran, 2010:184).

Table 1. Stability test

The measure	Number of paragraphs	Coefficient of stability (Cronbach's alpha)
Independent variable Data science applications in their collective dimensions	12	0.932
Big data analysis	4	0.972
Artificial intelligence	4	0.931
Automation	4	0.638
Dependent variable the nature and scope of the chartered accountant's tasks in their collective dimensions	12	0.996
Strengthening internal control and fraud detection	4	0.973
Expansion of the role towards analytic consulting	4	1.000
enahncing the quality of professional decision-making	4	1.000
Complete questionnaire	24	0.984

Obtained based on the results of SPSS data analysis.

Testing hypotheses:

Main hypothesis: There is no numerically significant impact on the 0.05 significance level for the use of data procedures on the nature and scope of the tasks to include corporate accountants. This may give rise to the below mentioned hypotheses:

H01: There is no significant connection between the big data analysis procedures and the improvement of internal control detection of fraud by the certified public accountants.

H02: There is no significant connection between the big data analysis procedures and the enhancement of the quality of professional choices made by certified accountants with regards to precision, transparency and speed.

H03: There is no significant association between the big data analysis procedures and the enhancement of the quality of professional choices made by public accountants with regards to precision, transparency and speed.

H04: There is no significant connection between the usage of artificial intelligence and the improvement of internal control and detection of fraud by the certified accountants.

H05: There is a significant association between the usage of artificial intelligence and the scope of certified public accountants' jobs towards analytic consultation and support to senior management in decision making.

H06: There is a significant connection between the application of artificial intelligence and the enhancement of the quality of professional choices made by certified public accountants in term of precision, speed and transparency.

H07: There is no significant connection between automation and the development of internal control and detection of fraud by the certified public accountants

H08: There is no significant connection between automation and the extension of the scope of the certified public accountants' tasks with regards to analytic consultation and support in management decision making.

H09: There is no significant connection between automation and the improvement of quality of the certified public accountants' professional choices with regards to transparency, speed and accuracy.

A Spearman's test will be conducted to measure the correlation between the independent and dependent variables of the study:

Table 2. Correlation analysis table for the connection amongst variables

Approved variable	Correlation and significance	Big data analysis	Artificial intelligence	Automation
Nature and scope of the tasks of a certified public accountant	**Spearman Correlation(R)**	**0.916**	**0.969**	**0.491**
	Sig(2-tailed)	**0.000**	**0.000**	**0.000**
	N	**100**	**100**	**100**

Attained based on the results of data analysis using SPSS software.

From the above, the study established that the more firms focus on data science applications, the higher the control the nature and scope of the assigned tasks of the certified public accountants. This finding is in consonance with the validity of the main hypothesis, which states that there is a genuine correlation between data science applications and the nature and scope of the tasks of the specialized public accountant.

To test the key hypothesis, a series of regression analysis was carried out to confirm the effect of potential data science applications on the nature and scope of the tasks of the professional public accountants in the firms analysed. The following table highlights this fact:

Table 3. Multiple regression analysis table for the connection between the independent variable and the dependent variable

Model Summary				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	**0.903**	**0.816**	**0.814**	**0.30186**
a. Predictors: (Constant) Data Science Applications				

ANOVA[a]						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	**Regression**	**39.535**	**1**	**39.535**	**433.879**	**.000b**
	Residual	**8.930**	**98**	**0.091**		
	Total	**48.465**	**99**			
a. Dependent Variable: Nature and scope of the tasks of a certified public accountant						
b. Predictors: (Constant), Data Science Applications						

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.311	0.292		4.483	.000
	تطبيقات علم البيانات	1.313	.063	.903	20.830	.000
a. Dependent Variable: Nature and scope of the tasks of a certified public accountant						

From the researcher's work

The correlation coefficient (R) was calculated at 0.903, and the coefficient of purpose was calculated at 0.816, this means that (data science applications, which means that (data science applications) clarified 81.6% of the modified in (the nature and scope of the tasks of a specialized public accountant), Through the value sig=0.00, which is less than 0.05, affirming that the framework to confirm the model as a whole as a whole is numerically significant.

The estimated regression equation is:

Data science applications = 1.311+1.313 × nature and scope of the tasks of the certified public accountant

Therefore, it can be concluded that data science usage has a significant function in the nature and scope of the tasks of certified public accountants in the firms' studied. A regression will be examined between the dimensions of the independent variable (data science applications) and the proportion of the dependent variable (nature and scope of the tasks of specialized public accountants' dimensions of the dependent variable (nature and scope of the tasks of proficient public accountants):

Table 4. Simple regression analysis table

Approved variable	Regression coefficients Coefficients′		Analysis of variance Annova			Model Summery			Semantic meaning
	T Calculated	Linear regression coefficient	Sig Semantic meaning	Degree of freedom Df	F Calculated	Adjusted R^2	R^2	R	
Big data analytics and enhanced internal control	1.170	1.071	0.000	1	236.847	0.704	0.707	0.841	0.000
			0.000	98					
Big data analytics and expanding role toward analytical consulting	12.396	1.063	0.000	1	153.661	0.607	0.611	0.781	0.000
			0.000	98					
Big data analysis and enhancing the quality of	12.396	1.063	0.000	1	153.661	0.607	0.611	0.781	0.000
			0.000	98					

professional decision-making									
Artificial intelligence and enhanced internal control	22.064	1.095	0.000	1	486.830	0.831	0.832	0.912	0.000
			0.000	98					
Artificial intelligence and expanding role toward analytical consulting	22.188	1.170	0.000	1	492.311	0.832	0.834	0.913	0.000
			0.000	98					
Artificial intelligence and improving the quality of professional decision-making	22.188	1.170	0.000	1	492.311	0.832	0.834	0.913	0.000
			0.000	98					
Automation and enhanced internal control	11.022	0.997	0.000	1	121.495	0.549	0.554	0.744	0.000
			0.000	98					
Automation and expansion of the role towards analytical consulting	9.763	1.005	0.000	1	95.308	0.488	0.493	0.702	0.000
			0.000	98					
Automation and improvement of professional decision quality	9.763	1.005	0.000	1	95.308	0.488	0.493	0.702	0.000
			0.000	**98**					

From the researcher's work

For big data analysis, internal control improvement, and fraud detection:

The results above show a clear correlation coefficient (R) was 0.841, whereas the coefficient of the determination was 0.707, which means that the big data analysis clarifies 70.7% of the modifications in internal control improvement and detection. The findings also indicate that the model is numerically significant. Based on this, it can be concluded that big data analysis serves as a numerically significant. So, the big data analysis has a significant function in the model.

The regression equation is: big data analysis = 0.394 + 1.071 × (enhanced internal control and fraud detection)

This means that for each unit there is a big data analysis and there is a 1.071 increment in strengthening the internal control and fraud detection, which indicate a positive role of the independent variable big data analysis in power of internal control and detection of fraud.

With Regard to big data analysis and the expanded role towards analytic consultation:

The results in this table indicate that the correlation coefficient ® was 0.781, whereas the coefficient of determination was 0.611, this means tha big data examination explains 61.1% of the transformations in the expanded tore towards analytic consultation. Based on the p-value, the framework is numerically significant. Based on this assertion, the big data analysis project a numerically significant function in the framework.

The regression equation is: big data analysis = 0.377 + 1.063 × (expansion of the role toward analytic consultation),

This indicates a positive function of the independent variable big data analysis in the enlargement of the role towards the analytic consultation.

With regards to big data analysis and improvement on the quality of professional decision-making:

The results in this table indicate that the correlation coefficient ® was 0.781, whereas the coefficient of determination was 0.611, this means tha big data examination explains 61.1% of the transformations in the expanded tore towards analytic consultation. Based on the p-value, the framework is numerically significant. Based on this assertion, the big data analysis project a numerically significant function in the framework.

The regression equation is: big data analysis = 0.377 + 1.063 × (improvement in the quality of professional decision-making),

This indicates a positive function of the independent variable big data analysis in the enlargement of the role towards the analytic consultation.

For artificial intelligence, internal control improvement, and detection of fraud:

In the same manner, it can be concluded that artificial intelligence has an essential role in the framework.

The regression equation is: Artificial intelligence = 0.459 + 1.095 × (improving internal control and fraud detection), which shows a positive role for the independent variable artificial intelligence in the enhancement of internal control and detection of fraud.

With regards to artificial intelligence and the enlargement of the role towards analytic consultation:

In the same manner, it can be concluded that the artificial intelligence has a meaningful role in the model.

The regression equation is: Artificial intelligence = 0.842 + 1.170 × (expansion of the role towards analytical consulting), which shows a positive role for the independent which indicate a positive function for the independent variable of artificial intelligence in the expanded role towards analytic consultation.

In the same manner, it can be concluded that artificial intelligence has a significant role in the model.

The regression equation is: Artificial intelligence = 0.842 + 1.170 × (expansion of the role towards analytical consulting), which shows a positive role for the independent which indicate a positive function for the independent variable of artificial intelligence in the expanded role towards analytic consultation.

For automation, strengthening internal controls, and fraud detection:

In the same way, it can be concluded that automation has a significant role in the model.

The regression equation is: Automation = 0.519 + 0.997 × (improvement of the internal control and detection of fraud which shows a positive role with regards to the independent variable automation in the enhancement of internal control and detection of fraud

For automation and role of expanded analytic consultation

Using the same method, it can be concluded that automation has a significant function in the framework.

The regression equation is: Automation = 0.462 + 1.005 × (Extension of the role towards analytic consultation) and it clearly indicates a positive role for the independent variable automation.

Based on the above, it can be said that a clear data science application can contribute efficiently to the provision of accurate and current data on the nature and scope of the tasks of a professional public accountant, this will enable them to carry out their professional work efficiently.

4. Conclusion

1. There seems to be a strong connection between the data science applications and the nature and scope of a certified public accountants' task.
2. There is a positive connection between the big data analysis and all proportions of the dependent variable, this explains 70.7% of the improvement of internal control and detection of fraud, 61.1% of the development in professional decision quality.
3. There seems to be a positive correlation and connection between the independent variable of artificial intelligence and other dimensions of the dependent variable, which explains 83.2% of the improvement of internal control and detection of fraud, 83.4% of the expansion in the analytic consultation, 83.4% of the development in the total quality of professional decision making.
4. There seems to be a positive relationship and correlation between the independent variable automation and other dimensions of the dependent variable which explains 55.4% of the enhancement of internal control and the detection of fraud 49.3% of the expansion towards analytic consultation and 49.3% of the development in the quality of professional decision making.
5. It seems that all proportions of the data science applications can contribute significantly to the nature and scope of the tasks of a professional public accountant, where the independent variable receives 81.6% of the modifications in the dependent variable. As it is in the nature and scope of the tasks.

Recommendations:

These are recommendations of the study:

1. The necessity to invest in big data analysis systems and connect them to accounting and legal structures.
2. The necessity to offer a digital work domain that can support the integration of professional and artificial intelligence tools.
3. The necessity to advance the digital skills of legal accountants through continuous training on data analysis and artificial intelligence tools.
4. Adoption of automation for normal tasks to decrease errors and create time for analytic and advisory tasks.
5. improve professional skepticism and internal control by the usage of big data procedures for early detection of fraud.

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