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Using the digital transformation techniques for improving the internal audit process

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Abctract

The study investigated the impact of digital transformation on the internal audit process, utilizing a questionnaire distributed across various academic disciplines in two institutions. The data collected were analyzed using SPSS statistical software to explore the relationships between the variables. Findings revealed that digital transformation significantly influences internal auditing, primarily by enhancing its efficiency. It reduces the time and effort required for audits and minimizes human errors through advanced digitization technologies. Overall, the integration of digital tools is crucial for improving the internal audit process.

Keywords: *(digital transformation techniques ,internal audit)*

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استخدام تقنيات التحول الرقمي لتحسين عملية التدقيق الداخلي

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المستخلص

هدفت الدراسة إلى معرفة تأثيرتقنيات التحول الرقمي على تحسين عملية التدقيق الداخلي. حيث تم استخدام أداة الدراسة (الاستبانة) وتم توزيعها على عينة من المدققيين والمحاسبية، وتم تحليل الاستبانة باستخدام البرنامج الإحصائي "SPSS" لمعرفة التأثير بين المتغيريين . وكانت نتائج الدراسة تشير إلى أن التحول الرقمي له دور فعال في تحسين وظيفة التدقيق الداخلي.وأبرز النتائج:ان التحول الرقمي له تأثير كبير على التدقيق الداخلي من خلال تحسين كفاءة التدقيق الداخلي عن طريق المساعدة في تقليل الجهد والوقت لإجراء عمليات التدقيق ،وان تقنية الرقمنة لها التأثير الأقوى ستساعد في إنجاز المهام اليومية وتقليل الأخطاء البشرية.

الكلمات المفتاحية *:تقنيات التحول الرقمي ،التدقيق الداخلي*

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1-Introduction

due to the great technological developments witnessed by the current era, many companies and institutions were forced to adopt digital transformation in its various industrial and economic fields. The internal audit sector was no exception to this transformation; Many auditors have begun to adopt digital technologies to improve the effectiveness and efficiency of their operations. Among the technologies that have proven effective are: artificial intelligence, cloud computing, and other technological techniques that facilitated work and made it more accurate and speed. This research aims to study the impact of these technologies on internal audit practices and how auditors benefit from these technologies in improving the quality of censorship on financial operations. The results of the study indicated that the digital transformation has an effective role in improving the internal audit function. The most prominent results: that the digital transformation has a significant impact on internal audit by improving the efficiency of internal audit by helping to reduce effort and time to conduct audits, and that digitization technology has the strongest effect that will help in accomplishing daily tasks and reducing human errors.

Research problem

The problem lies in the presence in a gap between successive technological developments and traditional scrutiny, which may negatively affect the ability of internal audit on risk management , guarantee compliance, and achieve the goals of the institution of a permanent digital environment.

The goal of the research

The research goals can be summarized as follows:

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. Highlighting the concept and tools of digital transformation. 1

Knowing the effect in digital technologies on internal audit. 2 .

The importance of research

The importance of the research lies in what the digital transformation technique will provide for the internal audit profession. in light of the accelerated technological development, it became necessary for the profession in internal audit to adapt to the digital transformation to ensure compliance and achieve the goals of the institution in a renewable digital environment. in addition , the research will shed light on how institutions benefit from digital technologies such as artificial intelligence and cloud computing to improve the effectiveness and efficiency of internal auditing.

The search limits

1 .Time limits: This research will be prepared in the year 2025

2.spatial borders: This research will be applied in government institutions (automatic and accountants of the Child Specialized Hospital, auditors and academics working at the Southern Technical University)

3. border Human: Some auditors, accountants and academics

Research hypotheses

The main hypothesis of research can be formulated through (digital transformation an effect on internal audit practices) The following sub - hypotheses can be formulated:

1 . There is no statistically significant effect between the use in digitization technology and internal audit practices.

2. There is no statistically significant effect between the use in artificial intelligence technology and internal audit practices.

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3 .There is no statistically significant effect between the use of blockchain and internal audit practices.

4. There is no statistically significant effect between the use of cloud computing technology ,and internal auditing practices.

2 -Previous studies

1- **Study of the Heroal Muhammad Amin (the reality in internal audit of light of the digital transformation2023)**

The study aimed to highlight the internal audit in light of the outputs of the digital transformation, and the study was conducted in Dutch companies in cooperation with the Institute of Internal Auditors and the Ernst Auditing and Consulting Company. Dutch is still new to the digital transformation, and there was a group of obstacles that prevented them from adopting digital transformation, including (cost, voltage level, lack of skills for employees of the internal audit department).

2.The study of Abdin, Sherif Kamel Bayoumi (the impact of the governance of digital transformation on the quality in the internal audit function 2022)

The study aimed to know the impact of the governance of digital transformation on the quality of the internal audit , where the study was conducted on the Egyptian Stock Exchange, except for banks. The study sample was a questionnaire distributed to 310 employees, and only 245 questionnaires were recovered. Statistical methods of data analysis have been used. The results indicated that the governance of digital transformation contributes to improving the quality of the internal audit function through: contributing to increasing the independence of internal audit operations, increasing the internal control of the facility, increasing

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the functional dependency of internal review and supporting senior management.

3- Al -Haddad Rasha Mohamed Hamdi (The effect of digital transformation in the internal review and the achievement of financial inclusion 2022)

The study aimed to know the impact of the digital transformation on the internal review, where a field study was conducted to test the research assignments. The study sample was electronic investigation forms that were distributed to various internal auditors and directors of internal auditors, and were distributed to a number of government commercial banks and Egyptian universities. The data was analyzed using the SPSS statistics program, and the results indicated the importance and necessity of applying digital transformation technology in banking institutions because of their role in developing work tools and methods of work and improving performance in a way that is reflected in the quality of banking services provided to customers and gaining investor confidence, and the application of digital transformation mechanisms in all departments in banking institutions contributes to the success of the bank's departments in performing their tasks efficiently and effectively.

4- Munther Muhammad Ali (Impact of digital transformation on the quality of internal audit and its reflection on enhancing the quality of financial operations 2022)

The study aimed to know effect of digital transformation on the quality of internal audit and its reflection on the quality of financial operations, where the questionnaire was used as a tool for study and was distributed to internal, external auditors, accountants, financial managers and university

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professors. The SPSS program was used to analyze the questionnaire. The results concluded that the digital transformation has a positive relationship between internal audit and the quality of financial processes. The study recommended the publication of new regulations, and laws that govern the use of digital transformation in internal audit to secure and protect users.

5. The study of Abdel -Fattah (countries of internal control in facing the dangers on digital transformation 2025)

The study aimed in determine the types of digital transformation with a number of procedures that could contribute to enhancing the role of internal audit in facing the risks of digital transformation, and the research sample was made up of academics and auditors in the Kingdom of Saudi Arabia, and the study reached an effect of internal control on reducing the risks of digital transformation as the success of the transformation process is related Direct with a well -designed internal control system

6. The Al -Ani study, Al -Basha (The role of internal control in the face in the dangers of digital transformation 2024)

The study aimed to identify the pillars related to digital transformation and its various tools with the analysis of the problems and challenges facing economic units on application, and the research sample was made up of a university professor of higher degrees and those interested Digital technologies in accounting processes where the use in digital transformation technology leads to a change in the method of collecting, processing and publishing financial and non -financial statement.

3.Conclusions and Recommendations

3-1 The concept of digital transformation In recent years, many countries of the world have witnessed a tremendous shift, by moving from traditional

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methods of entering data (documents and documents) to digital roads using digital transformation techniques.The concept of digital transformationThe concept of digital transformation is a modern concept that appeared within the fourth industrial revolution and is called in the era of digitization. This digital transformation contributes to achieving the goals of companies and organizations through the conduct of various businesses by extracting various electronic methods and new digital technologies (Al -Awfi, 139: 2025). (Muhammad, 548: 2023) sees that digital transformation means a transformation from traditional work to electronic work in implementing business and accounting practices including It achieves performance efficiency . is defined as providing various services to the beneficiaries by using digital devices and modern technology, with more accuracy and speed in performance and reduce voltage and cost (Al Samhan, 1604: 2024) He points out(Yang & Ming, 34:2024) The transformation is a process aimed at improving the entity by making major changes in characteristics using a set of information computing and communications technologie digital. The digital transformation is to integrate digital technology in all areas of work, and is a very important matter to stay competition, improve operational efficiency, and reach new markets (Yogatama, al, et, 15: 2024) ,and he sees (GANIYU, 55:2023) Each digital transformation program has a unique set of goals in it, while the general goal of any transformation is to enhance the current operations because companies must develop in order to remain able to compete in their work.

3-2:Digital transformation stages

Digitization is known as digital transformation, which aims to improve current products and services with advanced efficiency, and in general the

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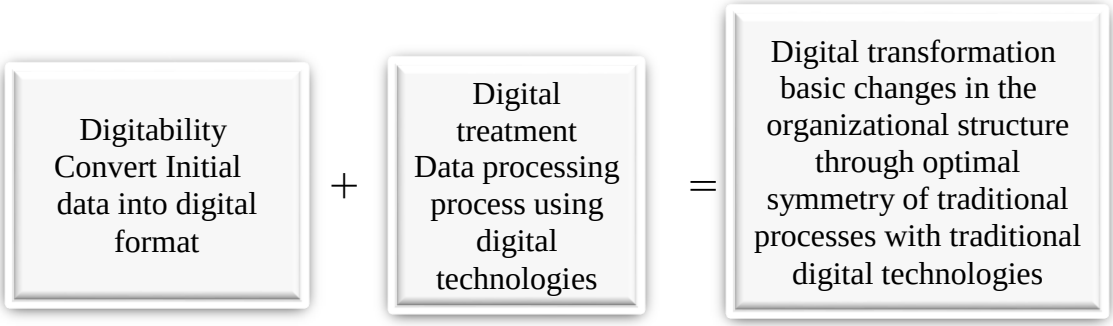
digital transformation stages include three stages in general and these stages are:



fugre (1) Digital transformation stage
(Morze&Strutynska.2021:5)

Each of the above stages (Gerrit, S., & Nathanaël, 2020)

1.Divide: means the transformation from traditional methods in entering data in documents to the electronic conservation system, and this shift calls for the existing roads and methods and choosing the most appropriate with the requesting environment for the transformation. Contemporary problems.

2.Digital therapy: It means the use of digital technologies and data between them, which leads to new changes in current activities.

3.Digital transformation: We mean the social and economic effects resulting from digital treatment and digitization

The digital transformation can be achieved through the following equation:
Digital + digital treatment = digital transformation

3- 3The importance of digital transformation

Digital transformation is extremely important due to the great and accelerated development in business technology, and we will explain this importance to (Al -Ghazali, Jassim 2024):

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1.Provides the best use of the current assets of the institution with the ability to connect to the largest and fastest enough information while reducing the cost.

2.Improving customer experience by developing a strategy on providing a distinguished experience for customers.

3.Integration provides operations and creating new opportunities through the use of mobile phone technologies or technological applications attributed to the mobile computer to store information, use algorithms and analyze data.

4.Improving efficiency and providing costs by simplifying operations and databases and sharing the opinions of beneficiaries and their satisfaction through digital services. The digital transformation also helps to make decisions better and faster through analyzing huge dat

3-4: Digital transformation techniques

When the digital transformation into society came, many technologies that contributed to facilitating the life of man, we will learn about some of these techniques:

Table no.(1) Digital transformation techniques

Digital transformation techniques	Its concept	Importance
Blockchain	It is a safe database where it appeared as a record of transactions, for the purpose of not manipulating information for transactions, where the information is exchanged in a	It works as a professor's book that processes all the information, then recorded and then saved, which can all parties to follow the information, a safe network, as all the information is stored in the network since its creation and in an incapable manner, as all new operations are recorded in the form of payments with

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	security and accurate manner	regular periods called the blocks. (Ghazi, 2020: 14)
Artificial Intelligence	The use of algorithms and mathematical models to simulate smart behavior in accounting machines and processes (Alit, 73: 2023)	Artificial intelligence is of great importance that can be summarized as follows: .1 Provides strategic visions for researchers and companies. .2 Users can collect great information from data and divide it with minimal manual work. .3 Artificial intelligence solutions help to understand the world such as humans and predicting user behavior. 4 Intelligence techniques lead to basic changes in the required group of skills. (Djonata .t, 2021: 6)
Cloud computing	Cloud computing, which is a modern technical service obtained by subscribing to the internet service and not a final product. It is installed on the user's computer and includes a group of technical servers connected to together that are managed in a central way through a local network or internet. (Al -Jubouri, 455: 2024)	There is a set of computing goals that can be summarized as follows (Hussein 2021,289) .1 Converting ideas into products with the unlimited development of business. .2 The provision of information resources for all organizations regardless of their size and geographical location. .
Digitization	The concept of digitization indicates the transformation of information from the analog form to the digital form, while the	Digitization achieves a set of benefits, including: ((Al -Surifi, 2022: 310) 1 .Increase competitiveness at work 2 .Increasing employee productivity 3 .Improving customer experience 4 .Enhancement of efficiency

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	digital transformation indicates the use of technology to change the nature and method of work. It can be said that digitization is the first step by digital transformation (Al - Surifi, 309: 2024)	5 .Providing costs 6 .Enhancement of readiness by continuing business progress in times of turmoil such as the Corona pandemic.

(Prepared by the researcher)

3-5 Types for the risks of digital transformation on the internal control and the proposed procedures to counter the danger

The types of digital transformation risks and the proposed procedures can be divided to face these risks into five groups and as follows (Muhammad, 2025: 419)

Table no.(2)Types of the risks of digital transformation on the internal control and the proposed procedures to counter the danger

Types of risk	examples	proposed to face risks
1. Security risks	-the risk of data protection from manipulation. -the risk of Sibrani security and unauthorized access.	Providing employees with sufficient information such as cyber security and electronic risks
2.Financial risks	-financial liquidity to adopt digital transformation technology. - The difficulty of the cost and the expected return when applying the technology of digital transformation.	Lack of financial liquidity to adopt digital transformation technology. The difficulty of the cost and the expected return when applying digital transformation technology. The lack of technological infrastructure is not available to confront accelerating growth and development. It is possible to manipulate data, which weakens confidence in them

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	- The lack of technological infrastructure is not available to confront the rapid growth and development. - It is possible to manipulate data, which weakens confidence in it	
3. Human risks	- The employees refrain from adapting to digital transformation techniques. - Lack of necessary technological experiences and skills. - Lack of training and workshops intended for the application of digital transformation techniques. - Not adhering to the criteria of integrity and moral values	A moral charter for workers on digital transformation. - Follow -up to employees 'commitment to professional integrity standards. - Periodic follow -up to employee work and provide skills and experiences in light of the digital transformation environment.
.4 Technology risks	The risks of failure in the use of technology appropriate to the nature of the institution's activity. - The possibility of failure to use digital transformation technology. - The difficulty of continuous development in light of the speed of technological progress. - The complexity and management of data and	The necessity of providing the necessary technological experiences and skills. Ensure that the organization uses technological technologies to suit the nature and size of the organization. Ensure the efficiency of the communication and information system and its suitability for the digital transformation environment. Improving the process of evaluating technological risks. Applying the appropriate tools and methods for managing, processing and following up on data according to digital transformation technology.

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	operations in light of a digital environment. - The inability to manage and process operations, which is reflected in the accuracy of financial reports.	
5.Control risks	The risks of ensuring the validity of the data and the lack of adequate evidence of transactions under the digital environment. The lack of necessary oversight when completing the improvement work, amendment, and implementation. Difficulty controlling large operations in light of the continuous update of operations.	Design a supervisory system that is in line with the technologies used. - Setting policies and procedures that are in line with digital transformation. - The need for effective regulatory measures from the beginning of the decision to take the digitization to follow up their implementation. - Adopting smart digital technologies that help in flexibility on internal control. Design a supervisory system that is in line with the technologies used. - Setting policies and procedures that are in line with digital transformation. - The need for effective regulatory measures from the beginning of the decision to take the digitization to follow up their implementation. - Adopting smart digital technologies that help in flexibility on internal control.

(Prepared by the researcher)

3-6 Digital transformation's impact on internal auditing:

For the digital transformation a great impact on the internal audit function through the reshaping of the work and the tools used where the internal audit is no longer just an interactive process focusing on past errors but rather focuses on discovering and predicting errors through its completion of daily operations and the impact of digital transformation to the internal audit can be summarized through the following table:(**Kiprotich Patrick,3: 2025)**

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Table no.(3) Effect of digital transformation on the internal audit function

The service provided before the digital transformation	The process before digital transformation	The process after digital transformation The process after digital transformation	Benefits from the digital transformation process
Accounts Management was manually	In scrutiny and accounting, the operations were handcrafted in the books, which required the accountant and auditor to update the balances, processing transactions, and maintaining paper records. The finance used data schedules to track financial matters, which leads to human errors.	Accounting and real processes have been digitized. Accounts details are automatically updated via systems, so it will reduce intervention and human errors.	Faster make, custom offers, reduce human errors, immediate updates, and increase productivity. Cutting systems allow employees to focus on higher level tasks, which leads to a more efficient account management.
Payment of bills manually	The bills were created and followed manually, and the payments were also handled manually, which leads to delay and errors.	The documents arise and pay the payments digitally, with real -time updates across systems.	Faster bills, accurate payments, better cash flow, and lower errors.

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hand tax reporting	The tax report regulating manual accounts, which leads to delays and errors.	Tax report is automated with immediate updates of tax laws and pre -organized models for submission.	Reducing tax errors, providing faster, facilitating and simplifying compliance operations.
manual financial reports	All data and the preparation of reports were made manually, which leads to delay and sometimes inaccuracy.	Reports are created automatically using digital systems to ensure accuracy and speed.	Make better decisions, and improve the accuracy of reports.
manual settlement	The settlements between transactions and bank records were manually, which leads to disparities and delay.	The settlement is automatically with artificial intelligence distinguishing differences for review.	Faster leveling, reducing errors, improving the accuracy of data.
manual salaries processing	The salaries were calculated manually, including wages, taxes, dues and deductions, which leads to errors And delay.	The salaries are automated, ensuring accurate accounts and payment in time	Take care of accurate and timely salaries while reducing manual intervention.

(Prepared by the researcher)

4.Society and the research sample

The sample community is represented by two governmental institutions (health and scientific) and these institutions were chosen because of its different nature of work and also the presence of auditors and accountants

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in all these institutions. As for the research sample, 52 questionnaires were distributed and the response rate was 92.3%

Table no.(4) Number of questionnaires

not distributed	Recovered	Distributed	Number of questionnaires
4	48	52	Number
7.7%	%92.3	%100	The percentage

Source: The table was prepared using the SPSS

Research variables

The research includes two main variables, namely, digital transformation, independent variable and internal variable

Table no.(5) Research variables

	Variables
digital transformation	independent variable
internal audit	dependent variable

Source: The table was prepared using the SPSS

Methods used in the research

in order to test the validity in the hypotheses. Descriptive analysis methods and the introduction of data in the computer using the SPSS program and emptying the questionnaire lists in it to reach:

1-Descriptive statistics: repetitions, standard deviation, rate and relative weight

2- The correlation factor: To clarify the relationship between the dependent and independent variable

3- Steel test: to clarify the impact of independent variables on the dependent Research tool stability

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The following table displays the analysis of the stability of the questionnaire using the alpha Cronbach coefficient, in addition to other indicators related to the quality of data and the sufficiency of the sample. It appears that the value of Alpha Cronbach for the entire subordination was 0.903, which indicates a high level of internal reliability, as the values are higher than 0.7 as evidence of good stability, while values above 0.9 reflect an excellent level of stability.

Table no.(6) Methods used in the research

the interpreted contrast	the inherent root	the probability value	Thedegree offreedom	Kai Box	adequacy sample sam	Alfra Runbach	The number of paragraphs	Variables
82.33%	3.5	0.023	15	34.28	0.823	0.903	16	**questionnaire**

Source: The table was prepared using the SPSS

These results indicate that the questionnaire has a high level of stability and reliability, which enhances the strength of the analysis and the conclusions extracted from it. The sample adequacy and statistical indication of values supports the use of this data in the analysis, which indicates that the research tool used is reliable and able to achieve the objectives of the research efficiently

Search results

The first: Personal information of the sample

first: the distribution of the sample members by sex

Table no.(7) Personal information of the sample

The percentage	Repetitions	Mal\femal
%43.75	21	mal
%56.25	27	femal

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%100	48	total

Source: The table was prepared using the SPSS

Through the above table, the number of males reached 43.75%, equivalent to 21 samples, while the number of females reached 56.25%, equivalent to 27 samples, as it appears that there is a superiority of females at the expense of males by 12.5%, which may reflect a greater tendency to their participation in the research or may be linked to the nature of the selected sample.

Second: The distribution of members of the sample according to age

Table no.(8) The distribution of members of the sample according to age

The percentage	Repetitions	Age
%20.83	10	years 30 More then
%47.92	23	years40 – 30
%22.92	11	years 50 – 41
%8.33	04	years60 – 51
%100	48	total

Source: The table was prepared using the SPSS

Through the table, it is clear that the 30-40-year-old category is the most representative, with 23 individuals, which constituted 47.92%, which indicates that most of the participants are of the middle class, after that, 41-50 years, at 11 individuals, while the category is less than 30, formed 20.83%of the sample members where it included 10 individuals, which indicates the presence of young people significantly, and finally the age group of 51-60 within within within 4 individuals by 8.33%.

The results indicated that the youth and medium category is the most represented in the sample, which reflects the nature of the target group in the research.

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ThirdThe sample members' distribution based on their level of education

Table no.(9) The sample members' distribution based on their level of education

The percentage	Repetitions	Scientific qualification
%4.17	2	PhD
%12.50	6	Master
%54.17	26	Bachelor
%0.00	0	Higher Diploma
%20.83	10	Diploma or Institute
%8.33	4	Preparatory Commerce
%100	48	total

Source: The table was prepared using the SPSS

It is clear through the above table that the largest percentage of research participants have a Bachelor's degree with 26 individuals, equivalent to 54.17%of the total sample, which indicates that the majority of individuals enjoy a university educational level, and those who hold a diploma of an institute with 10 individuals are 20.83%, while the master's category constitutes 6 individuals by 12.50%, while the doctoral holders are lower Where it reached 4.17% with two people, while those with a higher diploma are not present in the research, while holding a trading preparatory certificate, they had four members of 8.33%.

The results reflect that the majority of the sample members have a degree of university or intermediate education, while there is a weak representation of the graduate holders.

Fourth: The distribution of members of the sample according to years of experience.

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Table no.(10) The distribution of members of the sample according to years of experience

The percentage	Repetitions	Number of years of experience
%22.92	11	years5 More than
%31.25	15	years 10-6
%8.33	4	years 15-11
%37.50	18	years 16
%100	48	المجموع

Source: The table was prepared using the SPSS

From the above table it is clear that the largest percentage for participants have more than 16 experience, as they constitute a relative of 37.50% with 18 individuals, which indicates that most of the participants have a long experience in their field, and then comes after the category ranging between 6-10 years, representing 31.25% with 15 individuals, which reflects the essential features of medium experience, while the participants who have less than 5 years come They constitute 22.92% with 11 individuals, as it indicates the presence of newly-experienced people, and finally the lower category between 11-15 years, as they numbered 4 individuals by 8.33%.

The results indicated that the majority of the participants have a long experience, as they attributed 68.75% who have an experience exceeding 6 years, as the opposite of the target sample type, where the participants seem to be mostly with practical experience The extended in their field of specialization.

Fifth: Distribution of members of the sample according to the scientific specialization

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Table no .(11) Fifth: Distribution of members of the sample according to the scientific specialization

the percentage	Repetitions	Scientific specialization
%66.67	32	Accounting
%18.75	9	Auditor
%14.58	7	Other

Source: The table was prepared using the SPSS

The previous schedule displays the distribution for the sample according to the scientific specialization as it is clear that the largest percentage of the participants are holding an accounting specialization, as they numbered 32 individuals, which represents 66.67%of the total sample, which indicates that this specialization is the most common among the participants.

It is followed by an audit, which included 9 individuals by 18.75%, which reflects an important presence of this specialization, but it is less than accounting.

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85.00	0.21	4.25	0	1	6	21	20	It will help reduce time to accomplish routine tasks	1	Digitization
83.75	0.19	4.18	0	1	8	20	19	Facilitating communication between individuals and institutions so that they can easily exchange information	2	
81.25	0.16	4.06	0	1	13	16	18	You will contribute to reducing costs	1	Cloud computing

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86.25	0.16	4.31	0		8	17	23	help access data in different places	2	
53.75	0.18	2.68	0	0	2	7	19	It helps reduce costs by reducing the human need in some tasks	1	Artificial Intelligence
56.25	0.21	2.81	0	0	2	6	21	It will contribute to improving efficiency by completing daily tasks and reducing human errors	2	
85.42	0.22	4.27	0	1	5	22	20	It will help provide protection and prevent hacking through encrypted data	1	blockchain
86.67	0.18	4.33	0		6	20	22	It will help increase confidence by providing a reliable system to record operations	2	

Table no. (12) Standard deviations and arithmetic mean

This data indicates that the accounting specialization is the dominant among the
Source: The table was prepared using the SPSS

participants, which may reflect the nature of the research or the professional environment to which the target individuals belong. Also, the audit rate is not few, which indicates an interest in this field within the sample. The remaining percentage, which includes other specialties, may reflect a limited diversity in the sample, but also indicates the possibility of various scientific backgrounds that contribute to research.

The second branch display and analysis of the search results

1- Results related to the first hypothesis

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The following table displays the effect of digital transformation through four main dimensions: digitization, cloud computing, artificial intelligence, and blockchain. The responses are measured using the arithmetic rate, standard deviation, and the proportional weight, with the distribution of repetitions via the five -aerial Laker scale (from 'I do not agree completely' to 'completely agreed').

Schedule 1 Average Arithmetic and Standard Devil of Independent Variable (Researchers Prepared)

The first dimension: digitization.

• The phrase related to the ability of digitization obtained time to reduce the time to complete routine tasks at a rate of 4.25 and a relative weight of 85%, which reflects strong support from the participants.

• With regard to the role of digitization in facilitating communication between individuals and institutions, the phrase obtained an average of 4.1875 and a relative weight of 83.75%, indicating a general agreement on the role of digitization in promoting effective communication.

The second dimension: cloud computing.

• The phrase about the role of cloud computing in reducing costs obtained an average of 4.0625 and a relative weight of 81.25%, which indicates a great acceptance of this idea.

• As for the role of cloud computing in accessing data from different places, it has received a rate of 4.3125 and a relative weight of 86.25%, which reflects a strong conviction of its benefit in providing flexible access to data.

The third dimension: artificial intelligence.

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• The phrase related to reducing costs by reducing the human need has a rate of 2.6875 and a relative weight of 53.75%, indicating a relatively low assessment of this idea, and this may be due to the lack of conviction or the need to clarify the impact of artificial intelligence in a deeper way.

• The role of artificial intelligence in improving efficiency and reducing human errors obtained a rate of 2.8125 and a relative weight of 56.25%, which indicates a limited acceptance of this idea between the participants.

Fourth dimension: blockchain.

• The role of blockchain in providing protection and preventing penetration has a rate of 4.2708 and a relative weight of 85.42%, which reflects a strong conviction of the role of this technology in promoting safety.

• As for the role of blockchain in increasing confidence through a reliable system for recording operations, it has obtained an average of 4.3333 and a relative weight of 86.67%, indicating a clear awareness of the reliability of this technology.

In general, digitization techniques, cloud computing, and blockchain have high reviews, reflecting a wide agreement on their importance in promoting digital processes. On the other hand, artificial intelligence assessments were less, which may indicate sufficient reservations or clarity about its effect on reducing costs and improving efficiency. This table reflects the importance of digital transformation, with a variation in the extent of adopting some technologies compared to others.

2- The relationship between the two variables

In this part, the correlation between the independent variable and dependent on the two ways of the Person correlation coefficient and the simple linear slope will be presented.

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First: Pearson's connection coefficient

Person's correlation coefficient will be analyzed between the dependent variable (internal audit) and the various axes of the independent variable (digital transformation), with clarification of the level of statistical significance and decision on the moral moral.

Table no.(13) The relationship between the two variables

المتغير التابع	المتغير المستقل (التحول الرقمي)		مستوى الدلالة	القرار
Internal audit	Digitization	0.92	0.012	دال
	Cloud computing	0.87	0.033	دال
	Artificial Intelligence	0.77	0.047	دال
	Blockchain	0.73	0.046	دال

Source: The table was prepared using the SPSS

The relationship between internal audit and digitization:

• The value of the correlation coefficient (0.92), which indicates a very strong positive relationship between digitization and internal auditing.

• The level of significance (0.012) is less than 0.05, which means that the relationship is statistically significant, that is, digitization has a clear effect on internal audit.

2. The relationship between internal audit and cloud computing:

• The value of the correlation coefficient (0.87), which indicates a strong positive relationship between cloud computing and internal auditing.

• The level of significance (0.033) is less than 0.05, which means that the relationship is statistically significant, that is, the use of cloud computing positively affects internal audit

. The relationship between internal audit and artificial intelligence:

• The value of the correlation coefficient (0.77), which indicates a strong, but less positive relationship than digitization and cloud computing.

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• The level of significance (0.047) is less than 0.05, which means that the relationship is statistically significant, indicating an effect of artificial intelligence on internal audit, albeit less than digitization and cloud computing.

-4. The relationship between internal audit and blockchain:

• The value of the correlation coefficient (0.73), which indicates a moderate positive relationship to a strong block between the block and internal audit, but it is the weakest compared to the other axes of the digital transformation.

• The level of significance (0.046) is less than 0.05, which means that the relationship is statistically significant, meaning that the blockchain has it , that is, the blockchain has a clear effect on Internal audit, but relatively less than digitization and cloud computing

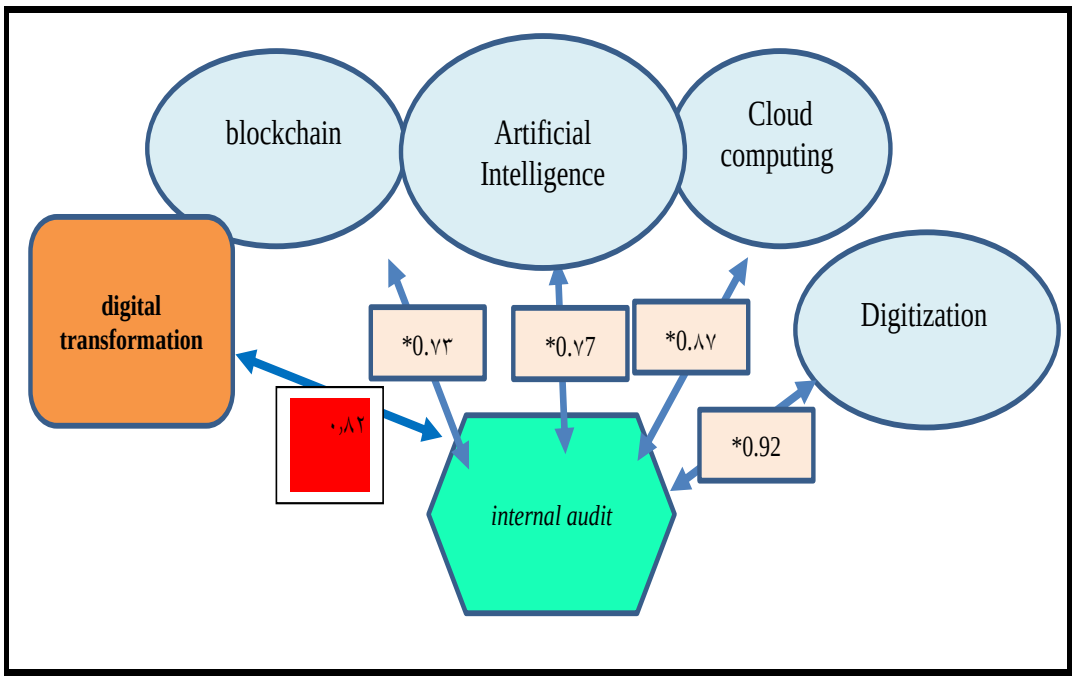

Figure 2: Pearson's correlation coefficient between the dependent variable (internal audit) and the axes of the independent variable (digital transformation).

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Second: Simple linear decline

The hypotheses will be tested about the effect of digital transformation on internal auditing using a simple linear slope

1- Formulating hypotheses

• H0: The zero hypothesis → There is no statistically significant effect between digital transformation (digitization, cloud computing, artificial intelligence, blockchain) and internal auditing.

H1: The alternative hypothesis → There is a statistically significant effect between digital transformation and internal auditing.

2- Statistical function test

A. Interpretation of the values of the identification factor (ROR):

• The high values of ROR indicate that a large percentage of contrast in internal audit can be explained by digital transformation variables.

• Values range from 0.72 (digitization) to 0.83 (artificial intelligence), indicating a high explanatory force of slope models.

• The highest value was for artificial intelligence (0.83), which indicates that 83% of the changes in internal audit can be explained using artificial intelligence, followed by cloud computing (0.75), which reflects the strength of the relationship

for. F:

• All calculated F. all the calculated f values are larger than F. (4.23), which reflects a very strong effect.

C. T test analysis:

• All calculated t values are larger than T Table (2.109), which indicates that slope transactions are statistically significant. The digitization has a moral effect

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D. P-Value:

• All values P-Value is less than 0.05, which means that all digital transformation variables have a statistically significant effect on internal audit.

• The smallest value P was 0.013 for digitization, which means that digitization has a strong indicative effect on internal audit.

• The highest value P was 0.032 for artificial intelligence, but it is still less than 0.05, which indicates its statistical significance.

Table no.(14) Simple linear decline

dependent variable (internal audit)						Independent variable (digital transformation)
P value	T	قيمة F	R^2	الثابت		
				B1	B0	
0.013	2.23	3.33	0.72	0.94	2.49	Digitization
0.014	3.29	4.23	0.75	0.87	1.39	Cloud computing
0.032	3.98	3.23	0.83	0.78	2.38	Artificial Intelligence
0.025	2.94	4.29	0.73	0.83	1.39	Blockchain
0.019	3.39	3.52	0.81	0.72	1.83	Strategic) Excellence)
N = 47	قيمة F الجدولية عند مستوى معنوية 0.05 ودرجة حرية (47,1) = 2.391 *قيمة t الجدولية عند مستوى حرية (47,1) = 2.109					

Source: The table was prepared using the SPSS

-The final decision on hypotheses

Since all values F, T, and P indicate a statistical significance, we reject the zero hypothesis (H0) and accept the alternative hypothesis (H1), which means that there is a moral and positive effect of digital shift on internal audit.

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◇ Digital transformation positively and morally affects internal audit, which enhances the need to adopt these technologies in institutions to improve the efficiency and effectiveness of audit operations.

5. Conclusions and recommendations

5-1 Conclusions

1- The digital transformation has a significant effect on scrutiny by improving the efficiency of internal audit by helping to reduce effort and time to conduct audits

2- The technology of digitization that has the strongest effect will help in accomplishing daily tasks and reducing human errors.

3- Blockchain technology will have an effect on strengthening safety and data protection, but its application in government institutions is very small. Cloud computing technology contributes to improving access to data in different places, and achieving transparency in audit operations.

5-Although artificial intelligence technology has had the lowest effect but helps analyze huge data with high efficiency.

5-2Recommendations

1.The application of enhanced digitization in internal audits has demonstrated a significant positive impact on both the speed and quality of the auditing process.

2. The reliance on cloud computing within internal audit functions has grown significantly, primarily due to its ability to enhance data accessibility and bolster reliability.

3. Investing in artificial intelligence for the analysis of large datasets enhances error detection efficiency, demonstrating a significant correlation with internal audit processes.

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4. Investing in artificial intelligence for the analysis of large datasets enhances error detection efficiency, demonstrating a significant correlation with internal audit processes.

5. Aligning digital transformation initiatives with internal audit goals is essential for integrating digital processes into the audit framework, thereby maximizing the benefits derived from contemporary technologies.

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