
The impact of digital transformation on the practice of the auditing profession in Algeria: A field study

BOUAZZA-ABID Bachir

University of Mostaganem, Lab STRATEV Algeria
E-mail: bachir.bouazzaabid.etu@univ-mosta.dz

MARKIK Abdallah

University of Mostaganem, Lab STRATEV Algeria
E-mail: abdallah.markik.etu@univ-mosta.dz

SEDDIKI Meriem

University of Ain Temouchent, Algeria
E-mail: meriem.seddiki@univ-temouchent.edu.dz

How to Cite:

BOUAZZA-ABID, B., MARKIK, A., & Meriem, S. (2026). The impact of digital transformation on the practice of the auditing profession in Algeria: A field study. *Art Law and Accounting Reporter*, 45(1), 30-43. <https://journalalar.org/index.php/online/article/view/31>

Art Law and Accounting Reporter © 2026

ALAR is open access and licensed under  CC BY-NC-ND 4.0

Submitted: 14 Feb 2026 | Revised: 21 Oct 2025 | Accepted: 27 Dec 2025

Abstract--- This study aims to explore the extent to which the accounting audit profession has responded to developments resulting from the digital transformation of the economic environment, represented by the trend of institutions towards using information and communication technologies in their various daily transactions. This transformation has forced all economic operators and partners to keep pace with these developments to ensure continued effectiveness and efficiency. In this context, the study addresses the issue of practicing external auditing in economic institutions in light of the use of accounting information systems, focusing on the most important advantages and risks facing the auditing profession as a result of this transformation. The results of the study show that the adoption of accounting information systems in institutions contributes significantly to enhancing the quality, efficiency, and effectiveness of the external auditing process. The digital accounting audit environment also contributes to facilitating the practice of this profession and improving its progress by reducing the burden on the auditor, by replacing paper files and traditional archives with electronic copies and using technical tools that help the auditor complete his tasks in less time, at lower costs, and with less effort.

Keywords--- accounting auditing, digital era, digital auditing, information systems, information technology.

1. Introduction

The digital transformation that has taken place in many areas of life and across various sectors is nothing more than a change in the ways of thinking and working imposed by change and development towards an environment built on information and communications technology, whereby digital transformation provides opportunities to build effective, competitive, and sustainable societies that serve various parties and improve their performance.

The auditing profession, like other fields, has been affected by digital transformation as a result of changes in the environment in which it is practiced, from one that relies on traditional documents and methods to one characterized by the integration of information technology into various activities, such as electronic data and information systems, electronic work programs, and the use of computers as a basic tool for performing operations. This has required auditing practitioners to keep pace with these changes and seek ways to serve the profession and increase its effectiveness within the electronic environment by establishing controls and methods in line with the changes taking place and ensuring the continuous training of individuals entrusted with practicing this profession in the new basic knowledge relevant to this profession.

With the rapid development of the digital age, auditing practices are undergoing radical changes, presenting significant challenges and new opportunities. The widespread adoption of digital technologies has radically changed the way

organizations operate and the business environment, requiring auditors to adapt to increasingly complex data-driven systems. Technologies such as artificial intelligence, blockchain, data analytics, and cloud computing have contributed to changing traditional auditing approaches and expanding the scope of auditing activities. As a result, traditional, manual, and sample-based audit methods are no longer sufficient to handle the volume and complexity of digital data. Auditors must therefore develop advanced methodological and technical skills to ensure audit quality and effectively manage the risks arising in the digital environment. (Rahman, Putri, & All, 2021)

Therefore, in this study, we will address the following problem:

To what extent does digital transformation in the business environment affect the practice of auditing in Algeria?

To answer this question, we propose the following hypotheses:

- 1- There is a statistically significant impact of digital transformation on the efficiency of auditing practice in Algeria.**
- 2- There is a statistically significant impact of digital transformation on the quality of auditing practice in Algeria.**

2. Literature review

2.1. Digital transformation environment:

Before discussing the concept of the digital transformation environment, it is necessary to explain the concepts of environment and digital as terms that lead us to a comprehensive definition. The term environment refers to the space or field in which an activity is carried out, or the means, methodology, or technique that individuals and institutions follow in performing their work. Digital is defined as the process of creating a digital image through which information is converted from a written image on paper to an image stored on various electronic devices, so that it can be circulated on various local and international information networks.

Digital transformation is defined as the process of changing the structure of institutions in terms of the use of technology and digital media facilities to modify external and internal processes. It is an investment in changing behavior and thinking to bring about a radical transformation in working methods, by taking advantage of significant technological developments to serve beneficiaries better and faster. Digital transformation offers enormous potential for building effective, competitive, and sustainable societies by bringing about radical change to serve various stakeholders, including consumers, employees, and beneficiaries, and improving their experiences and productivity through a series of proportionate processes, accompanied by the necessary reformulation for activation and implementation. (KACEM, 2020), It is also defined as the process by which an organization seeks to use information and communication technologies and the World Wide Web to improve the performance of its various tasks and operations, and to transfer this information

to those who need it, whether internally or externally. This is based on the flow of information, the technologies and information systems used, and the human resources intended to carry out the various tasks that lead to the organization's goals within the framework of its established strategies. (Rechouane & Mohamed, 2020). It is also the process of business organizations transitioning to a business model that relies primarily on digital technologies to innovate services and products, and to provide new revenue streams and opportunities that increase the value of their products. (Yasser, 2019). (Wade, 2015) defined digital transformation as the process of bringing about organizational change through the use of digital technologies and linking them to people, processes, strategies, and business models to improve performance. (Mark, 2024) added to his definition that it is "a process involving the use of technologies to redesign processes and activities to become more efficient and effective."

2.1.1. Components of a digital transformation environment

The digital transformation environment consists primarily of: (Rechouane & Mohamed, 2020)

- **Technologies:** Digital transformation is achieved using a system of devices, data, storage, and software that operate within technical environments and data centers that allow all assets to be used with uninterrupted operational efficiency. It also requires ensuring an appropriate level of service for the organization's employees, customers, and suppliers through professional teams responsible for managing the technical system and network infrastructure.
- **Data:** Organizations are expected to analyze and manage data in an organized and effective manner by providing accurate and complete qualitative data, while also providing and developing appropriate tools for statistical analysis and future data forecasting. Data must also be monitored continuously to ensure a steady flow that can be utilized in line with the organization's goals and plans.
- **Human resources:** Human resources are a vital aspect without which it is difficult for organizations to implement digital transformation. Qualified personnel must be available who are capable of using and analyzing data to make the right decisions. Planning and implementing visions also requires human competencies with scientific and practical experience.
- **Operations:** Business organizations must establish an effective technical structure that allows for the development of internal and external performance to ensure the optimal implementation of digital transformation. This includes creating a technical structure that includes policies and procedures covering all of the organization's activities and processes, interconnected with the necessary technologies, advanced applications, and processed data.

2.2. The auditing profession in the digital transformation era

Auditing in the digital transformation environment refers to the process of applying any type of system using information technology to assist the auditor in planning,

monitoring, and documenting audit work. It can also be defined as the process of collecting and evaluating evidence to determine whether the use of a computer system contributes to achieving the objectives of the audit process, whether it is to express an opinion or confirm the accuracy of the data contained in the financial statements and communicate the results to their users, or in relation to management objectives. (Ben guettib,2017).

(Ikhlef & Torchi, 2020) defined it as the process of applying auditing systems using information technology systems, i.e., the transition from manual to electronic operation in order to contribute to the completion of the auditing process efficiently, effectively, and as quickly as possible, achieving objectives, and expressing an opinion on the fairness of the financial statements.

From the above, we can define auditing in a digital transformation environment as the auditing process organized in accordance with the conceptual framework of auditing, which is carried out by the auditor based on information and communication technology systems in order to express his opinion and ensure the integrity of the institution's financial statements and that their data are free from errors and deviations.

2.2.1. Audit characteristics in a digital transformation environment

Auditing in a digital operating environment has characteristics that distinguish it from manual auditing. In addition, auditing using information technology plays a key role in enabling organizations and entities to achieve a competitive advantage in the auditing process. These characteristics are as follows: (Berbabri & Ben bouali, 2017)

- **Efficiency and effectiveness:** The auditing process in a digital operating environment provides satisfactory services and meets the needs of beneficiaries. This requires the use of auditing software and expertise systems. The efficiency and effectiveness of the auditing process are measured by its ability to achieve auditing objectives, and fulfilling its responsibilities with credibility, confidence, and accuracy, with the least amount of time, effort, and cost, and in accordance with approved financial laws and international standards.
- **Assurance and reliability:** Auditing in an IT environment provides assurance that internal controls are adequate, reliable, and functioning efficiently and effectively, thereby increasing confidence in the auditor's report, which provides important information about issues that need to be focused on.
- **Accuracy and reliability:** The use of modern technology provides timely, accurate, and reliable information for sound and effective decision-making.
- **Quality:** The use of information technology in performing audit tasks and work provides benefits to audit firms in terms of completing scheduled work quickly, accurately, and at the lowest possible cost, which will be reflected in improving the

quality of audit processes and services, as time and effort are among the factors that affect audit quality.

2.2.2 Audit methods in the digital transformation environment

There are a number of methods for auditing electronic information systems, including: (Zine, 2018)

- **Computer-assisted auditing**

The auditor performs his duties electronically, i.e., using a computer while performing audit procedures, including: testing transaction details and balances, analytical procedures, testing internal control systems, sampling programs, testing application control systems, etc.

We can summarize computer-assisted auditing in two ways:

Auditing software: This consists of electronic programs used by the auditor as part of their review procedures to process data of critical importance, including:

Package programs: These are programs designed to perform data processing functions, including reading computer files, testing information, performing calculations, creating data files, and printing reports in the format specified by the auditor.

Special-purpose programs: Programs designed to perform audit tasks in specific circumstances, prepared by the auditor or the entity, or by an outside programmer hired by the auditor.

Utility programs: Used by the entity to perform common data processing functions.

Test data: This method is used when performing audit procedures by entering data such as transactions into the institution's computer system and comparing the results with pre-prepared results, including, for example: Test data for password controls and data access controls, transactions to create dummy units (department, user, account) and transfer all normal transactions to them during the normal processing cycle.

- **Considerations for using computer-assisted audit techniques**

When planning an audit, the auditor may consider an appropriate mix of manual and computer-assisted audit techniques. Factors to consider in determining whether to use computer-assisted audit techniques include the following: The audit team's knowledge, familiarity, and experience with information technology. Computer-assisted audit techniques and appropriate computer facilities provide efficiency and effectiveness in the use of information technology.

- **Computer-based auditing**

The auditor must determine the extent of the interdependence of inputs and outputs for a computer-based system. On the input audit side, the auditor tests the processes from start to finish by obtaining the original documents for these processes to process them manually. This method is considered a comparison between manual and automated processing to ensure the accuracy of the processing. As for output auditing, the auditor compares the outputs obtained through electronic

processing with the results of some processes whose original documents were processed manually. This method is considered a comparison between the results of electronic processing and manual processing.

- **Computer-assisted auditing**

Using this method, the auditor uses a computer in the auditing process by testing the integrity of the internal control system and examining various operational processes. They also conduct tests to verify the accuracy of the operating results using a computer. According to this method, the computer and its programs are considered the target of the audit, which requires the auditor to have sufficient experience in operating systems and various administrative and electronic accounting applications used. This method is based on the concept that if the input data is correct and the processing is correct, the output will necessarily be correct. Therefore, it relies on the need to ensure the integrity of the input to the computer, in addition to ensuring the integrity of the processing, which must be done correctly and accurately, meaning that the output will be correct and sound.

2.2.3. Advantages of Digital Auditing:

Digital auditing is characterized: (Al-Sammarraee & Al-Shareeda, 2020)

- **Digital auditing and cost advantage realization:** Digital auditing through the use of audit software to audit financial statements contributes to reducing the cost of audit services and the time required to plan and complete them quickly and increase the profitability of audit offices
- **Digital Auditing and Quality Assurance:** If digital auditing is used in the implementation of financial operations, it affects the quality of auditing, so audit tasks must be carried out objectively and technological techniques must be used by qualified auditors in auditing financial statements.
- **Digital Auditing and Market Share:** The use of digital auditing in auditing financial statements contributes to increasing the accuracy, transparency and reliability of the institution, especially in light of the competitive environment witnessed by institutions in the market in the field of using information technology, which encourages association with the audit.

3. Method

3.1. Data Collection and Sample

To collect the primary data for this study, we distributed a structured questionnaire to auditors in northwestern Algeria. The questionnaire was divided into two sections. The first section collected demographic data from the study sample, including educational level and specialization, professional status, type of audit firm (individual or audit company), and professional experience.

The second section, which was divided into two subsections, assessed the impact of digital transformation on professional auditing practices in Algeria, measured on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree).

A total of 100 valid responses were obtained from the target population and analyzed using SPSS version 27.

3.2. Sample Characteristics

In terms of professional status, the participants in the sample ranged from auditors to accounting experts. Most of them were accountants (83%). In terms of educational level, most participants had a bachelor's degree (72%), followed by those with a master's degree (26%), while only two had a doctorate (2%). Their academic specializations ranged from accounting and finance to auditing, taxation, and management sciences. In terms of professional experience, 38% had more than 15 years of experience, followed by 36% with 11 to 15 years of experience, 19% with 5 to 10 years of experience, and finally 7% with less than 5 years of experience. This indicates that the sample group has good experience.

3.3. Data Analysis

SPSS version 27 was used for statistical data analysis. Data reliability was assessed by calculating Cronbach's alpha coefficient, while descriptive statistics were used to examine general trends in participant responses. A one-sample Student's t-test was applied to test hypotheses.

4. Results

4.1. Reliability Test

The reliability of the questionnaire, which consists of two axes, each containing six items, was tested using Cronbach's alpha coefficient. The results, shown in Table 1 below, demonstrate a good level of internal consistency, with the alpha coefficient exceeding the recommended minimum of 0.60 across all axes.

Table 1
Reliability Test

	Cronbach's alpha value	N of items
The Impact of Digital Transformation on Audit Efficiency	0.777	6
The impact of digital transformation on audit quality	0.721	6
Overall	0.831	12

Source: SPSS v.27 outputs

4.2. Testing of Hypotheses

The Impact of Digital Transformation on Audit Efficiency

This first axis was adopted to measure the extent to which digital transformation has increased the efficiency of audit operations. Table 2 shows the results obtained, which indicate that participants agreed that digital transformation contributed to increasing the efficiency of audit processes, reducing the time required to complete them, and facilitating decision-making. The arithmetic means for this axis ranged from 3.91, which is the lowest value for statement IDTAE5, which states that "digital transformation helps to handle large amounts of data easily and accurately," to 4.21, which is the highest value for statement IDTAE1, which states that "digital transformation contributes to improving the efficiency of audit tasks." The remaining statements also indicated general agreement, as confirmed by the overall arithmetic mean for this axis of 4.15. This shows that digital transformation contributes to increasing the accuracy of audit procedures and enhances transparency during their implementation through a set of systems and tools that reduce errors and enhance the efficiency of operations.

Table 2
Results of the First Axis

First Axis	Items/ Dimension	Mean	Std Deviation	Result
The Impact of Digital Transformation on Audit Efficiency	IDTAE1	4.21	0.607	Strongly agree
	IDTAE2	4.16	0.486	Agree
	IDTAE3	4.20	0.402	Strongly agree
	IDTAE4	4.11	0.633	Agree
	IDTAE5	3.91	0.842	Agree
	IDTAE6	4.32	0.789	
	Overall (IDTAE)	4.15	0.443	Agree

Source: SPSS v.27 outputs

We support the previous results by testing hypothesis O1 using a one-sample t-test to determine whether to accept or reject it at a significance level of 0.05 and a hypothetical mean of the adopted scale, "3," according to a five-point Likert scale (i.e., the average of numbers from 1 to 5).

H0: Digital transformation does not contribute to raising the efficiency of auditing processes in Algeria at a statistically significant level of 5%.

H1: Digital transformation contributes to increasing the efficiency of auditing processes in Algeria at a statistically significant level of 5%.

Table 3
One Sample T-test (First Axis)

One Sample T-test						
Test Value = 3						
	t	Df	Sig	Mean Difference	95% Confidence Interval of the difference	
					Lower	Upper
IDTAE	25.946	99	0.001	1.15167	1.2397	1.0636

Source: SPSS v.27 outputs

We note from the previous table (No. 3) that the calculated T value is 25.946, which is greater than the tabulated T value, and that the significance level is 0.001, which is less than the significance level of 0.05. Therefore, we reject **H0** and accept the **H1**, namely that digital transformation contributes to raising the level of efficiency in the implementation of audits in Algeria and enhances confidence and transparency by reducing expected human errors and providing more objective and reliable reports.

The impact of digital transformation on audit quality

The second axis was adopted to measure the extent to which digital transformation contributes to improving the quality of auditing in Algeria. The results obtained, as shown in Table 4, indicate that participants agreed with the statements in this axis. When ranking the statements according to their relative importance, we found that the first statement had the highest arithmetic mean of 4.17, which explains the agreement that digital transformation contributes to improving the quality of audit evidence. The third statement received the lowest score, with a mean of 3.71, stating that digital transformation has helped improve the effectiveness of audit planning. The remaining statements also indicated agreement, as confirmed by the overall mean for this theme, which was 3.95. This shows that digital transformation contributes to improving the performance and quality of audit procedures by integrating digital systems that facilitate the immediate and continuous processing and monitoring of files.

Table 4
Results of the Second Axis

First Axis	Items/ Dimension	Mean	Std Deviation	Result
The impact of digital transformation on audit quality	IDTAQ1	4.17	0.804	Agree
	IDTAQ2	4.02	0.724	Agree
	IDTAQ3	3.71	0.795	Agree
	IDTAQ4	4.07	0.607	Agree
	IDTAQ5	3.77	0.708	Agree
	IDTAQ6	3.96	0.680	Agree
	Overall (IDTAQ)	3.95	0.467	Agree

Source: SPSS v.27 outputs

We support the previous results by testing hypothesis 02 using a one-sample t-test to determine whether to accept or reject it at a significance level of 0.05 and a hypothetical mean of the adopted scale, "3," according to a five-point Likert scale (the average of numbers from 1 to 5).

H0: Digital transformation does not contribute to improving the quality of audit performance in Algeria at a statistically significant level of 5%.

H1: Digital transformation contributes to improving the quality of audit performance in Algeria at a statistically significant level of 5%.

Table 5
One Sample T-test (Second Axis)

One Sample T-test						
Test Value = 3						
t	Df	Sig	Mean Difference	95% Confidence Interval of the difference		
				Lower	Upper	
IDTAQ	20.320	99	0.001	0.95000	1.0428	0.8572

Source: SPSS v.27 outputs

We note from Table 5 above that the calculated T value was 20.320, which is greater than the tabulated T value, and that the significance level was 0.001, which is less than 0.05. Therefore, we reject **H0** and accept **H1**, which is that digital transformation contributes to improving the quality of audit performance in Algeria.

Discussion

Based on the results obtained through the analysis of the questionnaire, it was found that most of the sample's responses tended toward agreement, and the calculated significance level was less than (0.05). Therefore, we can say that the two hypotheses proposed are acceptable, which is confirmed by the statistically significant impact of digital transformation on the practice of auditing in Algeria. These results also indicate that the adoption of digital methods and technologies has clearly and significantly contributed to improving auditor efficiency by speeding up the completion of audit tasks, facilitating the processing of large amounts of data in a short time, and improving the ability to detect errors and potential risks. The results also reflect auditors' awareness of the importance of these digital tools in supporting decision-making and enhancing the value of audit outputs.

On the other hand, the results showed that digital transformation has had a positive impact on the quality of professional auditing practices, as the use of accounting information systems has contributed to improving the quality of audit manuals, enhancing compliance with professional standards, and improving the effectiveness of planning, implementation, and documentation. The transition from paper files to electronic systems has also contributed to reducing administrative burdens and improving the organization of audit work, which has a positive impact on the quality and credibility of final reports. These results are consistent with recent trends in the auditing profession, which confirm that digital transformation is a key driver for the development of the auditing profession and for keeping pace with the requirements of the contemporary economic environment. Therefore, the findings highlight the importance of supporting digital transformation in Algerian audit firms as a key factor in improving the efficiency and quality of the audit profession.

Conclusion

It is clear from the above that digital transformation is essential for improving auditing. There is no doubt that adopting digital tools will contribute to improving the quality of information, speeding up procedures, reducing potential human error, and enhancing fraud detection mechanisms, which will have a positive impact on efficiency, effectiveness, and quality. The success of audits in the digital environment depends on the availability of an appropriate technological infrastructure, a flexible legal framework, and human resources capable of using digital tools efficiently. Therefore, it can be said that digital transformation represents a strategic approach to enhancing the effectiveness of auditing in Algeria.

References

- Ben guettib, A. (2017, 02 04). The role of accounting auditing in the context of electronic data processing in improving the quality of accounting information. PhD thesis. Msila, Algeria: University of msila. Récupéré sur <https://repository.univ-msila.dz/handle/123456789/3616>
- Berbabri, M., & Ben bouali, K. (2017, 06 30). The importance of electronic auditing in enhancing e-government performance. *Namaa Economy and Trade Journal*, 1(1), pp. 34-50. Récupéré sur <https://asjp.cerist.dz/en/article/72471>
- Ikhlef , S., & Torchi, M. (2020, 11 01). The Role of Electronic Auditing in Improving the Quality of the Internal audit Profession and its Impact on Maximizing Value for the Beneficiaries of Corporate Governance. *Al Bashaer Economic Journal*, 6(2), pp. 763-779. Récupéré sur <https://asjp.cerist.dz/en/article/133522>
- KACEM, E. (2020, 06). The African Union's contributions to the digital transformation process in Africa: A reading of the draft Digital Transformation Strategy for Africa 2020/2030. *journal of faculty of economics for scientific researches*, 6(1), p. 5. Récupéré sur <https://dspace.zu.edu.ly/handle/1/913>
- Mark, S. (2024, 09 19). What is digital transformation? Everything you need to know about how technology is reshaping business, sur ZDNET Special Feature: <https://www.zdnet.com/article/what-is-digital-transformation-everything-you-need-to-know-about-how-technology-is-changing-business/>
- Rechouane, a. s., & Mohamed, a. (2020). The First International Conference on Information Technology and Business. Digital transformation and its implications for accounting and auditing practices, (p. 6). palestine .
- Wade, M. (2015, 06). Digital Business Transformation: A Conceptual Framework. *Global Center for Digital Business Transformation*, 2(1), pp. 01-16. Récupéré sur <https://www.imd.org/contentassets/d0a4d992d38a41ff85de509156475caa/framework>
- Yasser, A. (2019, 06 15). Human resources management and the challenges of digital transformation in. *Journal of Managerial and Economic Research*, 3(1), pp. 207-2019. Récupéré sur <https://asjp.cerist.dz/en/article/133057>
- Zine, A. (2018). Evaluating the auditing profession under electronic information systems. PhD thesis. Biskra, Algeria: University of biskra. Récupéré sur <http://thesis.univ-biskra.dz/4356/>
- Rahman, F., Putri, G., & All. (2021, 06 09). Auditing in the Digital Era: Challenges and Opportunities for Auditor. *Golden Ratio of Auditing Research*, 1(2), pp. 86-98. doi:<https://doi.org/10.52970/grar.v1i2.367>
- Al-Sammarraee, A. E., & Al-Shareeda, N. A.-J. (2020, 3 08). The role of artificial intelligence techniques using digital auditing in achieving audit quality and supporting the audit strategy from the point of view of auditors (A field study in audit firms in the Kingdom of Bahrain). *Global Journal of Economics and Business*, 8(1), pp. 15-31. doi:<https://doi.org/10.31559/GJEB2020.8.1.2>

Appendix

Table 10
Questionnaire Form

Items	
IDTAE 1	Digital transformation contributes to improving the efficiency of audit tasks.
IDTAE 2	Digital transformation helps reduce the time needed to complete audit work.
IDTAE 3	The use of digital tools contributes to increasing the professional productivity of auditors.
IDTAE 4	Digital transformation enhances the ability to detect errors and risks.
IDTAE 5	Digital transformation helps to handle large amounts of data easily and accurately.
IDTAE 6	Digital transformation facilitates professional decision-making during the audit process
IDTAQ 1	Digital transformation has contributed to improving the quality of audit manuals.
IDTAQ 2	Digital transformation has led to improved compliance with professional auditing standards.
IDTAQ 3	Digital transformation has helped improve the effectiveness of audit planning.
IDTAQ 4	The use of digital tools has improved the quality of final audit reports.
IDTAQ 5	Digital transformation contributes to greater transparency and credibility in audit results.
IDTAQ 6	Digital transformation helps reduce professional errors and increase the accuracy of financial assessments.

Source: Authors