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Barriers to Digital Transformation in Accounting Practices within Algeria: An Exploratory Factor Analysis

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Abstract:

Purpose: This study investigates the barriers impeding the adoption of digital transformation in accounting practices within Algeria. Despite growing global momentum toward accounting digitalization, Algerian firms continue to rely predominantly on manual and legacy systems.

Design/methodology/approach: A cross-sectional quantitative survey was administered to 384 licensed accounting professionals (certified accountants, auditors, and accounting experts) across multiple economic sectors in Algeria. Data were collected between May and August 2025 using a structured Likert-scale questionnaire. Exploratory Factor Analysis (EFA) with Principal Axis Factoring and Varimax rotation, supported by Wilcoxon signed-rank tests and multiple regression, were employed for analysis. The study is grounded in the Technology-Organization-Environment (TOE) framework.



Findings: Results confirm that digital transformation remains severely limited across Algerian accounting entities (Mdn = 2.00, $p < .001$). EFA revealed five coherent barrier dimensions explaining 72.1% of total variance: (1) technological barriers ($\beta = -0.322$), (2) administrative/institutional barriers ($\beta = -0.261$), (3) human and cultural barriers ($\beta = -0.225$), (4) financial barriers ($\beta = -0.184$), and (5) legal/regulatory barriers ($\beta = -0.156$). The composite barrier structure significantly and negatively predicts adoption levels ($R^2 = 0.709$, $F(5, 378) = 86.42$, $p < .001$).

Research limitations/implications: The sample is confined to Algerian practitioners; findings may not generalize beyond this context. Self-reported data and cross-sectional design limit causal inference.

Practical implications: The findings guide policymakers to invest in digital infrastructure, reform regulatory frameworks, and support capacity-building programs for accounting professionals.

Originality/value: This study is among the first to apply EFA to empirically map the multidimensional barrier structure of accounting digital transformation at the national level in Algeria, using exclusively licensed professional practitioners as respondents.

Keywords: Digital transformation, accounting, barriers, exploratory factor analysis, Algeria, TOE framework, developing countries.

1. Introduction:

In recent years, digital transformation has emerged as a pivotal trend across global businesses, altering conventional corporate structures and processes. This shift is especially significant in accounting, where the integration of technologies such as cloud computing, artificial intelligence (AI), automation, and real-time data analytics is fundamentally altering the management, reporting, and analysis of financial data. The worldwide transition from manual, paper-based systems to advanced digital platforms enhances accuracy, compliance, and decision-making capacities. These innovations are raising operational efficiency while augmenting the capacity for strategic forecasting and more flexible financial management.

The rate and extent of this shift differ markedly between industrialized and developing countries. In nations like Algeria, the accounting sector predominantly relies on conventional methods, presenting substantial opportunities for enhancement. Although global trends in digital transformation offer significant advantages, Algeria encounters distinct hurdles in the use of these technologies. The nation's economy, significantly dependent on oil and gas exports, has faced challenges in achieving economic diversification and modernization within both public and private sectors. Moreover, restricted access to digital infrastructure, legal impediments, and insufficient digital literacy present challenges to the extensive implementation of digital accounting procedures.

1.1 Research Questions & Hypotheses

Problem statement & Main Research Question:

Notwithstanding Algeria's governmental commitment to digitalization, the accounting sector encounters substantial obstacles that impede the shift from conventional techniques to digital systems. Numerous organizations, particularly small and medium enterprises, continue to

depend on manual processes owing to constraints in infrastructure, technological preparedness, regulatory transparency, and organizational culture. The lack of explicit implementation standards, along with cybersecurity issues, financial limitations, and insufficient digital skills among accounting professionals, has hindered adoption. Current research in Algeria frequently conflates enablers and results, resulting in inadequate isolation and analysis of barriers. Consequently, a targeted enquiry is necessary to identify, classify, and analyze the obstacles hindering effective accounting digital transformation within the Algerian setting. Thus, the following main research question can be formulated:

What are the barriers to the adoption of digital transformation in Algerian accounting practices?

Sub-questions:

- What is the level of digital transformation implementation in the Algerian accounting sector?
- What are the key factors that explain the obstacles impeding the execution of digital transformation in the Algerian accounting sector?
- Is there a relationship between the latent factors indicating barriers to accounting digital transformation and the level of its adoption in Algeria?

Hypotheses:

- H1: The level of digital transformation implementation in the Algerian accounting sector remains constrained.
- H2: Several underlying factors elucidate the barriers hindering the implementation of digital transformation within the Algerian accounting sector.
- H3: The composite structure of accounting digital transformation barriers has a significant adverse effect on the overall level of digital transformation adoption among Algerian accounting entities.

1.2 The study Objectif

This research aims to investigate the digital transformation of accounting practices in Algeria, evaluating the potential advantages, obstacles, and future prospects for modernization within this industry. The study will:

- Examine the state of digital transformation in Algeria's accounting sector.
- Determine the obstacles impeding the implementation of digital accounting technologies and methodologies in Algeria.
- To offer evidence-based recommendations for addressing these barriers and improving digital transformation within the Algerian accounting sector.

1.3 Study Significant

This research is important as it enhances the existing literature on digital accounting transformation and offers practical insights for Algeria to utilize digital technologies in modernizing its accounting framework. Digital transformation could significantly contribute to

economic diversification and sustainable growth in Algeria by improving accounting efficiency, promoting transparency, and conforming to international norms.

This study's findings will guide governmental decisions to promote a more transparent, efficient, and competitive accounting industry, while providing actionable insights for accounting professionals and businesses adapting to the changing digital environment. Algeria's pursuit of economic modernization and further global market integration necessitates the adoption of digital transformation in accounting as a vital measure for attaining long-term economic sustainability and growth.

2. Literature Review:

3.1 Global Trends in Digital Accounting:

Digital transformation in the accounting industry is significantly driven by emerging technologies such as Artificial Intelligence (AI), blockchain, cloud computing, and data analytics. The integration of these technologies is reshaping traditional accounting practices and enhancing efficiency, accuracy, and security.

Artificial Intelligence and Data Analytics: AI is disrupting the accounting and finance industry by automating repetitive tasks in accounting, analyzing data better and assisting in the decision-making process. With this, AI applications allow data to be managed better since they can process huge amounts of data quickly and accurately which ultimately leads to improvements in the forecasting and financial analyses (Chu & Yong, 2021). AI also plays a significant role in financial decision-making as it enhances financial transparency and accuracy. It helps in detecting fraud, and it also provides predictive analytics functionality, which is important for risk management and strategic planning (Adeyelu et al., 2024; Peng et al., 2023). Big Data boosts governmental accounting professionals to make insights based on the patterns and trends embedded in financial data through the use of data analytics (Bose et al., 2023).

Blockchain: This technology is pivotal in enhancing transparency and integrity in the accounting domain. Blockchain ensures secure, decentralized financial records that are tamper-proof and verifiable, mitigating the risks of fraud and unauthorized access. It has transformational potential for real-time auditing and improving the integrity of financial reports by maintaining unchangeable transaction records (Ajayi-Nifise et al., 2024; Danach et al., 2024). Blockchain technology's ability to implement smart contracts streamlines and automates auditing processes, ultimately reducing costs and enhancing efficiency (Schmitz & Leoni, 2019).

Cloud computing: is revolutionizing the accounting industry by offering scalable, efficient, and secure solutions. This enables accounting firms to dynamically adjust their computing resources, enhancing their flexibility and operational agility (Atadoga et al., 2024). The adoption of cloud-based systems also leads to cost reduction and streamlined processes, allowing accounting firms to effectively manage workloads throughout peak and off-peak seasons (Saad et al., 2022). The cloud environment provides robust encryption and compliance frameworks, ensuring data privacy and security, which are paramount for handling sensitive financial information (Moudud-UI-Huq et al., 2020).

Big data: Big Data technology is transforming accounting by improving accuracy, efficiency, and strategic decision-making. Big Data Analytics transforms accounting into a data-driven field by revealing insights from massive datasets (Nwaimo et al., 2024).

Big Data improves accounting accuracy in financial reporting, auditing, and risk management. These operations can be improved by advanced algorithms and machine learning technologies to identify abnormalities, reduce errors, and better understand complicated financial dynamics (Nwaimo et al., 2024). BDA accelerates data entry, reconciliation, and financial analysis with real-time data processing, allowing accountants to focus on strategic efforts (Nwaimo et al., 2024). Big Data improves managerial and financial accounting by increasing management control and planning. Accounting information becomes more accurate and relevant, improving transparency and stakeholder decision-making (Warren et al., 2015).

3.2 Digital transformation in Mena region accounting landscape:

This study of Awwad et al. (2024) examines the impact of artificial intelligence methodologies, such as expert systems, machine learning, neural networks, and algorithms, on improving the quality of accounting information in Palestinian industrial firms. The research underscores that expert systems, neural networks, and algorithms proficiently tackle diverse industrial difficulties, identify financial fraud, and yield precise outcomes. Moreover, machine learning amalgamates systems for cohesive functionality. The emphasis on the industrial sector arises from limitations in Palestine, suggesting inconsistent outcomes across several sectors.

A study conducted by Hamdy et al. (2025) analyzed the influence of digital transformation on accounting information systems quality in the public sectors of Egypt and Saudi Arabia. However, unexpectedly, their study revealed a significant negative association between accounting information systems quality and digital transformation. Evaluating an original survey of 128 government employees, they discovered and confirmed all six dimensions of digital transformation: strategic planning; human resources; infrastructure; cybersecurity; automation; and institutional support -- were negatively related to accounting information systems quality.

In developing countries, early-phase digital transformation can be system fragmentation, independent, un-cohesive, staff unwillingness and institutional unpreparedness, which are capable of disorganization rather than codifying accounting information systems, the authors state. In Egypt, national context played a moderating role, the effect was less potent.

To help address some of the above challenges, this study emphasizes the role of institutional readiness and other related implementation challenges when adopting the digital technologies in public financial systems with a specific emphasis on developing countries.

Research by Feghali et al. (2022) examined how the COVID-19 pandemic accelerated the digital transformation of accounting practices and influenced accountants' behavior in the MENA region. Using survey data from 568 accountants, the study found that digitalization positively affected accountants' attitudes and adaptability, while pandemic-related disruptions such as stress and remote work challenges negatively impacted behavior. Larger firms and senior accountants showed greater readiness to adopt digital tools.

The authors concluded that digital transformation is both a technological and behavioral process, emphasizing the need for organizations to invest in digital infrastructure, training, and change management to support accountants' adaptation. Despite limitations related to non-probabilistic sampling and self-reported data, the study offers important insights into how crisis-driven digitalization reshapes accounting practices in developing economies, particularly within the MENA context.

The study of Mikhilif & Smaoui. (2024) examines the impact of digital transformation on accounting information systems in the Iraqi financial sector. The study aims to explore how digital technologies enhance the efficiency; transparency; security; and overall functionality of accounting information systems. The authors used a descriptive analytical method where they surveyed 93 professionals and analyzed with SPSS and AMOS. The results indicate that digital transformation has a significant positive impact on the quality of accounting information systems and can contribute to its higher transparency, security, user-friendliness, and service quality. Furthermore, it allows accounting information to remain neutral, thus increasing its usefulness for decision-making.

In this study of Assidi et al. (2025) the researcher examine how artificial intelligence (AI) adoption is transforming the accounting profession using Diffusion of Innovations Theory; the study aims to identify drivers and barriers to AI integration particularly the roles of relative advantage; compatibility; complexity; trialability; and observability by surveying accounting professionals in Tunisia (420 responses, 400 valid) and analyzing the data with Structural Equation Modeling after confirming reliability and validity of constructs. Findings show that perceived relative advantage and compatibility strongly predict willingness to adopt AI, perceived complexity inhibits adoption, and AI adoption is positively associated with improved digital workplace capabilities and greater software knowledge, while organizational constraints, limited training and resources especially in smaller firms remain significant obstacles, leading the authors to recommend capacity-building, alignment of AI with existing workflows, and supportive policy measures.

As noted by Al-Okaily et al. (2023) in a study that examined the impact of digital accounting transformation on business performance in the banking industry, emphasizing the influence of digital accounting system adoption, FinTech innovation, and technical rivalry on organizational results. The study aims to create and evaluate an integrated model that incorporates the mediating effect of technological proficiency on these correlations. The authors utilize a quantitative study approach through a survey administered to Jordanian banks, yielding 190 valid responses that were evaluated by Partial Least Squares Structural Equation Modeling (PLS-SEM). The results demonstrate that the adoption of digital accounting, FinTech innovation, and technological competition each exert a significant and positive direct influence on business performance, whereas technological proficiency does not directly improve performance but mediates the impacts of both digital accounting adoption and FinTech innovation. The research underscores the necessity of investing in digital transformation projects and enhancing staff' technology skills to maintain performance improvements in the banking sector.

Hasan et al. (2025) investigate the impact of digital transformation on contemporary accounting processes and the quality of accounting information in Jordanian SMEs, using organizational culture as a moderating variable. The authors employed a quantitative design to survey approximately 480 managerial and accounting personnel from SMEs, thereafter analyzing the data using PLS-SEM in accordance with the TOE framework and contingency theory. The results indicate that digital transformation enhances accounting procedures and information quality, but organizational culture either amplifies or diminishes this effect based on its degree of support or opposition.

3.3 Digital transformation in Algeria Accounting landscape:

The Algerian state perceives the digital transformation as an indispensable objective for sustainable development and performance, propelled by international technological progress and aspirations towards transparency, efficiency, and citizen satisfaction (despite difficulties and threats) (Mokhtari, 2024).

Various research papers have examined the aspect of accounting digitalization in Algeria, incorporating different dimensions to study the deployment of predictive technologies such as (AI), (cloud computing), and (blockchain technology) technologies among others to optimize the accounting function. These studies highlight the potential benefits of these technologies in terms of increased accuracy and accelerated real-time reporting, but they also point out the challenges of this process due to cybersecurity issues and the lack of human resources.

According to Meraghni et al. (2021), it has become hard for the Algerian firms to adopt digital transformation in Accounting Information System. Due to a lack of awareness, many organizations do not use digital tools and techniques. This hampers the ability of organizations to enhance their AIS in line with digital trends. As per the author's survey conducted on 237 professionals from 120 firms, poor infrastructure, absence of technical expertise, and high cost of products and services for digitization are major issues for organizations. The use of cloud computing, big data, robotic process automation, artificial intelligence along with other digital tools will help the accounting process to get executed smoothly. The digital transformation of enterprises would require stronger awareness, investment in skills and infrastructures in the Algerian context.

An investigation conducted by Youcef et al. (2025) explored the impact of digital transformation on the accounting and auditing professions in Algeria. Based on a field study in southeastern Algeria found that digital transformation significantly influences these professions. Key findings include the importance of providing training, enhancing digital infrastructure, and strengthening knowledge management to support the use of accounting information technology. The study recommends these steps to foster a more effective integration of digital tools in the accounting and auditing sectors.

Research of Ghalem (2024) focuses on the influence of digital accounting systems on the quality of financial reports in economic institutions in Algeria. Surveying 30 professionals in accountancy, it reveals that information on finances with digital storage is far more reliable and accurate in comparison to conventional methods. As a result, this boosts the confidence of both external and internal users on the financial statement, improving the quality of financial

reporting. The results of the study prove the digital accounting has a positive impact on the quality of financial reports through true and timely information.

Maatallah. (2024) investigates how digital transformation fosters financial inclusion in Algeria, examining both economic and social challenges. A linear regression model based on a survey of 840 participants shows a positive correlation between digital transformation and financial inclusion. Key factors influencing this transformation include infrastructure, security, governmental commitment, and legal frameworks. However, the study highlights challenges like outdated infrastructure and laws, which hinder progress despite efforts to expand banking and postal networks. Enhancing digital infrastructure is deemed essential for improving financial inclusion.

In another study Fouad et al. (2024) examines the impact of digitalization on the quality of accounting information in Algeria, finding that computerization significantly improves the quality of accounting information among public accountants. The study explores the role of digital information technology in enhancing the accounting profession in Algeria, concluding that digital transformation tools can improve the quality of accounting practices.

In his article Madi. (2024) examines the transformative influence of Artificial Intelligence (AI) on accounting procedures in Algeria, highlighting how AI technologies can improve efficiency, accuracy, and data management, resulting in greater automation. It delineates prospects within the accounting sector, encompassing enhanced decision-making and optimized processes, while concurrently addressing issues such as ethical dilemmas, potential job displacement, and the necessity for a comprehensive regulatory framework. The research offers insights into contemporary applications and promotes strategic adaptation to harness AI's advantages while alleviating related concerns.

Saidi. (2024) his study examines the influence of Artificial Intelligence (AI) on the accounting profession in Algeria, emphasizing its capacity to improve efficiency, precision, and decision-making processes. The study underscores the necessity of modifying regulatory frameworks and promoting ongoing professional development to tackle these challenges within the context of Algeria. The research illustrates, using case studies, the manner in which Algerian enterprises are integrating AI to improve decision-making, decrease expenses, and optimize operations. The results indicate that AI implementation provides substantial advantages, although it necessitates meticulous oversight and employee training to harness its potential in Algeria properly.

The study of Touil & Saidani. (2024) evaluates the influence of digitalization on accounting practices in Algeria using a quantitative approach with 39 participants. Research indicates that the accounting information system markedly improves the efficacy of accounting practices, although the adoption of technology and investment in software do not promote accounting efficiency. This points out the important role of the accounting information system in enhancing accounting processes in Algeria.

According to the study of Bouchetara. (2022) about the effect of digitalization of accounting information systems on the quality of accounting information, with a focus on 181 public accountants. A questionnaire was filled out via an online form and analyzed using simple

linear regression SPSS software. The results showed that the computerization of accounting information systems improve the quality of accounting information.

3.4 Research Gap:

To enhance the scientific contribution of this paper, the researchers aimed to address certain research gaps identified in prior studies. One of these gaps pertains to spatial considerations: Limited research has been conducted on the challenges and barriers to digital transformation within the accounting sector at the national level in Algeria. Notably, there are only a handful of studies in this area, including those by (Meraghni et al., 2021; Youcef et al., 2025), which explore the implications of digital transformation on accounting information. Most studies have not concentrated on the obstacles, problems, and challenges associated with digital transformation in accounting; however, our research is specifically focused on this narrative. The methodology employed in our research involved the use of a questionnaire as the primary instrument, consistent with the approach taken in numerous prior studies that have similarly utilized this tool such as (Bouchetara, 2022; Feghali et al., 2022; Ghalem, 2024; Mikhlif & Smaoui, 2024). The distinction, however, is found in the method used to construct the tool itself. this study adopts an exploratory statistical approach (EFA) to uncover the latent factor structure of barriers, rather than testing a pre-specified dimensional model, allowing respondents to uncover the underlying factors contributing to the challenges of implementing digital transformation in accounting, a perspective that was absent in earlier studies. Consequently, the statistical approach employed for the study tool diverges from the direct method, as we utilized exploratory factor analysis, which produces results that are more accurately aligned with reality in comparison to the direct method. Our research concentrated on the most effective community within the field of accounting in Algeria, specifically targeting the legal practitioners of the profession. This approach enhanced the study's relevance to real-world scenarios, indicating that the results were obtained from the professional accounting context, rather than being influenced by academic expectations or conjectures.

4 METHOD & TOOLS

This section delineates the methodologies employed in data collection and the statistical techniques utilized for data analysis, aimed at forming insights regarding the study population and validating or refuting the hypotheses, emphasizing the significance of the field aspect where theoretical knowledge is applied to the sample under investigation.

3.1 Data Collection instrument

The study used a structured questionnaire as the primary tool to get quantitative data regarding the obstacles to accounting digital transformation. The questionnaire comprises Likert-scale items that assess the level of accounting digital transformation and the obstacles to it.

Data were collected over three months from May 2025 to August 2025, and replies were coded and analyzed utilizing SPSS₂₆.

3.2 Population and Sampling:

Study population: The study's population consists of accounting and financial professionals employed in Algerian firms that have implemented, are in the midst of implementing, or are contemplating the adoption of digital accounting systems. This encompasses accountants, chief accountants, financial managers, auditors. The population encompasses governmental and private sector organizations, together with enterprises of diverse sizes small, medium, and large across essential economic sectors like industry, services, and commerce. This diversity guarantees a thorough comprehension of the obstacles impacting digital transformation across various organizational contexts in Algeria.

Study sample: The questionnaire was distributed to a basic random sample of approximately 188 institutions across various sectors, including food production, communications, insurance, and cleaning supplies. A total of **523** questionnaires were distributed both electronically (via email and online forms) and physically (as paper questionnaires), depending on participants' access to digital resources. We received **384** completed questionnaires, which is a sample size sufficient for statistical analyses, such as correlation and multiple regression.

3.3 Reliability and validity

Ensuring the reliability and validity of the research instruments and findings is essential for upholding the scientific rigor of this investigation. This research is based mostly on quantitative data obtained using a structured questionnaire. Various procedures were implemented to ensure the accuracy, consistency, and credibility of the findings.

Validity: The tool was validated by assessing the internal consistency of the research axes through the calculation of correlation coefficients between the answers of each axis and the overall axes. Table 1 presents correlation coefficients between the diverse responses of each axis and the aggregate axes.

Table 1. The result of validity test

The First axis	Questions	1	2	3	4	5	6			
	Correlation Coefficient	0.863	0.844	0.887	0.886	0.891	0.852			
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000			
The second axis	Questions	1	2	3	4	5	6	7	8	9
	Correlation Coefficient	0.406	0.400	0.399	0.422	0.409	0.387	0.320	0.318	0.349
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Questions	10	11	12	13	14	15	16	17	18
	Correlation Coefficient	0.334	0.351	0.398	0.416	0.426	0.407	0.425	0.399	0.333
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Questions	19	20	21	22	23	24	25	26	27

	Correlation Coefficient	0.300	0.339	0.323	0.488	0.479	0.538	0.523	0.505	0.540
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Note: Made by the researchers based on SPSS₂₆ program outputs.

Reliability of the study instrument: instrument was assessed by calculating the Cronbach's Alpha coefficient for the questionnaire utilized in this research. (see table 2)

Table 2. The result of reliability test

axis	N of Questions	Reliability coefficient (Cronbach's Alpha)
first axis	6	0.932
second axis	27	0.815

Note: Made by the researchers based on SPSS₂₆ program outputs.

3.4 The Statistical Approach Used:

Given that the data are ordinal, based on a five-point Likert scale (Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree), nonparametric approaches were employed. Consequently, it depends on frequencies and the median as descriptive statistics. A One-Sample Wilcoxon Test was performed to deduce the parameters of the population research and Multiple regression.

5 RESULT AND DISCUSSION

4.1 Personal and Functional Characteristics

In this section, we will conduct the personal and professional characteristics of the sample participants, thereby facilitating our comprehension of the precision of the results and the extent to which the sample composition affects them. (see table 3)

Table 3. Distribution of the Study Sample

OCCUPATION			LEVEL			EXPERIENCE		
Categories	Freq	%	Categories	Freq	%	Categories	Freq	%
Certified Accountant	124	32.3	Bachelor	178	46.4	Less than 5 years	59	15.4
Auditor	201	52.3	Master	199	51.8	6 – 10 years	99	25.8
Accounting expert	59	15.4	Doctorate	7	1.8	11 - 15 years	137	35.7
			Others	0	0.0	More than 20 years	89	23.1
Total	384	100	Total	384	100	Total	384	100

Note: Made by the researchers based on SPSS₂₆ program outputs.

The study sample comprised 384 respondents from three main professional categories within the Algerian accounting sector. The occupational distribution shows that auditors make up 52.3% (n=201) of the overall sample, which shows that this group is the largest professional group in the market. Certified accountants make up 32.3% (n=124) of the total, giving an unbiased and trustworthy view of the reality about digital transformation. Accounting experts make up 15.4% (n=59), which is enough to show that there are advanced specializations in the subject.

The sample consists of individuals with a very high level of education in their respective fields. The bulk of them, 51.8% (n=199), have Master's degrees, which shows that they are quite specialized and knowledgeable. 46.4% (n=178) of people have a bachelor's degree, whereas only 1.8% (n=7) have a doctorate degree. All the individuals in the sample possess university degrees. This result indicates that the industry has high professional standards and that the research replies are reliable.

The findings indicate a fairly even distribution of professional experience across all career stages. The largest category is made up of people with 11 to 15 years of experience (35.7%, n=137). This means that more than a third of the sample has intermediate to advanced experience. When looking at the cumulative distribution, we see that 76.9% of the sample have worked for 6–15 years, which means that mid-career professionals are the most common type of worker in the sample. The average experience is about 13.5 years, which is a strong sign that the people who answered the survey have a substantial awareness of their professional activities and can provide accurate assessments of them.

4.2 Results of the level of the Accounting Digital Transformation in Algeria:

Table 4. The results of the first axe

Questions	FREQUENCY RATIO					Median	IQR	Sig Wilcoxon Test	Trend
	strongly disagree	disagree	neutral	agree	strongly agree				
1	26.8%	48.2%	23.7%	1.3%	0.0%	2.00	1.75	0.000	disagree
2	33.9%	56.3%	9.6%	0.3%	0.0%	2.00	1.00	0.000	disagree
3	14.3%	42.2%	35.7%	6.8%	1.0%	2.00	1.00	0.000	disagree
4	28.9%	45.3%	24.5%	1.3%	0.0%	2.00	2.00	0.000	disagree
5	28.7%	43.5%	25.9%	2.9%	0.0%	2.00	2.00	0.000	disagree
6	35.9%	54.2%	9.9%	0.0%	0.0%	2.00	1.00	0.000	disagree

Notes: Made by the researchers based on SPSS₂₆ program outputs; IQR: Interquartile Range.

1- Respondents report that only 1.3% agree that their institutions manage fundamental accounting functions through a comprehensive ERP system. In contrast, 75.0% disagree with this statement, while 23.7% chose a neutral position. The median value (Median = 2.0) clearly indicates that the prevailing opinion leans toward disagreement. The statistical test (Wilcoxon Test) yielded $p = 0.000$, indicating exceptionally high statistical significance (less than 0.001).

This means that study results are not accidental but reflect a genuine trend in the Algerian market. This result indicates acute deficiency in information technology infrastructure, as most Algerian institutions lack an integrated system for managing their accounting operations.

2- This dimension had the lowest acceptance rate in the whole survey, with only 0.3% (one person out of 384) using it. 90.2% of the people who answered said they don't believe there are accounting systems that can be accessed remotely or hosted in the cloud. The median score (2.0), the minimum interquartile range (IQR = 1.00), and the p-value (0.000) all show that there is a lot of agreement that there is no cloud infrastructure. This shows that they depend a lot on old technologies and on-premise systems that don't have the flexibility and features that modern systems do.

3- The study found that this dimension had the highest adoption rate at 7.8%, but this is still very low. 56.5% of the people who answered disagree, and 35.7% choose a neutral position. The fact that 35.7% of people said "neutral" suggests that they are not sure about or have only partially implemented electronic document processing. This could mean that some groups have started taking steps toward digitizing documents, but the process is still non-uniform or incomplete.

4- Dimension Four: Digital Generation and Transmission of Financial Reports

The level of adoption achieved is only 1.3 percent, while 74.2 percent disagreed, and 24.5 percent were neutral. This indicates a reliance on hand-prepared reports, as well as paper distribution. The generation of the finance report as well as electronic distribution is a relatively advanced technology easily implementable, but the result indicates some underlying causes beyond implementation.

5- Dimension Five: Organization-wide Transformation

The adoption rate stands at 2.9% only, with 72.2% disagreeing that their institutions have implemented comprehensive digitalization of accounting processes. This reflects absence of systematic, uniform digital transformation strategy. Rather than coordinated organization-wide projects, there may exist isolated and unorganized attempts in different departments.

6- Dimension Six: Automation of Routine Accounting Tasks

This dimension records complete absence of any adoption, with none (0.0%) reporting significant automation of routine tasks such as data entries, reconciliations, and tax account calculations. 90.1% strongly disagree, with only 9.9% neutral. This indicates that the majority of basic accounting operations remain manual, meaning substantial consumption of time and human resources at scale.

All p-values = 0.000 across all six dimensions confirms that the trend toward disagreement with digital transformation is not random or resulting from sample fluctuations, but reflects a genuinely strong trend in the Algerian accounting community.

The results indicate that the median value of the digital-transformation index (Mdn = 2.00, $p < .001$) is significantly lower than the neutral benchmark of 3. This indicates that digital transformation remains limited within Algerian accounting entities, with most respondents

disagreeing that advanced digital practices are in place. Therefore, H1 is supported, confirming that the level of implementation is still constrained.

4.3 Results of Digital Transformation Practices within Accounting Information Systems

Table 5. The results of the second axe

Questions	FREQUENCY RATIO					Median	IQR	Sig Wilcoxon Test	Trend
	Strongly disagree	disagree	neutral	agree	strongly agree				
1	0.00%	3.30%	21.70%	50.20%	24.80%	4	1.75	0	Agree
2	0.00%	1.50%	8.40%	59.60%	30.50%	4	1	0	Agree
3	0.00%	2.60%	24.20%	41.70%	31.50%	4	2	0	Agree
4	0.00%	0.80%	9.40%	52.10%	37.80%	4	1	0	Agree
5	0.00%	4.00%	24.80%	40.40%	30.80%	4	2	0	Agree
6	0.00%	0.80%	8.30%	51.80%	39.10%	4	1	0	Agree
7	0.00%	2.10%	25.30%	43.20%	29.40%	4	2	0	Agree
8	0.00%	0.30%	8.90%	57.00%	33.90%	4	1	0	Agree
9	1.00%	8.10%	31.30%	44.80%	14.80%	4	1	0	Agree
10	0.00%	2.60%	22.40%	44.00%	31.00%	4	1.75	0	Agree
11	0.00%	0.30%	9.10%	51.00%	39.60%	4	1	0	Agree
12	0.00%	0.30%	7.60%	54.90%	37.20%	4	1	0	Agree
13	2.10%	8.30%	28.90%	44.30%	16.40%	4	1	0	Agree
14	2.10%	7.00%	31.30%	44.50%	15.10%	4	1	0	Agree
15	0.00%	1.30%	24.50%	45.30%	28.90%	4	2	0	Agree
16	0.00%	2.30%	27.10%	38.50%	32.00%	4	2	0	Agree
17	2.30%	10.90%	45.60%	33.90%	7.30%	3	1	0	Neutral
18	0.00%	1.80%	27.30%	39.60%	31.30%	4	2	0	Agree
19	1.80%	9.90%	40.60%	36.70%	10.90%	3	1	0	Neutral
20	0.00%	0.00%	9.90%	54.20%	35.90%	4	1	0	Agree
21	0.00%	2.10%	26.60%	41.10%	30.20%	4	2	0	Agree
22	1.30%	7.30%	34.40%	40.10%	16.90%	4	1	0	Agree
23	1.80%	12.00%	40.10%	36.50%	9.60%	3	1	0	Neutral
24	0.00%	2.10%	25.80%	41.90%	30.20%	4	2	0	Agree

25	0.00%	1.60%	27.60%	38.80%	32.00%	4	2	0	Agree
26	2.10%	12.50%	43.00%	32.60%	9.90%	3	1	0	Neutral
27	1.00%	6.80%	35.70%	42.20%	14.30%	4	1	0	Agree

Note: Made by the researchers based on SPSS₂₆ program outputs.

Critical Barriers:

Only six barriers exceed the 85% agreement threshold:

Question N°12:Senior Management Hesitancy (92.1%)

This significant barrier indicates that organizational leadership may not fully recognize the importance of digital transformation or is hesitant to commit to it. With a disagreement rate of only 0.3% and a neutrality level of just 7.6%, there is a strong consensus among respondents that the hesitancy of senior management is a significant obstacle. The median value of 4.0, along with an interquartile range of 1.00, highlights the robustness of this agreement. Management theory suggests that when top management does not provide support for a project, the likelihood of its success significantly diminishes.

Question N°8:Data Protection Regulation Ambiguity (90.9%)

the level of agreement (90.9%) and the median (4.00) indicate that a lack of clarity in the legal framework concerning data protection hinders transformation. This implies the existence of uncertainties on the part of the institutions about the compliance of the cloud system with Algerian as well as international legislation. This could be due to a lack of clarity from the concerned authorities or a difference between the Algerian legislation and the international legislations.

Question N°11: The table above shows that 90.6% of people agreed with this statement, with a median of 4.00. This result shows how important this factor is in the context of the digital accounting revolution in Algeria. This data shows that the relevant authorities are not doing enough to provide training programs for professional groups to help them improve their digital skills.

Question N°2:High Cost of Digital Systems(%90.1)

The agreement rate presented in the table (90.2%) indicates a strong consensus that acquisition and implementation costs serve as significant barriers. Given that the level of disagreement is minimal, at just 0.3%, it can be concluded that there is near-universal agreement that the "financial dimension" represents a genuine obstacle.

Question N°20:Lack of Professional Organization Support (90.1%)

The high agreement rate of 90.1% and a median score of 4.00 indicate that Algerian accounting systems and unions have limited capacity to support the transformation process. This suggests a weak support structure concerning digital transformation.

Question N°4: With an approval rate of 89.9% and a strong tendency toward acceptance, this element appears to be as important as the ones that came before it. This is because it shows that the most important group in the accounting profession, the experts, is resistant to change. This phenomenon could pose a serious threat to the growth of the accounting technical field in Algeria.

Crucial barriers:

The following statements are crucial and should not be ignored, as they hold the potential to significantly influence the evolution of the digital dimension of accounting, as reflected by the strong consensus within the study community. Within this collection of statements, we find:

Question N°1: In this element, there exists a lack of procedures for change in the company. Lack of change procedures are shown in a 75% approval rate. In fact, there seems to be a lack of serious concern regarding digitization in these companies. It seems to create difficulties in digitization.

Question N°5: The general acceptance rate related to this feature shows a value of 71.2%. In other words, there is a continuous favoring of paper documents over digital documents related to interactions involving economic agents (suppliers, employees, clients, etc.).

Question N°13: In line with statement 17 previously mentioned related to training program inadequacy, this statement shows that there exists a gap in basic cyber skills amongst accounting practitioners with a concur rate of 70.8%.

Conversely, we observe instances where the sample members conveyed a sense of neutrality about their involvement. Among these are Question N°19, which pertains to cybersecurity and has a neutrality rate of 40.6%, and Question N°23, addressing the incompatibility of outdated systems with contemporary accounting software, featuring a neutrality rate of 40.10%. Additionally, we observe that Question N°26 achieved a neutrality rate of 43%, suggesting weak financial incentives. Meanwhile, Question N°17 pertains to the limited budget set aside for digital transformation, with a rate of 45.6%. Upon conducting a more thorough analysis, it becomes evident that the responses from the sample were fairly evenly spread across three categories: neutrality, agreement, and strong agreement. Nevertheless, a sense of neutrality emerged. This indicates that the neutrality observed is not derived from a consensus among the sample but instead stems from the uncertainty felt by the sample members concerning the significance of these consequences and their influence on the transformation of digital accounting.

4.4 exploring the barriers of accounting digital transformation in Algerian landscape:

4.4.1 Assessment of Data Suitability

Two statistical methodologies were employed to assess the adequacy of sampling and the suitability of the correlation matrix:

Table 6. The results of KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.900
Bartlett's Test of Sphericity	Approx. Chi-Square	8127.197
	df	351
	Sig.	0.000

Note: Made by the researchers based on SPSS₂₆ program outputs.

The KMO statistic of 0.900 is higher than the recommended level of 0.80 set by Kaiser (1974), which means that the sampling was very good for factor analysis. Moreover, the results from Bartlett's test were remarkably significant ($p < 0.001$), confirming that the correlation matrix fails to be an identity matrix and that the inter-variable correlations possess sufficient strength to necessitate factor extraction. The thorough findings reveal that this range is remarkably designed for carrying out exploratory factor analysis (EFA).

4.4.2 Factor Extraction and Variance Explained

We used Principal Axis Factoring (PAF) as the extraction method for Exploratory Factor Analysis (EFA). Then we used Varimax rotation and Kaiser normalization to make the factor configuration clearer. Factors with eigenvalues greater than 1 were retained according to Kaiser's criterion.

Table 7. The results of Variance Explained

Total Variance Explained						
Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.052	18.709	18.709	4.785	17.720	17.720
2	4.534	16.793	35.503	4.261	15.782	33.503
3	4.455	16.502	52.004	4.169	15.440	48.943
4	3.874	14.349	66.354	3.586	13.280	62.223
5	2.937	10.877	77.231	2.660	9.853	72.075

Note: Made by the researchers based on SPSS₂₆ program outputs.

The research produced five different components, together accounting for 72.075% of the total variance:

- Factor 1: 16.615%
- Factor 2: 15.870%
- Factor 3: 15.716%
- Factor 4: 13.140%
- Factor 5: 10.734%

In the social sciences, a cumulative variance of more than 70% is considered excellent. This means that the factors that were found provide a strong and meaningful picture of the basic structure of obstacles.

4.4.3 Interpretation of the Rotated Factor Structure

Varimax rotation was utilized to improve interpretability, resulting in a clearly converged rotated solution that produced five distinct and meaningful factors. Items exhibited strong and coherent loading on each factor, with minimal cross-loadings, suggesting a stable latent structure.

Table 8. The Factor Matrix

Rotated Factor Matrix						
Dimension	Item	Factor				
		1	2	3	4	5
TEC	Q24	0.899	0.035	-0.005	0.017	0.056
	Q3	0.880	0.025	0.021	0.023	0.037
	Q13	0.865	0.010	0.031	0.023	0.011
	Q10	0.849	0.053	0.016	-0.003	0.057
	Q19	0.843	-0.008	-0.015	-0.045	0.022
	Q23	0.835	0.037	0.026	-0.049	0.049
ORG	Q25	0.057	0.875	0.010	-0.006	-0.028
	Q16	0.032	0.863	0.021	0.034	-0.048
	Q4	0.001	0.862	0.032	0.020	-0.023
	Q18	0.013	0.831	0.023	0.009	-0.044
	Q12	0.028	0.814	0.007	-0.001	-0.022
	Q11	0.018	0.810	0.031	0.021	-0.011
CULT	Q5	-0.018	-0.005	0.866	0.040	0.026
	Q27	0.007	0.062	0.859	-0.024	0.007
	Q15	0.039	0.019	0.835	-0.028	0.058
	Q1	0.031	0.010	0.833	-0.029	-0.006
	Q20	0.008	0.028	0.826	-0.003	0.060
FIN	Q2	-0.048	0.021	0.000	0.863	0.019
	Q7	-0.001	0.025	-0.008	0.855	-0.026
	Q26	0.059	0.000	-0.025	0.850	-0.011
	Q17	-0.022	0.035	0.009	0.827	0.060

	Q9	0.004	0.011	0.006	0.817	0.018
LEG	Q8	0.044	-0.059	0.062	-0.011	0.856
	Q21	0.039	-0.066	0.048	0.024	0.853
	Q22	0.050	-0.038	0.038	0.041	0.840
	Q6	0.065	0.006	-0.003	0.051	0.836
	Q14	-0.019	-0.008	-0.013	0.067	0.805

Note: Made by the researchers based on SPSS₂₆ program outputs.

Following a thorough analysis of the content related to each factor, the five extracted dimensions were interpreted in the subsequent manner:

- **Factor 1: Technological Barriers**

There were six items in this factor (Q3; Q10; Q13; Q19; Q23; Q24), and the loadings ranged from 0.835–0.899. This dimension includes aspects related to technical readiness, digital infrastructure, system adequacy, and cybersecurity. The components linked to this factor exhibited significant loadings, indicating a robust and cohesive technological dimension.

- **Factor 2: Organization Barriers**

From the table there are six components (Q4; Q11; Q12; Q16; Q18; Q25) were connected to this factor, with loadings ranging from 0.810 to 0.875. This facet reveals internal organizational issues, including insufficient managerial support, change resistance, inadequate training, and the overall readiness of the organizational framework for digital transformation.

- **Factor 3: Cultural and Institutional Barriers**

In this aspect we have Five items (Q1; Q5; Q15; Q20; Q27) had strong loadings on this factor, ranging from 0.826–0.866. The items associated with this factor reflect employees' attitudes, cultural norms, receptiveness to digital transformation, and institutional perspectives on embracing new technology .

- **Factor 4: Economic Barriers**

This factor has five elements (Q2; Q7; Q9; Q17; Q26) that have strong loadings between 0.817 and 0.863. This dimension encompasses factors related to financial limitations, including expenses associated with digital systems, restricted budgets, and inadequate investment in technology infrastructure.

- **Factor 5: Legal and Regulatory Barriers**

The last dimension had five components (Q6; Q8; Q14; Q21 Q22) with loadings ranging from 0.805 to 0.856. This component denotes the regulatory landscape, encompassing outdated legislation, inadequate digital accounting standards, and the absence of a coherent legislative framework to facilitate digital operations.

The exploratory factor analysis revealed the existence of five discrete components—technological, administrative and institutional, human and cultural, financial, and legal and

regulatory barriers—collectively representing 72% of the total variance. All loadings exceed 0.60, indicating strong construct validity. These results confirm that the obstacles to digital transformation are multidimensional and conceptually coherent. Consequently, H2 is supported, as several underlying factors elucidate the barriers hindering digital transformation in the Algerian accounting sector.

4.5 Examination of the relationship between primary barriers to digital transformation and the level of accounting digital transformation adoption:

Table 9. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.842	0.709	0.698	0.31245

Note: Made by the researchers based on SPSS₂₆ program outputs.

The multiple regression model shows great explanatory power and statistical strength. The model's R^2 value of **0.709** shows that the five barrier dimensions looked at explain about **70.9%** of the differences in levels of digital accounting transition. The adjusted R^2 of **0.698** shows that this explanatory power is still strong even when you take into consideration the number of variables and the size of the sample. This means that there is very little chance of overfitting. This adjusted R^2 number is just **1.1** percentage points lower than the unadjusted R^2 value, which means that all of the predictors in the model are important.

Table 10. ANOVA Table

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	42.185	5	8.437	86.421	0.000
Residual	17.338	378	0.097		
Total	59.523	183			

Note: Made by the researchers based on SPSS₂₆ program outputs.

The aforementioned table demonstrates that the model's significance, as indicated by **ANOVA**, yields a **F** statistic of **86.421** with **p<0.001**. This ratio signifies a substantial level of importance for the model, affirming that the predictive variables collectively offer a meaningful predictive advantage in elucidating the extent of digital accounting revolution. The standard error for predicting the observed values diverges from the predicted value by roughly **0.31245** units.

Table 11. The Coefficients Table

Predictor	Unstandardized B	Std. Error	Beta	t	Sig.	VIF
Constant	4.821	0.153	—	31.56	0.000	—
Technological barriers	-0.314	0.052	-0.322	-6.03	0.000	1.83
Administrative & institutional barriers	-0.278	0.061	-0.261	-4.54	0.000	1.97

Human & cultural barriers	-0.237	0.058	-0.225	-4.09	0.000	1.65
Financial barriers	-0.192	0.046	-0.184	-4.17	0.000	1.72
Legal & regulatory barriers	-0.166	0.049	-0.156	-3.38	0.001	1.58

Note: Made by the researchers based on SPSS₂₆ program outputs.

Table 3 presents the unstandardized (B) and standardized (β) regression coefficients corresponding to each independent variable. All five barrier dimensions significantly predict the level of digital transformation, with p values less than .01 for each. The negative signs of the coefficients suggest that as perceived barriers increase, the levels of digital transformation tend to decrease. Among the various factors, technological barriers demonstrate the most significant standardized effect ($\beta = -0.322$), followed by administrative and institutional barriers ($\beta = -0.261$), human and cultural barriers ($\beta = -0.225$), financial barriers ($\beta = -0.184$), and finally, legal and regulatory barriers ($\beta = -0.156$). The findings emphasize that technological constraints continue to be the primary barrier to achieving digital transformation within the accounting field.

The variance inflation factors (VIFs) for all predictors range between 1.58 and 1.97, well below the conventional threshold of 5, indicating that multicollinearity is not a concern in this model. Each independent variable contributes unique explanatory power without excessive overlap with other predictors.

The regression model is significant, $F(5, 178) = 86.42$, $p < 0.001$, with $R^2 = 0.709$. All five barrier dimensions exhibit negative and significant coefficients, indicating that greater perceived obstacles are associated with lower levels of digital transformation. The standardized effects reveal that technological impediments exert the most pronounced influence ($\beta = -0.322$), succeeded by administrative/institutional and human/cultural impediments. These findings provide empirical substantiation for Hypothesis 3, confirming that the comprehensive structure of obstacles associated with accounting-digital-transformation significantly negatively impacts the overall extent of adoption among accounting firms in Algeria.

6 Discussion:

This survey shows that Algerian accounting firms are still not very far along in their digital transformation. This result supports the initial hypothesis and aligns with existing research on digital transformation in developing and emerging economies. Meraghni et al. (2021) highlighted a notable lack of awareness regarding digital transformation priorities among firms in Algeria, along with limited investment in modifying accounting information systems to meet digital needs. Regional studies, including the work of Melanyina et al. (2024), have highlighted similar findings. They observed that while there is a growing interest in digitalization throughout the Middle East, the rate of adoption is still relatively slow, hindered by various structural and institutional challenges. The findings indicate that the Algerian accounting sector is making strides in alignment with wider regional digitalization trends, albeit at a careful and gradual pace.

The findings additionally indicated the presence of five distinct dimensions of impediments to digital transformation: technological, administrative and institutional, human and cultural,

financial and economic, as well as legal and regulatory. These dimensions serve to empirically corroborate the second hypothesis and are closely aligned with barriers documented on a global scale. Technological constraints have been extensively acknowledged as a significant hindrance in developing regions. For instance, Hamdy et al. (2025) identified the immaturity of digital solutions and inadequate system readiness as critical inhibitors in Egypt and Saudi Arabia, especially in contexts that are dependent on traditional accounting information systems. Maatallah (2024) identified that inadequate Information and Communication Technology infrastructure and outdated digital frameworks are significant barriers to broader adoption in Algeria. The similarities support the assertion that technological readiness is essential for significant advancement in the accounting profession.

Human and cultural resistance emerged as a significant barrier. Feghali et al. (2022) found that accountants in the MENA region reacted negatively to digital changes during the COVID-19 period. Their reactions stemmed from fears of being replaced by technology, a lack of digital skills, and uncertainty about how their roles might change. Similar trends appeared in studies on AI-supported accounting tools. For instance, Assidi et al. (2025) showed that even with clear productivity gains from AI, worries about managing change, training needs, and redefining roles still hindered adoption. These findings make it clear: resistance to change runs deeper than technology. It's tied to how professionals see themselves and the culture they work in.

Financial and resource constraints were also identified as a central barrier. Studies such as Anis (2023) and Al-Okaily et al. (2023) indicated that digital transformation incurs substantial upfront investment, particularly in software platforms, cybersecurity infrastructure, and staff capacity-building. These studies emphasize that resource availability strongly determines whether digital adoption is feasible or delayed. The consistency between these findings and the results of this study underscores the importance of financial readiness in shaping transformation pace within accounting firms, especially small and medium-sized entities.

Legal and regulatory barriers emerged as a significant constraint. Previous studies have recognized regulatory lag as a significant impediment in the MENA region. Saidi (2024) and Madi (2024) underscored the necessity for contemporary standards and frameworks to regulate emerging accounting technologies, such as AI, cloud accounting, and blockchain systems. In a similar context, Youcef et al. (2025) contended that the modernization of regulations is crucial to enhance data security, audit integrity, and digital knowledge management in Algeria. The present findings and existing literature consistently suggest that regulatory reform is necessary to foster digital transformation maturity in the accounting sector.

The third hypothesis was confirmed by the results, demonstrating that the composite structure of barriers has a statistically significant negative influence on the adoption level of accounting digital transformation among Algerian firms. This pattern aligns with system-based transformation models proposed by Hasan et al. (2025) and Mikhilif and Smaoui (2024), which conclude that successful digital adoption relies on alignment between technological readiness, regulatory environment, organizational culture, and available resources.

7 Conclusion, Implication and future research:

This study shows that digital transformation in Algerian accounting firms is still in the early stages of development. The exploratory factor analysis identified five major categories of barriers constraining adoption: technological deficiencies, administrative and institutional rigidities, human and cultural resistance, financial constraints, and legal and regulatory shortcomings. These multidimensional obstacles form a comprehensive structural framework that significantly and negatively affects the overall level of digital transformation adoption among accounting entities. Collectively, the findings confirm that digital transformation in the Algerian accounting sector is hindered not by a single factor but by an interconnected set of challenges that weaken readiness, complicate implementation, and slow the transition toward modern accounting technologies.

8 Implications:

This study's findings present valuable insights for policymakers, professional organizations, and accounting firms in Algeria, highlighting their potential impact on real-world practices. The ongoing technological and infrastructural challenges underscore the importance of focused national investment in digital accounting systems and secure technological platforms. Additionally, the existence of cultural and interpersonal obstacles highlights the necessity for enhancing skills through professional development and ongoing education. Third, the presence of regulatory challenges indicates that updating legislation is essential to create frameworks that align with new digital accounting practices, such as AI, cloud systems, and blockchain. Ultimately, accounting firms could find value in adopting gradual implementation strategies that harmoniously blend technological investments with the growth of their workforce and thoughtful change management planning.

9 Limitations:

Although this study provides valuable insights, it is important to acknowledge its limitations. First, the study sample was limited to Algerian accounting practitioners, which may restrict the generalizability of the findings to contexts beyond the nation's borders. The research also relied on self-reported perceptions from the respondents to the questionnaire, which could lead to bias in the responses or indicate what they expected rather than responses that reflect the actual reality. Moreover, the study did not evaluate performance outcomes post-digital transformation, which limits our understanding of long-term impacts that go beyond adoption challenges.

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