



The Possibility Of Adopting Digital Accounting In Algeria – An Analytical Study Of Official Legislations And Digital Readiness Indicators

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Introduction

With the rapid advancement of digital technologies, digital accounting has emerged as a transformative innovation, significantly enhancing financial data management and optimizing accounting processes. It contributes to greater accuracy, fosters transparency, and improves the efficiency of financial resource management, thereby serving as a fundamental pillar in strengthening financial governance and promoting economic sustainability.

In this context, developing economies, including Algeria, encounter various challenges in adopting advanced technological systems, such as underdeveloped digital infrastructure, inadequate regulatory frameworks, and limited professional awareness regarding the significance of digitization in the financial sector. Assessing the alignment of existing legislative provisions with the requirements of digital accounting, alongside evaluating the country's level of digital readiness, constitutes a critical step toward identifying areas necessitating reform. This analysis is essential to ensure a seamless integration between conventional and digital accounting frameworks.

1.1. Research Problem

Based on the aforementioned considerations, this study seeks to address the following central research question:

To what extent can the Algerian accounting environment implement digital accounting within the framework of existing legislation and the country's level of digital readiness?

1.2. Research Sub-questions

To comprehensively examine the research problem, the study endeavors to answer the following sub-questions:

- Can digital accounting be considered an effective instrument for enhancing the efficiency of accounting operations within organizations?
- What are the key legislative provisions governing accounting practices in Algeria that could facilitate the adoption of digital accounting?
- To what extent does Algeria possess the requisite digital infrastructure and preparedness to transition toward digital accounting systems?

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1.3. Research Hypotheses

In response to the research inquiries, the study formulates the following hypotheses:

- Digital accounting constitutes a highly effective mechanism for enhancing the efficiency of accounting operations within organizations. The adoption of digital systems can yield numerous advantages, including improved accuracy, minimization of errors, enhanced transparency, and facilitation of auditing processes.
- The existing Algerian accounting framework, as defined by the Financial Accounting System (SCF) and Executive Decree No. 09-110, does not provide a sufficiently robust legal foundation for the adoption of digital accounting. Legislative reforms are required to incorporate contemporary technologies such as cloud computing and advanced artificial intelligence.
- Despite recent advancements, Algeria's digital infrastructure remains insufficient to support a comprehensive transition to digital accounting.

1.4. Research Objectives

The principal objectives of this study are as follows:

- To analyze the Algerian accounting legislative framework and assess its adequacy in facilitating the implementation of digital accounting;
- To examine the extent of digital infrastructure development in Algeria and its capacity to support the adoption of digital accounting systems;
- To identify the technical and regulatory constraints impeding Algerian institutions from adopting digital accounting practices;
- To propose strategic recommendations aimed at enhancing digital readiness and advancing legislative reforms to facilitate the digital transition.

1.5. Research Significance

The significance of this study is underscored by its contributions to multiple dimensions, including:

- Strengthening operational efficiency and financial transparency within Algerian organizations;
- Aligning with global technological advancements by enabling Algeria to integrate into international digitalization trends and the digital economy;
- Enhancing the quality of financial reporting and reinforcing corporate governance through improved transparency and reliability;
- Supporting national policymaking by providing empirical data and analytical insights to inform government strategies related to digital transformation;
- Promoting investment by bolstering the confidence of both domestic and international investors through the adoption of more accurate and transparent digital financial reporting mechanisms;
- Contributing to academic literature by generating research findings that expand scholarly discourse on digital accounting within Algeria and the broader region.

1.6. Research Methodology

To address the research problem, this study employs a descriptive and analytical approach, focusing on the evaluation of existing Algerian accounting legislation and its implications for digital accounting adoption. The analysis is conducted through a review of the Official Gazette, which serves as the authoritative source of legal and regulatory provisions governing various sectors, including accounting. Additionally, the study examines Algeria's digital infrastructure through an assessment of internationally recognized digital readiness indicators. This methodological approach enables a comprehensive examination of the legislative and technical dimensions underpinning the potential transition to digital accounting.

2. Concept of Digital Accounting

2.1. Definition of Digital Accounting

Digital accounting is defined as a technology-based system that facilitates the transition from traditional methods of performing accounting functions and preparing financial reports to full reliance on modern software and technical applications (Lehner, Ittonen, Silvola, & Ström, 2022).

It can also be described as the process of processing, managing, and transmitting accounting data and financial information related to an organization's performance using electronic systems, programs, and applications via the internet, thereby enabling seamless communication between stakeholders and interested parties in accounting reports and operations (Abdulquadri, Mogaji, Kieu, & Nguyen, 2021).

2.2. Advantages and Benefits of Digital Accounting Systems

Digital accounting offers numerous advantages and benefits to businesses, the most notable of which include (Mustafa Hassan, 2022):

- Accelerated processing of all stages of the accounting cycle, allowing for more efficient review and performance auditing.
- Reduction of errors associated with document-based accounting processes, thereby enhancing the quality and reliability of financial reports.
- Cost reduction in accounting operations, as well as the preparation and issuance of financial reports, leading to significant financial savings.
- Enhanced audit planning and improved security and confidentiality of accounting data and financial information.
- Development of professional skills among accountants and auditors in digital accounting software, contributing to increased expertise and professional competence.

3. The Current State of Accounting Legislation in Algeria

Accounting legislation in Algeria has undergone several reforms, culminating in the adoption of the Financial Accounting System (SCF) in 2010, which is based on the International Financial Reporting Standards (IFRS).

Although this system represents a significant step toward aligning with global accounting standards, it primarily focuses on conventional accounting principles and does not explicitly address digital accounting or the integration of technology in financial reporting.

In late 2007, after prolonged anticipation, Law No. 07-11 was enacted on November 25, 2007, introducing the Financial Accounting System (SCF) to replace the previous National Accounting Plan (Said, 2013). Consequently, financial accounting in Algeria has since acquired an international dimension.

One notable feature of this law is that it provided economic operators and accounting professionals a one-year transition period to adapt to its provisions (Article 41 of the law). Subsequently, the 2009 Finance Law extended the implementation period by an additional year, officially enforcing the system as of January 1, 2010.

In addition to this law, several accounting regulations have been enacted, including:

- Executive Decree No. 08-156 of May 26, 2008, implementing the provisions of Law No. 07-11 on the Financial Accounting System (Official Gazette of the Algerian Republic, 2008).
- Decision of July 26, 2008, outlining the rules for valuation, accounting, financial statements, and chart of accounts, along with guidelines for their application (Official Gazette of the Algerian Republic, 2009).
- Executive Decree No. 09-110 of April 7, 2009, specifying the conditions and procedures for maintaining accounting records through information technology systems (Official Gazette of the Algerian Republic, 2009).

3.1. Maintaining Accounting Records Using Information Technology Systems Under Algerian Legislation

Algerian law does not mandate businesses to maintain accounting records exclusively through information technology (IT) systems. However, it does not prohibit the use of such systems alongside traditional manual accounting methods. Given the inherent risks associated with IT-based accounting, particularly considering Algeria's relatively recent experience in this field, the Algerian legislator established specific conditions and procedures for maintaining financial records via IT systems through Executive Decree No. 09-110, dated April 7, 2009.

3.1.1. Conditions for Maintaining Accounting Records Using IT Systems Under the Law

For a commercial entity to legally maintain its accounting books using IT applications and software, the method must comply with the provisions outlined in Article 24 of Law No. 11-07. These provisions emphasize customary practices, security, credibility, storage, and retrieval. Executive Decree No. 09-110 further elaborates on a set of legal and technical conditions, as well as fundamental principles that must be observed when using IT systems for accounting (Official Gazette of the Algerian Republic, 2009).

Legal and Fundamental Conditions

Among the most critical legal requirements and fundamental rules that must be adhered to when maintaining accounting records via IT systems, the following must be met:

- Accounting applications used in IT-based bookkeeping must comply with generally accepted accounting principles.
- IT-based accounting must adhere to applicable tax regulations and be subject to audit by the tax administration, in accordance with Article 40 of Law No. 21-01, dated December 22, 2001.
- The immutability of records must be ensured by certifying each accounting period, preventing any modification or deletion of records after approval.
- The fundamental balance of double-entry accounting must be maintained through both preemptive and retrospective controls.
- Certification of accounting entries must be performed for each financial period, and the system must prevent any modifications or deletions of transactions after certification. The system should also remind users to certify all recorded entries before closing each fiscal year.
- To uphold the principle of non-erasability, the accounting program must allow for the automatic reopening of asset and liability accounts, ensuring consistency with the closing balance sheet of the previous financial year.

Technical Conditions

In addition to the legal requirements, the legislator has imposed several technical conditions that must be met by the IT system used for accounting, including:

- The system must enable the easy transmission of accounting records to third parties independently of the accounting software.
- The software must include an archiving feature that allows for the secure storage and transfer of accounting records to portable storage media.
- The system must incorporate access control mechanisms, ensuring that only authorized personnel can access accounting records.
- The software must automatically and daily record all transactions performed within the system in an electronic event log.

- The software must also feature an audit trail mechanism, ensuring that all updates are properly logged in a journal displaying the modifications and their respective content sequentially.

4. Digital Readiness in the Algerian Accounting Environment

This section provides an overview of digital transformation in accounting in Algeria, where the country has yet to fully adopt digital transformation applications in the accounting field. Current practices remain largely limited to the use of computers and IT systems, as outlined in Executive Decree No. 09-110, dated April 7, 2009, which sets the conditions and procedures for maintaining accounting records through IT systems in most accounting operations.

However, certified accountants have the ability to offer various services to their clients, as stipulated in Law No. 10-01, which regulates the accounting professions, including chartered accountants, auditors, and certified accountants (2010). Some of these services rely on digitalization, particularly in issuing certain documents and communicating with government departments and agencies, following the government's push to advance digitalization in the country.

To assess Algeria's digital readiness, we will examine key indicators such as the Network Readiness Index (NRI) 2023, the United Nations Technology Readiness Indicators, and the UN Sustainable Development Indicators.

4.1. Algeria's Digital Readiness According to the Network Readiness Index (NRI) 2023

As Algeria moves towards a digital environment, its digital readiness is a crucial factor in shaping its future trajectory. Understanding Algeria's digital readiness level serves as a foundational step in identifying both opportunities and challenges faced by businesses and the government in this context. To assess this readiness, we will rely on the **Network Readiness Index (NRI) 2023**.

4.1.1. Understanding the 2023 NRI Digital Readiness Index

Digital transformation requires a continuous reassessment of the factors that contribute to the NRI model. Each year, the NRI research team analyzes multiple public and private technology sources to identify new indicators that can help measure and evaluate the dynamic landscape of digital transformation and network readiness (NRI website, 2024).

Definition of the Network Readiness Index (NRI)

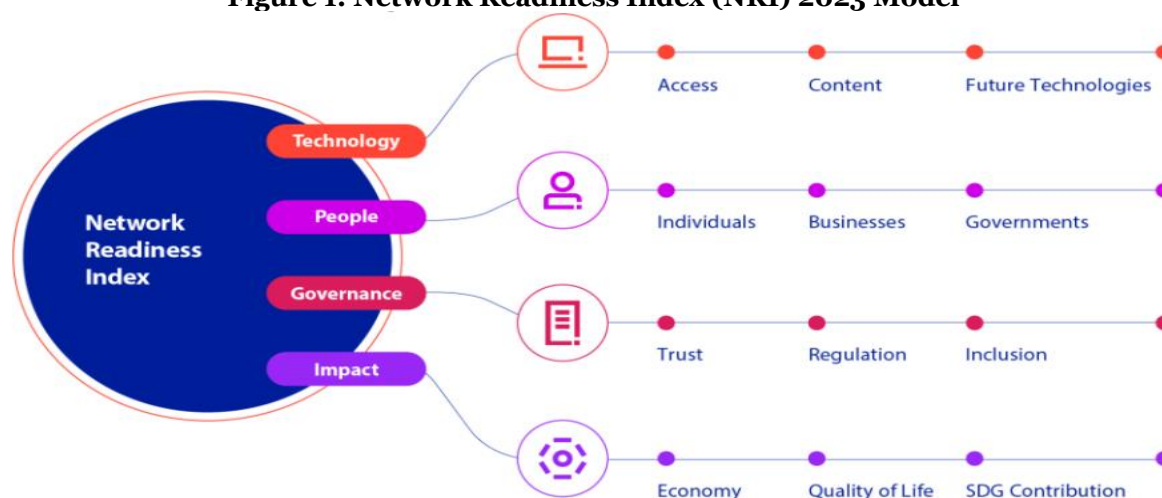
The NRI is one of the leading global indicators used to assess the application and impact of Information and Communication Technology (ICT) on economies worldwide. In its latest 2023 edition, the NRI report examines the digital readiness landscape across 134 economies based on their performance in four key pillars:

1. **Technology**
2. **Population**
3. **Governance**
4. **Impact**

Each of these pillars is further broken down into three sub-pillars (NRI 2023 Report, 2023).

The following figure illustrates the structure of the NRI 2023 model:

Figure 1: Network Readiness Index (NRI) 2023 Model



Source: NRI Index, report NRI 2023 about Algeria, 2023, p. 1.

From the figure above, we can see that the Network Readiness Index is composed of four main pillars: Technology, People, Governance, and Impact. Below, we explain each of these pillars in detail.

4.1.1.1. Technology Indicator

Technology is a fundamental component of the digital economy. This pillar evaluates the technological infrastructure necessary for a country's participation in the global economy. The Technology Index is assessed through three sub-pillars, as shown in the following table (NRI website, 2024):

Table 1: Technology Indicator Based on the NRI

Main Pillar	Technology		
Sub-Pillars	Access	content	Future Technologies
Definition of Sub-Pillars	This pillar examines the fundamental level of individuals' access to information and communication technology (ICT) in different countries, addressing aspects such as telecommunications infrastructure and cost-effectiveness.	It focuses on the nature of digital technologies being developed within countries and the deployable local content/applications. It includes data from scientific articles, software expenditure, GitHub commitments, and the development and use of mobile applications.	It measures a country's readiness for upcoming trends in the networked economy and emerging technological models. This includes the adoption of artificial intelligence (AI), the Internet of Things (IoT), and investments in emerging technologies.

Source: Compiled by researchers based on the NRI website, accessed on 05/03/2024. (Network Readiness Index)

4.1.1.2. Population Index:

The technological landscape reflects the efficiency, inclusivity, and skill level of a country's population and entities in leveraging technological assets. Consequently, the Population Index assesses the application of ICT across three dimensions: individuals, businesses, and the public sector, as shown in the following table:

Table 02: Population Index According to the NRI

Main Pillar	Population		
Sub-Pillars	Individuals	Businesses	Governments
Definition of Sub-Pillars	This pillar examines the fundamental level of individuals' access to information and communication technology (ICT) in different countries, addressing aspects such as telecommunications infrastructure and cost-effectiveness.	It focuses on the nature of digital technologies being developed within countries and the deployable local content/applications. It includes data from scientific articles, software expenditure, GitHub commitments, and the development and use of mobile applications.	It measures a country's readiness for upcoming trends in the networked economy and emerging technological models. This includes the adoption of artificial intelligence (AI), the Internet of Things (IoT), and investments in emerging technologies.

Source: Prepared by researchers based on the Digital Readiness Index (NRI) website, visit date: 05/03/2024 <https://networkreadinessindex.org/analysis/#improvements>

4.1.1.3. Governance Index:

Governance does not merely define frameworks that secure the comprehensive network and ensure users' safety; rather, it emphasizes the creation of structures that drive the digital economy across three dimensions (NRI website, 2024):

Table 03: Governance Index According to the NRI

Main Pillar	Governance		
Sub-Pillars	Trust	Regulation	Inclusion
Definition of Sub-Pillars	Analyzing individuals' use of technology and their ability to participate in the networked economy.	Evaluating how businesses integrate ICT and engage in the networked economy, including R&D expenditures.	Examining government investments in ICT and its deployment to meet public needs on a broader scale.

Source: Prepared by researchers based on the Digital Readiness Index (NRI) website, visit date: 05/03/2024 <https://networkreadinessindex.org/analysis/#improvements>

4.1.1.4. Impact Index:

A country's readiness in the digital economy translates into inclusive growth and societal enhancement. The impact pillar aims to measure the various implications of participating in the digitally connected economy across three domains, as illustrated in the following table:

Table 04: Impact Index According to the NRI

Main Pillar	Impact		
Sub-Pillars	Economy	Quality of Life	Contribution to Sustainable Development Goals (SDGs)
Definition of Sub-Pillars	Examining the economic implications of integration into the networked economy, incorporating aspects such as the size of the local market.	Documenting the societal impacts resulting from participation in the networked economy.	Analyzing the impact of participation in the networked economy within the scope of the Sustainable Development Goals (SDGs). In this context, information and communication technology (ICT) emerges as a central component, with specific indicators interwoven across health, education, gender equality, and environmental concerns.

Source: Compiled by researchers based on the NRI Digital Readiness website, visit date: 05/03/2024, Network Readiness Index.

2.1.4. Country Rankings According to the NRI 2023

The Network Readiness Index (NRI) 2023 evaluates 134 economies based on a wide range of factors related to their readiness to leverage the benefits of the digital revolution. In the latest ranking, the United States and Singapore retained their first and second positions, respectively, from last year.

Finland made a notable advancement, moving up four places to secure third place, compared to seventh place last year. It is followed by the Netherlands and Sweden, which now occupy fourth and fifth places, respectively. The top ten list is completed by Switzerland (6th, down from 5th in NRI 2022), South Korea (7th, up from 9th), Denmark (8th, down from 6th), Germany (9th, down from 8th), and the United Kingdom (10th, up from 12th).

Table 05: Top 10 Countries According to the NRI 2023

Rank	Country	Score	Income Level	Region
1	United States	76.91	High Income	Americas
2	Singapore	76.81	High Income	Asia
3	Finland	76.19	High Income	Europe
4	Netherlands	76.04	High Income	Europe
5	Sweden	75.68	High Income	Europe
6	Switzerland	74.76	High Income	Europe
7	South Korea	74.48	High Income	Asia
8	Denmark	74.06	High Income	Europe
9	Germany	72.75	High Income	Europe
10	United Kingdom	72.75	High Income	Europe

Source: Soumitra Dutta, Bruno Lanvin, *Network Readiness Index 2023 (Trust in a Network Society: A Crisis of the Digital Age?)*, NRI 2023 Report, p. 42.

3.1.4. Top Three Countries by Region According to the NRI 2023

The top three countries per region according to the NRI 2023 are as follows:

- **Americas:**
 - **United States** (1st globally)
 - **Canada** (11th globally)
 - **Brazil** (44th globally)
- **Europe:**
 - **Finland** (3rd globally)

- **Netherlands** (4th globally)
- **Sweden** (5th globally)
- **Asia:**
 - **Singapore** (2nd globally)
 - **South Korea** (7th globally)
 - **Japan** (13th globally)
- **Arab Region:**
 - **United Arab Emirates** (30th globally)
 - **Saudi Arabia** (41st globally)
 - **Qatar** (46th globally)
- **Africa:** *(This region ranks lowest globally.)*
 - **Kenya** (70th globally)
 - **South Africa** (74th globally)
 - **Mauritius** (76th globally)

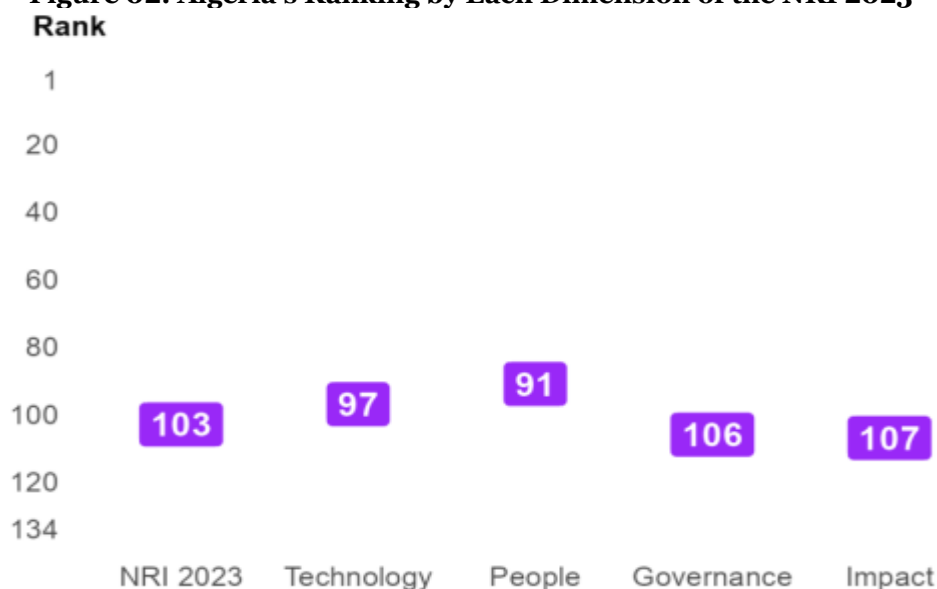
Table 06: Top Three Countries by Region According to the NRI 2023

Region	1st Place	2nd Place	3rd Place
North & South America	United States (1)	Canada (11)	Brazil (44)
Europe	Finland (3)	Netherlands (4)	Sweden (5)
Independent States Association	Russia (38)	Kazakhstan (58)	Armenia (63)
Asia & Pacific	Singapore (2)	South Korea (7)	Japan (13)
Arab Countries	United Arab Emirates (30)	Saudi Arabia (41)	Qatar (46)
Africa	Kenya (70)	South Africa (74)	Mauritius (76)

Source: Soumitra Dutta, Bruno Lanvin, *Network Readiness Index 2023 (Trust in a Network Society: A Crisis of the Digital Age?)*, NRI 2023 Report, p. 60.

Algeria ranks 103rd out of 134 economies listed in the Network Readiness Index (NRI) 2023 report. Its main strength lies in the People category, where it holds a global ranking of 91. However, the area requiring the most improvement, where it lags the most, is Impact, ranking 107th globally. This is illustrated in Figure 02:

Figure 02: Algeria's Ranking by Each Dimension of the NRI 2023



Source: NRI Index, Report NRI 2023 about Algeria, 2023, p. 01.

4.2 Algeria's Position in the 2023 Leading Technology Readiness Index

The 2023 Leading Technology Readiness Index report, prepared by the United Nations Conference on Trade and Development (UNCTAD), ranked 166 countries based on their readiness to adopt emerging technologies. The ranking is based on five key indicators: Information and Communication Technology (ICT), Skills, Industry, Research & Development, and Finance (United Nations Conference on Trade and Development, 2024).

Looking at the Arab region, Gulf countries dominate the ranking, with the United Arab Emirates and Saudi Arabia leading at 37th and 47th globally, respectively. In contrast, Algeria ranks 97th globally, placing it behind Tunisia and Morocco among North African countries, with a low-average rating.

The following figure illustrates Algeria's ranking alongside other Arab countries in the 2023 Leading Technology Readiness Index:

Figure 03: Ranking of Arab Countries in the 2023 Leading Technology Readiness Index



Source: CNN Arabic site, <https://arabic.cnn.com/middle-east/article/2023/04/29/frinter-tech-preparedness-countries-2023-index-infographic>, visit date: 06/03/2024.

4.3. Algeria's Ranking in Achieving Sustainable Development Goals through the United Nations Initiative:

As a result of the integration of the Sustainable Development Goals (SDGs), which consist of 17 goals, and with a focus on Goal 9—which aims to build resilient infrastructure, promote sustainable industrialization, and foster innovation, including significantly increasing access to information and communication technology and striving to provide universal and affordable internet access in the least developed countries—Algeria ranked 83rd in the 2016 edition of the index. According to the same report, it ranked 5th in Africa and 8th in the Arab world.

In the 2017 edition, Algeria moved up to 64th place globally, ranking 1st in Africa and the Arab world.

In 2018, Algeria was ranked 68th globally, still 1st in Africa and 2nd in the Arab world.

By 2019, Algeria had significantly improved its ranking to 53rd place globally, and in the latest 2020 edition, it ranked 56th out of 166 countries studied, maintaining 1st place in Africa and the Arab world in this index.

These rankings reflect a positive trend, showcasing the efforts exerted by the Algerian government in the field of information and communication technology to compensate for the significant lag the country has experienced in this sector for many years (Wahba & Kara, 2022).

The following table illustrates these rankings:

Table (07): Algeria's Ranking According to the UN Sustainable Development Goals Index

Year	2016	2017	2018	2019	2020
Ranking	83	64	68	53 / 162 countries	56 / 166 countries

Source: Wahba, Amal & Kara, Ibtisam, "Digital Transformation in Algeria: Between Prospects and Challenges," *Al-Bashaer Economic Journal*, Vol. 08, Issue 01, 2022, Faculty of Economic, Commercial, and Management Sciences, Tahri Mohamed University, Bechar, Algeria, p. 15.

The United Nations also published its 2022 report, which consists of 493 pages and was supervised by the American economist Jeffrey Sachs. The report is the result of a joint effort by independent experts from the Sustainable Development Solutions Network Initiative and the German non-governmental organization Bertelsmann Stiftung, which was established in 1977 and enjoys an outstanding international reputation. The University of Cambridge Press took the initiative to publish it.

The report's findings indicate that Algeria is on the right track to achieving the following Sustainable Development Goals (SDGs):

- Goal 4: Quality Education

- Goal 12: Responsible Consumption and Production
 - Goal 17: Partnerships for the Goals
- Additionally, Algeria has made significant progress in the following areas:

- Goal 9: Industry, Innovation, and Infrastructure
 - Goal 13: Climate Action
 - Goal 15: Life on Land
 - Goal 16: Peace, Justice, and Strong Institutions
- (Algerian News Agency, 2022).

5. The Reality of Practicing the Profession of a Certified Accountant in Algeria in the Digital Environment

Law 01-10, which repealed the provisions of Law 08-91, regulates the professions of Chartered Accountant, Auditor, and Certified Accountant, defining the conditions and methods for practicing these three professions (Ajila, 2019). The following section presents the Certified Accountant profession:

5.1. Definition of a Certified Accountant According to Algerian Legislation

- A Certified Accountant is defined as "a professional who regularly practices, under his own name and responsibility, the task of managing, opening, and maintaining the accounting records and financial accounts of traders, companies, or institutions that request his services" (Official Gazette of the People's Democratic Republic of Algeria, 2010).
 - The Certified Accountant manages a single office for his own account and under his responsibility. He may also operate in the form of a company or an association (Official Gazette of the People's Democratic Republic of Algeria, 2010).
- Thus, a Certified Accountant may practice their profession either as a natural person (individual) or as a legal entity (company or firm).

5.2. Beneficiaries of Certified Accountant Services in Algeria

All entities required to maintain financial accounting records, whether natural or legal persons, who do not have an internal financial accounting function, may externally seek the services of a Certified Accountant to maintain their financial accounting records according to the Financial Accounting System (SCF).

Article 04 of Law 11-07, which includes the Financial Accounting System, defines its scope of application as follows:

- Companies subject to the provisions of commercial law;
- Cooperatives;
- Natural or legal persons engaged in the production of goods or services, whether commercial or non-commercial, if their activities are based on recurring economic operations;
- Any natural or legal persons required to comply by a legal or regulatory provision.

Additionally, Article 05 of Law 11-07 states that small entities, whose turnover, number of employees, and activity level do not exceed a certain threshold, may maintain simplified financial accounting records (Official Gazette of the People's Democratic Republic of Algeria, 2007).

5.3. Duties of a Certified Accountant in Algeria

A Certified Accountant provides tax and financial consulting services, in accordance with Law 10-01. The following table summarizes these duties:

Table (08): Duties of a Certified Accountant

Services	Certified Accountant's Duties
Management, Monitoring, and Consulting Services	<ul style="list-style-type: none"> - Preparing payroll statements and payroll journals; - Preparing and submitting the annual accounting balance sheet; - Responding to and following up on tax and quasi-tax correspondences;
	<ul style="list-style-type: none"> - Preparing tax declarations; - Preparing and submitting annual and monthly quasi-tax declarations (e.g., CNAS, CACOBATPH); - Issuing payment certificates and non-subjection certificates.
Tax Services	<ul style="list-style-type: none"> - Updating and adjusting accounting records and financial statements; - Preparing, maintaining, and submitting the annual tax balance sheet.
Assistance and Representation	<p>A Certified Accountant can assist and represent their client before various relevant administrations:</p> <ul style="list-style-type: none"> - Tax authorities, social security institutions, unemployment fund, and

Services	Certified Accountant's Duties
	the National Fund for Non-Salaried Workers Insurance;
	- Labor inspection authorities;
	- Commercial registry and the Directorate of Commerce;
	- Public treasury authorities;
	- Banks and investment institutions.

Source: Imane Nouara, "Certified Accountant Services in Light of Digital Adoption in Algeria," *Chouaa Economic Studies Journal*, Vol. 07, Issue 01, 2023, p. 240.

5.4. Digitalization of Administrations Related to Accounting Services in Algeria

The duties and services provided by Certified Accountants are directly related to several public administrations that have digitalized many of their services. The following table outlines the key administrations relevant to accounting firms in Algeria:

Table (09): Administrations Related to Accounting Firms in Algeria

Relevant Administration	Duties
Tax Administration	- Preparing tax declarations such as G12, IRG, IBS, G50.
Social Administrations	Insurance - Preparing social declarations such as DAC, DAS, CACOBATPH, CNAS, CASNOS.
Labor Inspection	- Keeping legal records and registers, including payroll books, employee registers, and work accident records.
National Center for Commercial Register	for - Preparing administrative declarations, such as legal publication of financial statements.
Bank Administration	- Providing financial services, such as feasibility studies for projects and loan application processing.

Source: Imane Nouara, "Certified Accountant Services in Light of Digital Adoption in Algeria," *Chouaa Economic Studies Journal*, Vol. 07, Issue 01, 2023, p. 241.

6. Results and Hypothesis Testing

The hypotheses were tested by analyzing theoretical literature, Algerian legal and regulatory frameworks, and various digital readiness indicators, particularly the NRI 2023 Index, as follows:

- Hypothesis 1:
"Digital accounting can be considered an effective tool with a positive impact on improving the efficiency of accounting operations within institutions."
 - This hypothesis was proven through a review of theoretical literature on digital accounting.
 - Many studies confirm that using technologies such as artificial intelligence, blockchain, and cloud computing enhances accuracy and reduces errors.
- Hypothesis 2:
"Accounting legislation in Algeria provides an insufficient legal framework for adopting digital accounting. It requires updates to incorporate modern technologies such as cloud computing and advanced artificial intelligence."
 - This hypothesis was proven by examining existing legal frameworks, including the Financial Accounting System (SCF) law and Executive Decree No. 09-110.
 - The findings indicate that current legislation does not fully reflect rapid advancements in digital technology.
 - Therefore, Algerian accounting laws need updates to recognize digital documents, regulate cloud-based accounting, and integrate AI-driven auditing mechanisms.
- Hypothesis 3:
"Despite recent improvements, Algeria's digital infrastructure remains insufficient to fully support the transition to digital accounting."
 - This hypothesis was proven by analyzing global digital readiness indicators, particularly the Network Readiness Index (NRI) 2023.
 - According to NRI 2023, Algeria still needs improvements in internet speed, data security, and technological coverage within institutions.

7. Conclusion

At the conclusion of this study, which examined the adoption of digital accounting in Algeria by reviewing official legislation and digital readiness, it can be affirmed that transitioning to digital accounting is an urgent necessity to enhance the efficiency of accounting operations and achieve higher levels of transparency and accuracy.

The findings indicate that digital accounting is a powerful tool for improving accounting performance within institutions, reducing errors, facilitating audits, and enhancing data-driven decision-making.

However, the study also revealed legal and technical challenges that hinder the full adoption of digital accounting in Algeria. Despite the existence of accounting legislation such as the Financial Accounting System (SCF) and Executive Decree 110-09, these regulations have not yet adapted to modern technological advancements. Therefore, updates are necessary to incorporate cloud computing, artificial intelligence, and other advanced digital tools.

Additionally, while some accounting services provided by certified accountants have been digitalized—particularly those related to public administrations—the study confirms that Algeria's digital infrastructure remains insufficient to support a full transition to digital accounting. Global indicators, such as the NRI 2023 Index, show that Algeria still requires further development in areas such as digital connectivity, data security, and institutional support for cloud-based solutions.

Recommendations

Based on these findings, the study recommends the following:

- Updating accounting legislation to align with global digital advancements.
- Improving digital infrastructure to create a supportive environment for digital accounting.
- Raising awareness among accounting firms about the importance of digital transformation.
- Encouraging investment in modern technologies to ensure a smooth transition to a fully digital accounting system in Algeria.

8. References and Citations

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