

The impact of digitalization on accounting practice in Algeria

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Abstract :

The study aims to assess the impact of digitalization on accounting practice in Algeria, employing a quantitative method with participation from 39 respondents on a national scale who completed questionnaires and were analyzed using SPSS software. Results indicate that the accounting information system significantly affects the effectiveness of accounting practices, whereas technology adoption and software investment have zero impact on accounting efficiency. This emphasizes the vital role of the accounting information system in enhancing efficiency within the Algerian accounting context. highlightin for efforts to improve and develop accounting practice in the evolving Algerian context.

Keywords: digitalization, accounting information system, accounting

Jel Classification Codes: M41, O30

Introduction :

Accounting is an essential field for any business because it allows you to classify and organize the financial flows of an entity to assess its financial health and provide essential information to make informed decisions.

Although the principles of accounting have had to adapt to modern economic requirements and changes influenced by digitalization, even in modern times. Digitalization in the field of accounting consists of using technologies to optimize processes and improve the quality of accounting information. With the development of IT tools, this transformation has become essential and offers new perspectives to fiduciary accounting firms.

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Accounting is much more than a simple administrative discipline, it is the financial language of businesses, allowing them to understand their performance and guarantee their sustainability.

Who leads us posed the following problem: what is the impact of digitalization on accounting?

From the outset we can assume that:

H 0 :Technology adoption and software investment impact efficiency

H1: the accounting information system has an impact on efficiency

Research methodology :

We conducted a quantitative study to assess the impact of digitalization on accounting. Data collection was carried out by distributing questionnaires to 39 participants nationwide, who responded online. The results were analyzed using SPSS statistical software.

The importance of the study:

Our study shows how the adaptation of digitalization and the changes that impact accounting, facilitating the integration of new digital tools and improving the efficiency of accounting processes

Literature review

1. *AAJAbdallah (2013)*, The Impact of Using Accounting Information Systems on the Quality of Financial Statements Submitted to the Income and Sales Tax Department in Jordan, European Scientific Journal:

The study examined the influence of accounting information systems on the quality of financial statements submitted to the Income Tax and Sales Department in Jordan. Through a survey of 50 accountants in the ministry, it was determined that the use of accounting information systems had a positive effect on the quality of financial statements. Recommendations were made to improve the ministry's systems, ensure ongoing training of staff and focus on improving the quality of financial statements.

2. B.TOUAZI, T.CHABI, 2018, accounting system of principle and quality of accounting information, case of SNCF Algerian , journal of finance , accounting, management studies

The study aims to examine the impact of the characteristics of a principles-based accounting system on the quality of accounting information in Algeria. The study shows that the principles-based accounting system produces higher quality accounting information compared to a rules-based system. The principles-based system allows for greater flexibility and adaptability of accounting principles to meet the needs of different stakeholders. In Algeria, the new financial accounting system (SSF) is moving towards international IAS/IFRS standards, showing a more principles-based approach due to the absence of application guides and exceptions from IAS standards / IFRS.

3. D.GULIN, M.HLADIKA, I.VALENTA, 2019, digitalization and the challenge for the accounting profession, entrenova

The aim of the study was to analyze the impact of digitalization on the accounting profession, with a focus on changes in accountants' tasks and activities. The methodology involved reviewing professional and academic literature on digitalization in accounting, cloud computing , artificial intelligence, big data and blockchain technology. The results showed that companies were preparing for

digitalization changes, with larger companies leading the implementation due to cost factors.

The study results showed that businesses were preparing for digitalization changes, with larger companies leading the implementation due to cost factors. Despite the benefits of digitalization and automation in accounting tasks, it has been noted that automation and artificial intelligence cannot replace the most valuable functions of accounting of interpreting and analyzing the financial information. The challenges facing the accounting profession in the age of digitalization include the use of big data, cloud computing , artificial intelligence and blockchain technology, which will require accountants to develop new skills and adapt to technological changes.

1-theoretical part :

Accounting is a discipline that has existed long before numbers were created, with financial statements that provide an accurate view of the financial situation of companies. It is subject to regulations and standards for the classification and analysis of the information collected, which is called the accounting information system.²

1.1. the accounting information system:

a- definition of AIS:

AIS is an instrument that has been integrated into the field of information systems and technology. It is responsible for producing reliable financial information essential for decision-making. There are several different approaches to the system, as they must take into consideration the elements that impact the collection and transmission of information.

This will always be conditioned by the expectations of information users and the choices they should make. It is also possible that the design of the system will be influenced by the size of the company, the volume of transaction data, the nature of operations, the organizational structure and the nature of its business.³

b- Characteristics of the Accounting Information System:

Effective activation of accounting information systems depends on their following characteristics⁴

Reality : This is a compatible achievement between the two accounting information systems and the surrounding environment, where the applied accounting system must be adapted to the environment in which it is located, depending on its objective and the nature of its activity, it is therefore imperative that the person who designs the accounting information system takes care of the conditions in which the users of this system will operate, which helps to provide the appropriate quality of information, and corresponding to the specific objectives people who use them.

Scientific : it is the adoption of accounting information systems on a scientific basis, using quantitative methods that contribute to providing appropriate information to management, in order to compare a set of alternatives to activate the control role, or using a computer in the storage of this data, with the aim of providing the right information to management at the right time.

Economic : the existence of accounting information systems must have an economic reason, that is, the cost of their purchase does not exceed the value of their financial return, and that it will be useless and entail a cost additional for resources.

Inclusivity : accounting information systems include all the activities of the management unit, through what comes from the subsystems, whether they are specialized in storage, purchasing or sales.

Speed and accuracy in providing information : Accounting information is provided continuously when it is needed, especially when a database can be continually updated so that it can adapt to variables surrounding the systems accounting information.

Flexibility : is one of the characteristics that must characterize accounting

²Christine Jonick,(2017), Principles of ACCOUNTING FINANCIAL,p01

⁴ LIM,FP (2013). Impact of Information Technology on Accounting Systems.p94

⁵ BENSALAMA. (2024, MARCH). *HIGHER INSTITUTE OF ADMINISTRATIVE SERVICE*

information systems, since it is important to follow the specific variables of information management needs or the environment surrounding the establishment, it is that is, they must be dynamic, which helps to strengthen their response to changes that affect the economic environment or organizational structure. Clarity : it characterizes accounting information systems in a simple way, which helps to improve their understanding and manage them easily.

c- The quality of accounting information:

accounting information system may be defined as a group or integration of sub systems / components both physical and non-physical which are interrelated and interrelationship congruously to operate data transactions related to financial issue into financial information⁵

In information systems (IS), the quality and use of field information has played an important role in defining the success of various systems. Opinion continues to say that there is no quality of accounting information without a quality accounting information system. The company uses the accounting information system to generate reports specifically to meet the information needs of investors, creditors, government agencies.

It is not easy to build an accounting information quality system, many factors associated with the success of building or developing information systems such as computer systems must be built using methods, techniques and principles of law. If the information is not qualified, the accounting information becomes useless, the failure perceived by the user is the accounting information system is unable to produce information in accordance with the users expected⁷

1.2. The use of information technologies in accounting:

Accounting systems require specialized qualities of application software, which can be entrusted to the storage Data relating to the financial operations carried out by the establishment, their exploitation and their transformation into information, and their presentation The information is transmitted by through financial reporting, or their use in advanced analysis operations of this data, these software can use as much digital and mechanical data to generate financial transactions. for the institution. The best software for accounting applications:

- 1 Programs Electronic table of spread sheets , developed by the MS Excel program.
- 2- Electronic database management systems programs. Like SQL Server Oracle.⁸

1.3. The digitalization of accounting:

According to Dr Adama TRAORE: "Digitalization consists of converting an object, a tool, a process or a profession into computer code with the aim of replacing it and making it more efficient.

The digitization of businesses, also called digital transformation, has led to the emergence of new means of communication and optimization for business management, with the aim of promoting an increase in activities. The notion of

⁵ Sri Dewi Anggadani, The Accounting Information Quality And The Accounting Information System Quality Through The Organizational Structure : A Survey Of The Baitulmal Wattamwil (BMT) In West Java Indonesia.p13

⁷ Bachmid, F.S. (2016). The Effect of Accounting Information System Quality on.p28

⁸ Mostapha,A.,Ammrou naguib,A.,(2022). *the use of computer technologies in accounting*. Egypt: Faculty of Commerce, Cairo University.p61

distance has disappeared, information can circulate immediately and does not depend on a geographical area; digital information and content can reach more people in a short period of time. In addition, digitalization helps reduce errors, **because it facilitates the detection and correction of anomalies.** »⁹

1.4. artificial intelligence:

By automating intelligently, artificial intelligence helps improve the performance of accounting services. Regarding the duration of processing, entries, chargebacks, validations, disputes, classification, search and lifecycle of an invoice. The reliability and security of data and processes are also impacted: the quality of financial data, the elimination of document losses, fraud detection... Intelligent automation offers all its power by collecting all the important information, checking their relevance and consistency, and proposing appropriate imputations.¹⁰

2. empirical examination

A sample was randomly chosen from the different accounting frameworks, where 45 questionnaire forms were distributed and the following table shows the different results of the questionnaire distribution and collection process:

Table No.01: Various results linked to the questionnaire distribution and recovery process.

The number of distributed	The number of questionnaires retrieved	Number of unreturned surveys	The number of invalid questionnaires	The final number of questionnaires that were downloaded and used in the study
45	39	6	0	39
%100	86.66 %	13.34 %	%00	86.66 %

Source: prepared by researchers

After the final adjustment of the questionnaire, we recovered 39 questionnaires out of 45 distributed questionnaires, while we could not recover 6 questionnaires. The valid questionnaires for the analysis are 39 questionnaires with a percentage of (86.66%), of which we downloaded their content into the SPSS program for statistical processing.

The table below shows the final image of the study tool used to survey respondents' opinions on the study topic. The questionnaire was designed to be consistent in form (with the same number of sentences) and in content, the variables were measured using sentences that were clear and understandable to the sample members so that we could obtain data accurate and valid for statistical processing

A five-point Likert scale was used so that each statement corresponded to a list with the following choices:

⁹ TRAORE, A. (2021, APRIL 16). *WEEK-LAB* . consulted on march 20,2024

¹⁰ Ezratty, O. (2024, DECEMBER). *YOOZ*. Consulted on march 20,2024

Table No.02: Distribution of scores on the scale used in the questionnaire

Measurement alternatives	not agree at all	Disagree	Neutral	All right	Totally agree
Coding	1	2	3	4	5

Source : Calculated by researchers

In order to facilitate the analysis and discussion of respondents' opinions on the degree of approval or disapproval of the content of the terms and axes of the questionnaire, a consent guide is prepared to analyze the responses of the sample members. study and the following statistical tools were invoked:

- General range: it is equal to = (highest score on a scale - lowest score on a scale) = (5-1) = 4.
- Cell length = general range / number of consent bikes, as follows: $4/5 = 0.8$
- By adding this value (0.8) each time to the minimum approval score as follows:

[1, $0.80+1 = 1.80$] We obtain the upper bound, which means that the field of approval of the declaration becomes very small as follows: [1-1.80] And so on with the rest of the approval fields as shown below.

[1–1.80]	If the arithmetic mean value of the degree of approval of one of the sentences in the questionnaire was between [1–1.80], this means that the degree of approval of it represents a very low degree.
[1.81–2.60]	If the arithmetic mean value varies between the degree of agreement on one of the statements in the questionnaire between [1.81–2.60], this means that the degree of agreement represents a low degree.
[2.61–3.40]	If the arithmetic mean value varies between the degree of agreement on one of the statements in the questionnaire between [2.61–3.40], this means that the degree of approval represents an average degree.
[3.41–4.20]	If the arithmetic mean value varies between the degree of agreement on one of the statements in the questionnaire between [3.41–4.20], this means that the degree of agreement represents a high degree.
[4.21–5]	If the arithmetic mean value varies between the degree of agreement on one of the statements in the questionnaire between [4.21–5], this means that the degree of agreement represents a very high degree.

Source: Pallant (2016)

2.1 Stability calculation for the questionnaire tool:

There are several ways to measure the stability of questionnaire statements, including Cronbach's Alpha method, which is used more than once by researchers. Most scientific research agrees on the threshold values of Cronbach's Alpha coefficient, that is to say if a coefficient has a value greater than (0.60). The statements of the questionnaire as a whole or the statements of the axis or dimension are said to be stable. Here are the results of calculating Cronbach's alpha values

Reliability Statistics	
Cronbach's Alpha	Number of elements
.957	20

Source : Researchers' calculations via SPSS26

From the results of calculating the values of indicators of validity and reliability of the questionnaire, we confirmed the validity and reliability of the study tool, which makes us confident in the validity of the questionnaire to analyze the results, respond to the issues of the study and test its hypotheses

2.2.Presentation and descriptive analysis of the personal data of the members of the sample:

Table No.03: personal data of the sample

Variable	Kind	Repetition	Percentage
Gender	Man	32	82.1%
	Women	7	17.9%
Total		39	100%
Age	Under 25	01	2.6%
	Between 25 and 34 years old	05	12.8%
	Between 35-44 years	20	51.3%
	Between 45 and 55 years old	05	12.8%
	Over 55 years old	08	20.5%
Total		39	100%
level of studies		07	17.9%
	Tray 3	02	05.1%
	Degree 4	11	28.2%
	Bac+ 5 and above	18	46.2
	other	1	2.6%
Total		39	100%
Professional status			
	employee	25	64.1%
	independent	10	25.64%
	partner	1	2.6%
	Others	3	7.7%

Total		39	100%
Activity area	Administration	4	10.3
	Construction	1	2.6
	Btph	1	2.6
	Trade	3	7.7
	Education	1	2.6
	Accounting	1	2.6
	Industry	5	12.8
	Services	23	59
Total		39	100%

Source : Prepared by researchers based on SPSS program outputs

Table N0.04: the results of the analysis of the responses of the members of the sample to the statements of the independent variable

Icon	Sentences	Arithmetic average	Standard deviation	Relative importance	Order	Executive management
01	I am comfortable using digital tools in my work	3.90	1,273	78	1	High approval
02	I regularly train in new technologies related to my profession	3.36	1,347	67.2	4	Average approval
03	I have all the necessary equipment to work effectively remotely	3.18	1,295	63.6	5	Average approval
04	I communicate easily with my clients and colleagues using digital technology	3.46	1,393	69.2	3	High approval
05	I am aware of security risks and take appropriate measures to protect them	3.51	1,254	70.2	2	High approval
X01	Technology Adoption	3.48	1.31			High approval
01	I devote a significant part of my budget to purchasing or renting accounting software	2.62	1,498	52.4	5	Average approval
02	I compare the different accounting software offers available on the market before making my choice	3.08	1,384	61.6	3	Average approval
03	I favor accounting software that offers advanced features (automation, artificial intelligence, cloud, etc.)	3.33	1,475	66.6	1	Average approval
04	I am satisfied with the performance and reliability of the accounting software I use	3.28	1,255	65.6	2	Average approval
05	I regularly renew my accounting software to	2.85	1,461	57	4	Average approval

	benefit from the latest updates and innovations					
X02	Investment in software	3.03	1,414		Average approval	
01	I master the accounting standards in force in my country	3.72	1.213	74.4	1	High approval
02	I am able to adapt to regulatory and tax changes that affect my profession	3.54	1,335	70.8	3	High approval
03	I know the advantages and disadvantages of the different existing accounting systems (management accounting, financial.)	3.31	1,260	66.2	5	Average approval
04	I choose the accounting system best suited to the needs of my clients or my business	3.59	1.312	71.8	2	High approval
05	I am able to justify my accounting choices to stakeholders (clients, auditors, administration)	3.51	1,233	10.2	4	High approval
X03	Accounting information system	3.53	1.27		High approval	
	Independent variables	3.34	1.331		Average approval	
Relative weight of the arithmetic mean (%) = (arithmetic mean *100) /5						

Medium field	From 01 to 1.80	From 1.81 to 2.60	From 2.61 to 3.40	3.41 to 4.20	4.21 to 5
Approval level	Very low grade	Lower grade	Medium quality	High degree	Very high quality
We organize the statements by their importance in each dimension based on the largest value of the arithmetic mean in the dimension and when the arithmetic mean is equal between two statements, it takes into account the lowest value of the standard deviation (less dispersion) between them.					

Source: Prepared by the researchers based by the SPSS program outputs

From the table above, we see that the total arithmetic mean of respondents' responses to all independent variable statements was: 3.34, which is in the range of one degree totally (from 2.61 to 3.40) and one standard deviation of: 1.331, which is average, which indicates the convergence of opinions of individuals and their concentration around the value of The general arithmetic mean, and therefore the total arithmetic mean represents the data center for the tendencies of the members of the sample and there is no dispersion in their responses, that is to say they are neutral with a percentage of 66.8%

Table No. 05: the results of the analysis of the responses of the members of the sample to the statements of the dependent variable

Icon	Sentences	Arithmetic average	Standard deviation	Relative importance	Order	Executive management
01	I complete my accounting tasks on time	3.97	1,328	79.4	1	High approval
02	I respect the quality and compliance standards required for my profession	3.72	1,337	74.4	5	High approval
03	I provide reliable and relevant accounting information to my clients or my business	3.92	1,285	78.4	2	High approval
04	I contribute to improving the financial performance of my clients or my company	3.77	1,245	75.4	4	High approval
05	I am recognized and valued for my work as an accountant	3.85	1.309	77	3	High approval
Y01	Efficiency	3.84	1,300	76.8	High approval	
	Dependent variable	3.84	1,300	76.8	High approval	
Relative weight of the arithmetic mean (%) = (arithmetic mean *100) /5						
Medium field		From 01 to 1.80	From 1.81 to 2.60	From 2.61 to 3.40	3.41 to 4.20	4.21 to 5
Approval level		Very low grade	Lower grade	Medium quality	High degree	Very high quality
We organize the statements by their importance in each dimension based on the largest value of the arithmetic mean in the dimension and when the arithmetic mean is equal between two statements, it takes into account the lowest value of the standard deviation (less dispersion) between them.						

Source: Prepared by the researchers based by the SPSS program outputs

From the table above, we see that the total arithmetic mean of respondents' responses to all statements of the dependent variable amounts to: 3.84, which is within the range of a high degree of agreement (3.41-4.20) and a standard deviation of: 1.30, which is high , which indicates the convergence of the opinions of individuals and their concentration around the value of the average General arithmetic, and therefore the total arithmetic mean represents the data center for the sample members' tendencies and there is no significant dispersion in their responses, i.e. they agree with a rate of 76.8 % that the level of effectiveness the sample under study is of a high degree and this is from the point of view of the respondents.

2.2 Main hypothesis test :

The text of the research hypothesis: there is a significant impact on the impact of digitalization on accounting practice.

Statistical hypothesis text: A hypothesis is tested at the 0.05 significance level and, accordingly, we reformulate it into the null hypothesis H_0 and the alternative hypothesis H_1 as follows:

H_0 . Technology adoption and software investment impact efficiency

H_1 . The accounting information system has an impact on efficiency.

Simple regression was used to find out the effect of the independent variables on the dependent variable (effectiveness). The following table is a summary of the output tables of the simple regression analysis using the SPSS program.

Table No. 06: A summary of the results of the simple regression analysis of the relationship between the independent variables on the dependent variable .

The relationship between the independent variables on the dependent variable				
Efficiency				
(R)		R ²		
.730		0.867		
ANOVA				
(Test F)		Sig		
37,170		0.000		
coefficients				
Independent variables	B Values of regression coefficients		T test	Sig
(Constant)	B ₀ =	0.244	0.659	0.514
adoption of technology	B ₁ =	0.319	1,673	0.103
Accounting information system	B ₁ =	0.570	3,755	0.001
Investment in software	B ₁ =	0.157	1.106	0.276

Source:Prepared by the researchers based by the SPSS program outputs

The results show that the Pearson correlation coefficient between the independent variables and the dependent variable, where it reaches a high value (0.730) with a value of the coefficient of determination of 0.867, and the value of the modified coefficient of determination, it is i.e. the independent variables, explain 86% of the variation in efficiency.

The previous table also shows the results of the ANOVA analysis to test the significance of the regression, and we note that the sig value is less than 0.05, and therefore we reject the null hypothesis and accept the alternative hypothesis, which states that the regression is significant and there is therefore an effect of the independent variable (accounting information system) on the dependent variable (efficiency), moreover, the analyzes reveal that the sig values associated with the two independent variables (the adoption of technology and software investment) exceed the threshold of 0.05. Consequently, these findings do not demonstrate statistical significance, thus indicating the absence of a statistically significant relationship between the two independent variables and the dependent variable, and we can predict the dependent variable via These are independent variables
As a result, we conclude the decision to test the hypothesis, which is: We reject the null hypothesis (H_0) and accept the alternative hypothesis (H_1): There is a statistically significant effect at the level (0.05)

Conclusion:

Digitalization has undoubtedly transformed the field of accounting, creating new possibilities and challenges for professionals and businesses. Thanks to this evolution, processes have been further digitalized, access to financial data has been improved, and operational efficiency has increased.

However, as technological advancements continue, it becomes imperative for accounting professionals to stay at the forefront of developments in order to maintain their relevance and competitiveness. After reviewing our study data using SPSS software, we identified that the accounting information system has a significant impact on the effectiveness of accounting practice. However, the efficiency of accounting practice was not significantly impacted by technology adoption or software investment.

This conclusion underlines the importance of the accounting information system in the Algerian context, highlighting its crucial role in efficiency. These results demonstrate the solidity of the traditional principles of accounting, indicating that digital progress has not necessarily altered these foundations. Furthermore, they provide a valuable perspective for practitioners and policymakers, highlighting priority areas for efforts to improve and develop accounting practice in the evolving Algerian context.

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