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The Impact of Digitalization on the Quality of Accounting Information. The Case of Algeria

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Abstract

This study aims to identify the impact of the digitalization of accounting information systems on the quality of accounting information, as applied to accountant experts. The importance of this study lies in the fact of knowing if the use of an AIS (Accounting Information System) within an organization makes that the quality of this accounting information in question is positively affected or not, in the case of Algeria.

The author targeted a sample of 345 public accountants for whom a questionnaire was designed and distributed online. There were 181 responses accepted for the analysis process. To obtain relevant and representative results of the study, a simple linear regression with the SPSS software was performed. The results indicate that the computerization of the accounting information system has a significant impact on the quality of the accounting information.

Key words: *information system; digitalization; accounting; quality; information;*

JEL Classification: *M15, M41*

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Introduction

Due to technological, economic, and globalization developments, information systems are important in all areas. They have evolved at a fast rate. Many softwares at all administrative levels have been used in operational, technical, and strategic activities. Accounting information systems have many advantages; they provide important information to all users of accounting information. Accounting information system is very important for all companies, it facilitates and manages their activities and help them to achieve their objectives with a high degree of control (Kanakriyah, 2016).

Information is data that has been organized and processed, to make sense and improve the decision-making process (Huy & Phuc, 2020). High-quality information is a product with characteristics, attributes, or qualities that make it more valuable to users (Sun, Marakas, & Aguirre-Urreta, 2015). These characteristics are accurate, relevant, and timely and, complete (Susanto, 2015). Users need quality information to increase the value of the decision (Sun, Marakas & Aguirre-Urreta, 2015). An effective accounting information system makes the information useful and of high quality (Adeh Ratna, 2012). The accounting information system is a data collection, recording, storage, and processing system that is used to generate relevant information for decision-makers (Huy & Phuc, 2020). According to Fitrios (2016) accounting information system is a set of resources, which is designed to transform data into financial information.

The authors Fitriati & Mulyani (2015) argue that AIS (accounting information systems) are used to provide financial information for decision making and that the success of AIS is significantly related to the quality of accounting information. Accounting information has important effects on the performance of organizations. The widespread use of accounting information systems in companies could lead to better financial and managerial decisions for a company. In emerging economies, these decisions are extremely costly, which will lead to significant consequences if these decisions are wrong (Soto-Acosta, Popa & Martinez-Conesa, 2018). In a competitive business environment, the accounting information system (AIS) forms the basis of an integrated system that enables an organization to gain a competitive advantage (Amidu, Effah & Abor, 2011)

The objective of our research is to clarify the importance of the use of accounting information systems in organizations and to know the reality of the use of these systems in Algeria according to the accounting experts. It is also a question of evaluating the impact of the use of accounting information systems on the quality of accounting information in terms of reliability, consistency, relevance, and comprehensibility of the information in question.

The aim of the current research is to examine the impact of digitalization of the accounting information system on the quality of accounting information. We applied the quantitative method, using a questionnaire, distributed to 345 accountants from Algeria, to collect, the opinions of users of accounting information on how the accounting information system affects the quality of accounting information.

An accounting information system should provide relevant information in real-time and should frequently report on the most important events and provide quick feedback on previous technology (Al-Ibbini, 2017). The accounting information system is a set of data and processing procedures that produce the information required by the company (Li, Ning, Li & Xu, 2017). A management information system has also been defined as a user-machine integrated system to provide information to support operations, management, and decision making in an organization. This system uses computers, manual procedures, models for analysis, planning, control, and decision-making, and a database (Fitriati & Susanto, 2017).

The lack of quality of financial data leads to financial results that decrease in terms of reliability and lead to poor decision-making, which results in losses to decision makers (Al-Dalabih, 2018). Therefore, the question we ask here, in this study, is: ***According to the users of accounting information in Algeria, would there be a significant impact of the informatisation of***

accounting information systems on the quality of accounting information or not?

After analysis of the literature review, two hypotheses, to be tested in the empirical study that follows, present themselves to us. **First hypothesis:** *The use of an informatization accounting information system has a significant impact on the quality of accounting information.* **Second hypothesis:** *The use of an accounting information system does not have a significant impact on the quality of accounting information.*

In order to confirm or reject the hypotheses, our study will be based on sub-variables: reliability, consistency, relevance, understandability, flexibility, comparability, and usability; related to the main variables which are: the accounting information system, which is an independent explanatory variable, and the quality of accounting information which is the dependent variable to be explained.

1. Literature review

"The most difficult part of managing an organization is making the right decision" (Simkin, Norman & Pa, 2014). Management usually plays a central role in making these decisions through its involvement in the long-term planning of the company (Galbraith & Schendel, 1983). "Successful decision-making, which is at the heart of the administrative process, is highly dependent on the information available" (Azar, Zakaria & Adwa, 2019).

"Information is a set of data that is classified, interpreted for decision-making. It has also been defined as some tangible or intangible entity, which serves to reduce uncertainty about future state or events" (Mokodompit & Wuriasih, 2017). The power of technology has transformed the role of information in a business enterprise. Today, Information is recognized as the lifeblood of an organization and without it, modern business is dead (Novianty, Mulyani, Winarningsih & Farida, 2018)

The article of Abdelraheem, Hussaien, Mohammed & Elbokhari (2021) analyzes the effect of using information technology on the quality of accounting information by studying the dimensions of information technology (collecting, processing, storing, and sending data and information) with a field study on Nile Bank in Sudan. The researchers distributed 120 questionnaires and 104 of them were collected. The study concluded that the dimensions of information technology (collection, processing, storage, and transmission of data and information) affect the dimensions of accounting information quality (relevance, reliability, understandability, consistency, comparability).

The study of Puspitawati & Anggadini (2019) examines the influence of an accounting information system on the quality of accounting information in Indonesia. The authors used both descriptive and verification methods. The respondents were 60 functional managers of state-owned enterprises in Bandung, Indonesia. The statistical tests used the structural equation model-PLS. The results indicate that accounting information systems have a significant effect on the accounting information of state-owned enterprises in Bandung City -Indonesia.

The author Al-Dalabih (2018) explains the effect of using accounting information systems on the quality of financial data, applied to service companies listed on the Amman Stock Exchange. The study sample consisted of 70 people working in different service sectors, where a questionnaire was designed and distributed. The results indicate that there is a statistically significant positive effect of the nature and security of accounting information systems on the quality of financial data. However, the inputs to the accounting information systems did not affect the quality of the financial data. The quality of financial data on which Jordanian service companies depend was found to be high.

Kanakriyah (2016) examines the impact of computerization of accounting information systems on the quality of accounting information. The researcher identified some criteria to understand the concept of an accounting *information system* and used a qualitative characteristic (relevance, reliability, more comparability, understandability, consistency, and neutrality) as a proxy to measure accounting information quality. The author states that all users of accounting information believe in the important role of the accounting information system on the quality of accounting information and that there is a significant effect between the two variables, which in turn influence the decisions of users, such as creditors, financial analysts, and investors. The results indicate that the accounting information system has a significant influence on the profitability of companies, there is a close relationship between the use of accounting information resulting from the accounting system and management efficiency.

The article of Sjaiful, Roespinoedji & Roespinoedji (2020) determines the effect of knowledge management on the quality of accounting information systems and their implications on the quality of financial reporting. This study was applied to all public companies. The analysis used was a regression. The results show that knowledge management has in part a significant effect on the quality of accounting information systems, the simultaneous implementation of good corporate governance and knowledge management significantly influences the accounting information systems, and the quality of accounting information systems has a significant effect on the quality of financial reporting.

The authors Mbilla, Nyeadi, Akolgo & Abiire (2020) examined the impact of digitalized accounting systems on quality financial reporting by banks in Ghana. The study population included all banks listed on the Ghana Stock Exchange. The study implies for banks to have quality financial reports, efforts should be made to invest in computerized accounting systems to improve the timeliness, timeliness, convenience, accuracy and relevance of financial reports of their operations. The study of Kuraesin, Yadiat, Sueb & Fitrijanti (2019) determines the relationship between management support, the quality of accounting information system. Based on the results of the hypothesis test using structural equation modeling with Partial Least Square – Path Modeling, there is a relationship between the directional variables and the quality of the accounting information systems. Furthermore, the quality of the information systems has an impact on the quality of the information. The results of this test prove that management support influences the quality of the information systems and has an impact on the quality of the information.

2. Research methodology

2.1. Data collection

The study population includes users of accounting information in Algeria. According to the study provided by Kanakriyah (2016), we applied a comprehensive survey by dividing the population into six groups of users of accounting information (accountants, investors, creditors, auditors, CPAs, financial analysts, and academics).

The questionnaire was distributed to a selected sample from these groups. Accountants were the target sample of the study. Online questionnaires were distributed to a sample of 345 charted accountants, which is one of the population groups. Based on the contact details of the accountants, we made an online questionnaire on Google Forms and sent it to the 345 accountants by email. There were 181 responses accepted for the analysis process.

The sample is composed of all chartered accountants in Algeria. The selection of the sample is based on two main criteria. The first criterion is experience in the field of accounting. The second is the professionalism and commitment to auditing firms and this means that they are knowledgeable and experienced.

2.2. Method used

Our survey is divided into two sections. The first section represents the profile of the respondents. We collected data like age, gender, level of education, etc. (**Table no.1**). The second section is the measurement parameters of the variables (**Tables no. 2, 3, 4, and 5**). It is a question of measuring independent and dependent variables according to the opinion of the respondents. The final analysis will be done by crossing the different variables, to measure whether the impact of the accounting information system on the quality of accounting information is significant or not (**Tables no. 6 and 7**).

The questionnaire consists of 13 questions, distributed online, on 345 accountants. The Likert scale is the standard for responses. We analyzed with SPSS software (version 23.0) the percentage of respondents in favor or against each statement, which represents a specific variable in the survey. We measure the correlation with the Spearman coefficient, between the different independent variables (flexibility, ease of use, reliability) with the dependent variables (consistency, relevance, comprehensibility, comparability). Further, we performed a linear regression between the variables, followed by a statistical analysis based on Durbin-Watson, and ANOVA.

Table no. 1. Profile of respondents		
Gender	**Frequency**	**Percentage**
Male	175	97%
Female	6	3%
Age		
25-30 years old	0	0%
30-35 years old	0	0%
35-40 years old	15	8%
40-45 years old	79	44%
Over 45 years old	87	48%
Level of study criterion		
Bachelor's degree	0	0%
Master	146	81%
Doctorate	35	19%
Sector		
Public	113	62%
Private	68	38%
Work		
Personal account	98	54%
Business/Company	83	46%
Firm size	**98 respondents with their firm**	
10-25 employees	82	84%
25-40 employees	16	16%
40-55 employees	0	0%
More than 55 employees	0	0%

Source: Own processing with SPSS

3. Results obtained

In this section, we present the main results of our study.

3.1. Univariate Analysis

On a scale of 1 (Strongly Disagree) to 5 (Strongly Agree), the majority of respondents strongly agree that Accounting Information Systems improve the quality of accounting information which in turn improves decision making.

On a scale of 1 (Strongly Disagree) to 5 (Strongly Agree), almost 50% of the respondents in our sample agree and more than 40% strongly agree that accounting information systems increase the quantity and accuracy of published accounting information.

3.2. Correlations

We note that the correlation is significant, so we can reject the null hypothesis that there is no relation between the accounting information system and accounting policy consistency (Table no. 2). This means that the probability of obtaining a coefficient of this size in a population where these two variables are not related is less than 5%. We accept the alternative hypothesis: *There is a positive linear relationship between the two variables* (since the coefficient is positive).

Table no. 2. Correlation between dependent and independent variables		
	Relevance (Dependent variable)	**Consistency (Dependent variable)**
Spearman's Rho Relevance (Dependent variable) Correlation coefficient Sig. (Bilateral) N	1.000 181	0.250** 0.001 181
Coherence (Dependent variable) Correlation coefficient Sig. (Bilateral) N	0.250** 0.001 181	1.000 181

** The correlation is significant at the 0.01 level

Source: Own processing with SPSS

We note that the correlation is significant, so we can reject the null hypothesis of no relationship between information reliability and comprehensibility (**Table no. 3**). This means that the probability of obtaining a coefficient of this size in a population where these two variables are not related is less than 5%. We accept the alternative hypothesis: *There is a positive linear relationship between the two variables* (since the coefficient is positive 0.263).

Table no. 3. Correlation between dependent and independent variables

	Relevance (Dependent variable)	Consistency (Dependent variable)
Spearman's Rho Reliability (Independent variable) Correlation coefficient Sig. (Bilateral) N	1.000 181	0.263** 0.000 181
Comprehensibility (dependent variable) Correlation coefficient Sig. (Bilateral) N	0.263** 0.000 181	1.000 181

**The correlation is significant at the 0.01 level.

Source: Own processing with SPSS

3.3. Regression Test

Concerning the Durbin Watson test, the result is 2.117, which is between 1.5 and 2.5, which shows it is significant, and we do not find a relation between the residuals.

- First box: There is a single equation for the slope of the simple regression line.
- Second box: There is a correlation between the variables (X, Y) that reached 0.277.

Table no. 4. Summary of models

Model	R	R-two	Adjusted R-two	Standard error of the estimate
1	.277	.077	.071	.706

Source: Own processing with SPSS

Table no. 5. Summary b of models

Variation of R-two	Variation in F	Ddl1	Ddl2	Sig. Variation in F	Durbin-Watson4
.077	14.840	1	179	000	2.117

Source: Own processing with SPSS

3.4. ANOVA Test2

Table no. 6. ANOVA Test

Model	Sum of squares	Ddl	Mean square	F	Sig.
Regression	7.395	1	7.395	14.840	0.000
Residual	89.201	179	.498		
Total	96.597	180			

Source: Own processing with SPSS

3.5. Coefficients

The sig is 0.00 which is less than 0.05, so there is a relationship between the dependent and independent variables. The most important result is the sig which is 0.000 and is less than the significance level which is 0.05, subsequently, we reject the null hypothesis H0 and take the hypothesis H1, so there is a relationship between the variables (X, Y) (**Table no. 7**).

There is a statistically significant relationship between the independent variables and the dependent variables.

Table no. 7. Coefficients

Model	Unstandardized coefficients		Standardized coefficients	T	Sig.	Correlations		
	B	Standard error	Beta			Simple correlation	Partial	Partial
Constant	2.998	0.320		9.353	0.000			
The use of accounting information systems provides information which facilitates their understanding (Understandability variable)	0.289	0.075	0.277	3.852	0.000	0.277	0.277	0.277

Source: Own processing with SPSS

In **Table no. 7** we find that the variable Xi is significant. In conclusion, there is a relationship between the dependent variable Yi and the independent variable Xi:

Yi = 0+0.277Xi,

where

- Yi: Represents the dependent variable;
- Xi: Represents the independent variable.

4. Discussion

Through the literature review, the results of the survey on how the accounting information system affects the quality of accounting information, confirm that the accounting information system contributes to the quality of accounting information by ensuring its consistency, relevance, understandability, and comparability, hence the term "quality" of accounting information.

As shown in univariate analysis and the percentage of the rest of the variables, the majority of accountants consider the digitalization of accounting information systems, has a positive impact on the quality of accounting information. The percentage of agreement in favor of hypothesis H1, in all the answers to the survey, is between 45% and 56%. In addition, this rises to 82% for the respondents who say that they agree with the statement concerning the variable of relevance that Accounting Information Systems improve the quality of accounting information, which, in turn, improves decision-making.

In our case, all independent and dependent variables are correlated with each other, as the MIS highlighted in the correlation tables is less than 0.05 or close to zero. We, therefore, reject the null hypothesis, which states that there is no correlation between the variables. The correlation coefficients are all positive, which is evidence that there is a positive linear relationship (greater than zero, see correlation table) between each pair of correlated variables. In our case, all the crossings between independent and dependent variables gave a positive linear relationship, which means, for example, that the more flexible and easy is to use the accounting information system (independent variables), the more understandable the quality of the accounting information system is (dependent variable).

In the Jordanian context (Al-Dalabih, 2018), there is a statistically significant positive effect like accounting information systems on the quality of financial data ($\alpha \leq$ 5%). There is a significant impact of the use of accounting information systems on the characteristic of accounting information, which means that AIS has a significant influence on the quality of accounting information (Kanakriyah, 2016).

In the Indonesian context (Puspitawati & Anggadini, 2019), the improvement of the accounting information system affects the quality of accounting information, the significance level (p) = 0.000< 0.05. The result of the hypothesis test shows that the quality of accounting information is influenced by the changes in the accounting information system. In the Sudanese context, the study of Abdelraheem, Hussaien, Mohammed & Elbokhari (2021) shows that the impact of information technology is directly on the quality of accounting information. The study made by Mbilla, Nyeadi, Akolgo & Abiire (2020) concludes that computerized accounting systems take into account their speed, accuracy, reliability, and ability to produce quality data positively affecting the quality of financial reports of banks in Ghana.

In comparison with the result of the correlations carried out in the previous studies, the cross-tabulation between the different variables such as flexibility or quality, coherence or relevance of the information, the significance level is also close to zero and lower than (5%), which proves the similarity of the results to the Algerian context.

Conclusion

Accounting information systems are essential for producing quality accounting information on time and for communicating this information to decision-makers to improve the quality of accounting and financial reporting.

However, it is important to stress that further study is needed to examine other factors that may influence this relationship. The value of the information generated by digitalized AIS to accounting and financial staff in making investment decisions is inestimable. Financial managers need the financial and accounting data provided by the digitalized AIS to assess the company's past performance and to develop plans.

This study showed that there is a strong relationship between the digitalized accounting information system and the efficiency of the quality of accounting information, which means that access to accounting information will lead to efficiency in financial performance. The use of an accounting information system in an organization helps to provide meaningful, valuable, and accurate information for. effective decision-making. In other words, digitalized accounting information systems improve the characteristics of accounting information.

The contribution of this study lies in the possibility of comparing the Algerian context with that of other countries such as Indonesia, Ghana, or Jordan. The importance and usefulness of information systems are obvious for a more reliable accounting and faster processing of the financial data of the company in Algeria. We, therefore, conclude that the use of accounting information systems in all organizations is essential for obtaining quality accounting information.

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