

Factors affecting accounting information system's effectiveness and efficiency

العوامل المؤثرة على فعالية وكفاءة نظام المعلومات المحاسبي

Benzitouni Nawel^{1*}, Naamane Mehassouel²

¹ LRFPMF Laboratory, Jijel University, nawel.benzitouni@univ-jijel.dz,

² Jijel university, mehassouel_naamane@yahoo.fr

Date of receipt: 2023-01-21 Date of revision: 2023-02-21 Date of acceptance: 2023-06-12

Abstract

This study aims to investigate the fundamental factors affecting accounting information system's effectiveness and efficiency. It shows that accounting information systems influenced by several factors, that can be either internal factors which are easy to control, or external factors represented in regulatory, economical, organizational, behavioral or technological factors.

This study suggests that in order to ensure an effective accounting information system, firms should adapt with its environment by anticipating what will happen in the future, bureaucracy should be reduced, discussions at work should be encouraged, and lastly firms must Intensify efforts to obtain the best information technology structures, as it is an indispensable investment tool.

Keywords: Accounting information system, effectiveness of accounting information system, factors affecting accounting information system, Performance of accounting information systems

* Corresponding Author: Benzitouni Nawel, Email: nawel.benzitouni@univ-jijel.dz

ملخص

تهدف هذه الدراسة إلى توضيح العوامل المؤثرة على فعالية وكفاءة نظام المعلومات المحاسبي ويظهر أن أنظمة المعلومات المحاسبية تتأثر بعدة عوامل، يمكن أن تكون إما عوامل داخلية يسهل التحكم فيها، أو عوامل خارجية تتمثل في عوامل تنظيمية أو اقتصادية أو تنظيمية أو سلوكية أو تكنولوجية.

تقتصر هذه الدراسة أنه من أجل ضمان نظام معلومات محاسبي فعال وكفاء، يجب على الشركات أن تتكيف مع بيئتها من خلال المبادرة بالتنبؤ بما سيحدث في المستقبل، كما يجب الحد من البيروقراطية وتشجيع المناقشات في العمل، وأخيراً على الشركات تكثيف الجهود للحصول على أفضل هياكل تكنولوجيا المعلومات، حيث إنها أداة استثمار لا غنى عنها.

الكلمات المفتاحية: نظام المعلومات المحاسبية ، فعالية نظام المعلومات المحاسبية ، العوامل المؤثرة على نظام المعلومات المحاسبية ، أداء نظم المعلومات المحاسبية.

1. INTRODUCTION

The study of accounting information system became crucial given the importance information gained in our contemporary life. Accounting information system plays an important role in providing decision-makers with information that helps them make decisions. Therefore, providing effective and efficient accounting information system contribute in achieving the objectives of firms.

Accounting information system provides management with the necessary information for the purposes of control and performance evaluation, however, it is affected by factors in its environment, these factors can be internal factors from within the system, or external factors that can be regulatory, organizational, technical, behavioral in addition to some economic factors.

Therefore, this study attempts to shed light on these factors and measure their impact on the level of efficiency and effectiveness of accounting information systems.

Based on what is mentioned above, the problem of this research has been formulated in the following main question:

What are the factors affecting accounting information system's effectiveness and efficiency?

This fundamental question stems from the following sub-questions

- What is accounting information system?
- What are the characteristics of an effective and efficient accounting information system?
- What factors influence accounting information system's quality?

2. OVERVIEW ON ACCOUNTING INFORMATION SYSTEMS

The first subtitle presents the underlying concepts fundamental to an understanding of accounting information system. Basic terminology of its constituent concepts will be defined. Therefore, in this subtitle, the definition of accounting, and accounting information will be clarified in addition to the definition of accounting information system. Component of accounting information system is another aspect that will be explored in this subtitle.

A. Definition of Accounting

The American Accounting Association defines accounting as "the process of identifying, measuring and communicating economic information

to permit informed judgements and decisions by the users of the information." (Alexander & Nobes, 2004, p. 23)

According to American Institute of Certified Public Accountants, it is defined as "the art of recording, classifying and summarizing in a significant manner and in terms of money, transactions and events which are in part at least of a financial character and interpreting the result thereof." (Alexander & Nobes, 2004, p. 23)

From the definitions of accounting, we conclude that it has these objectives:

- Recording of Transactions: in order to ensure transparent and reliable accounting measurements, firms keep a record of every financial transaction. These records which are financial are categorized, summarized and handed to the users of accounting information.
- showing the Financial Position: accounting provides the balance sheet that identifies the position of the firm (Profit or Loss)
- Providing Information to Decision-makers: The most important objective of accounting is providing useful information for decision-makers (owners, creditors, investors...) (The Institute of Cost Accountants of India, 2014, p. 5)

B. Definition of Information

Information is a set of data that have been processed and are useful for their users. (Simkin, Rose, & Carolyn Strand Norman, 2012, p. 5)

Information differs in the level of details and nature according to these three fundamental objectives that are common to all firms:

- Assist operations personal in recording their daily tasks effectively.
- Ensure proper report on the activity of the firm to external users through financial statements and internal users through various reports.
- Provide guidance to decision making by Supporting managers in the process of planning and controlling in the areas of their responsibility. (Hall, 2014, p. 05)

The following Figure presents the different characteristics of a high quality information:

FIGURE 1 INFORMATION CHARACTERISTIC



Source: based on (Omar A Alshikhi & Bandar M. Abdullah, 2018)

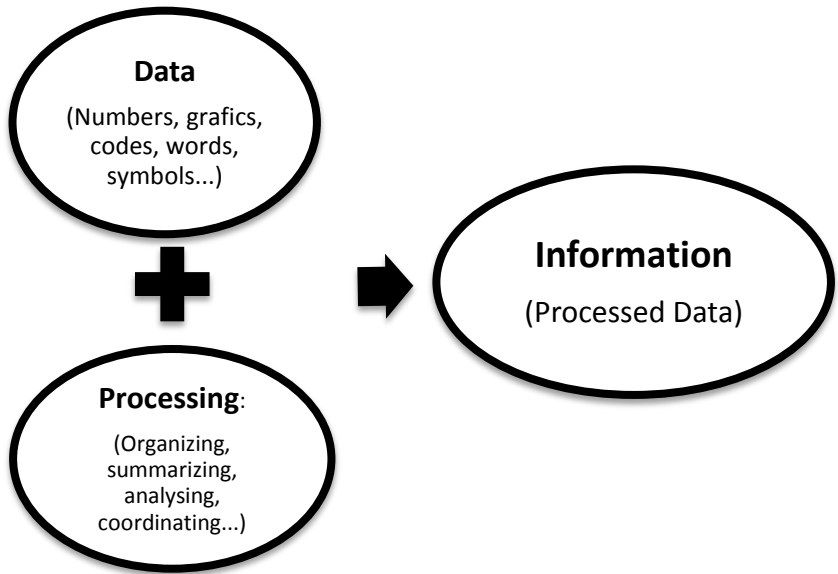
The decision maker determines the qualities of the information he needs based on the decision to be made. Strategic manager requires information with high predictive value to help him see the future and formulate long term plans, that's why he is more concerned with accurate information. Operations manager reacts to all changes that happens in a short time, and makes frequent decisions quickly, that's why he needs accurate and timely information. (De Ulric J, Gelinas, Richard B, Dull, Patrick Wheeler, & Mary Callahan Hill, 2017, p. 26)

C. Definition of the System

A system in accounting is the combination of collecting accounting data, processing it and storing it for future uses when in need. (Simkin, Rose, & Carolyn Strand Norman, 2012, p. 8)

The following figure presents the process of transforming Data into useful information.

Figure 2: the process of transforming Data into useful information



Source: the author

D. Definition of Accounting Information System

Based on all the definitions above, we conclude the following definition of accounting information system:

The accounting information system is the processes of capturing accounting data from different business processes; recording these data for future use, then classifying and summarizing the data recorded in order to report it to internal and external users. In the past, accounting information system was paper- based journals recorded manually by employees. nowadays, almost every firm uses computer systems to maintain records. (Leslie Turner, Andrea Weickgenannt, & Mary Kay Copeland, 2017, p. 04)

A well-designed accounting information system can add value to firms by:

- Improving the quality while reducing the costs of products. Accounting information system can notify operators when performance falls outside quality limits. This helps maintain product quality, lowers costs, and reduces waste.
- Improving efficiency: Information acquired about raw materials inventories makes manufacturing right on the time possible, as it requires constant, accurate, up-to-date information.
- Improving effectiveness and the efficiency of its supply chain, by allowing, as an example, the direct access of customers to inventory

and sales order, which results in increasing customer retention rates.

- Improving the internal control structure: accounting information system helps protecting systems from errors, fraud, system failures, and prevent disasters.
- Improving decision making, which is a major importance and a principal reason for implementing accounting information system. (Marshall B. Romney & Paul John Steinbart, 2017, p. 11 12)

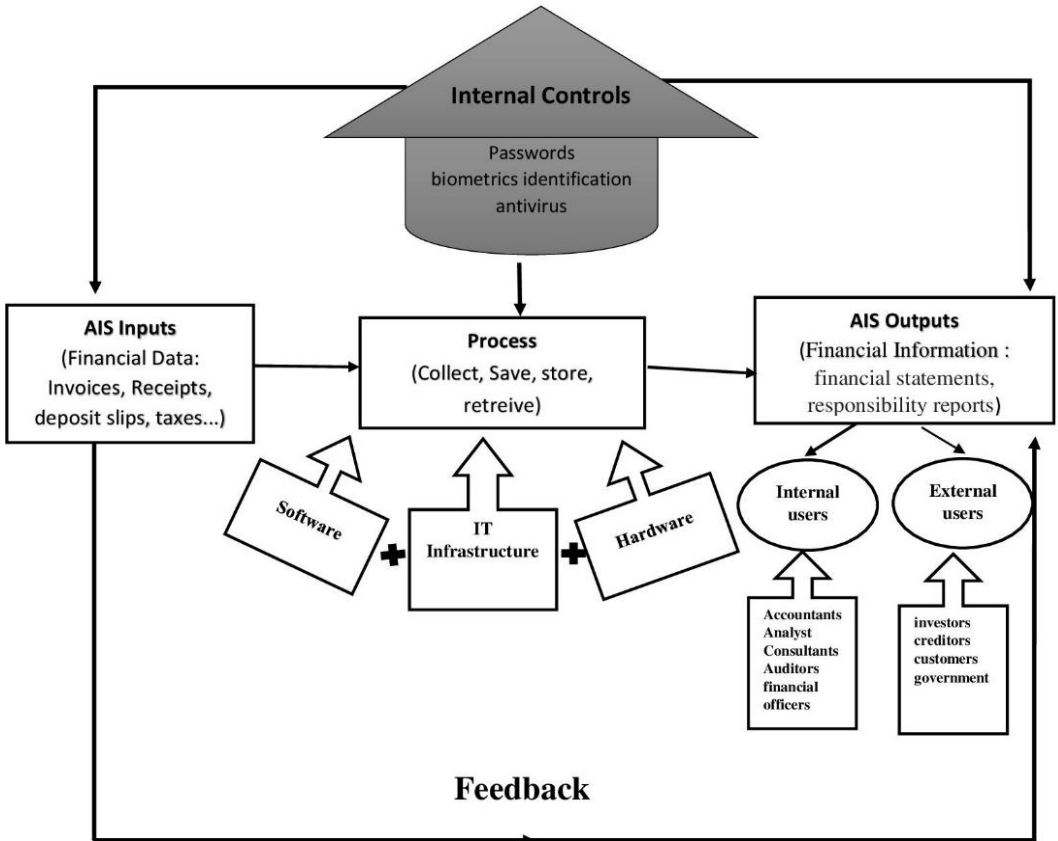
The accounting information system is a set of seven important elements:

- **People (System users):** users of accounting information system could be either internal professional users, like managers, accountants, business analysts, consultants, chief financial officers and auditors. Or could be external users like investors, creditors and government.
- **Procedure and Instructions:** this element consists of methods and techniques used to collect, save and store, retrieve and process data.
- **Data:** this include all kind of financial information that influence the firm's performance. This data is the input of the system, and will be used to prepare different accounting reports and financial statements.
- **Software:** it is the computer software used to save, retrieve, store, process and analyze the firm's financial data.
- **Information Technology Infrastructure:** this includes all hardware and equipment used in the accounting information system process (printers, storage devices, servers, routers, backup power supply, Network....)
- **Internal Controls:** accounting information system contains classified information related to the firm or to customers and employees (credit card numbers, salary information...), that's why security measurement must be taken. In order to ensure the protection of all critical data, internal controls use many items, from passwords to biometrics identification to prevent hacking, and different antivirus software to avoid viruses. (Elsharif, 2017, pp. 1432, 1434)
- **Feedback:** a tool to evaluate and measure the performance, discover

the mistakes in the accounting information system and correct deviation.

The following figure summarizes how the elements of accounting information system work together in an effective and coherent manner.

FIGURE 3 COMPONENTS OF ACCOUNTING INFORMATION SYSTEM



Source: The author

3. Factors affecting accounting information system’s efficiency and effectiveness

The second subtitle indicates the characteristics of a reliable accounting information system, then explores the fundamental factors that influence its efficiency and effectiveness.

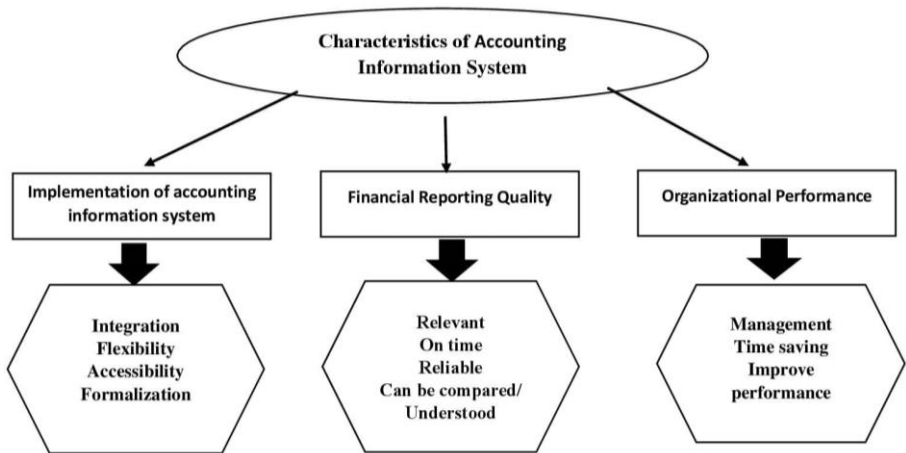
A. Efficiency and Effectiveness of Accounting Information System:

Accounting information system is considered as an important organizational mechanism in firms, it has to possess many characteristics to

be effective and efficient. Accuracy, timeliness, information providing, flexibility and control are all desired to achieve the goals at the lowest cost. (Hla & Peter Teru, 2015, p. 977)

There are three variables are used to describe the characteristic of high quality accounting information system as clarified in the following figure, and explained down.

FIGURE 4: CHARACTERISTICS OF AN EFFECTIVE AND EFECIENT ACCOUNTING INFORMATION SYSTEM



Source: The author

1. First variable: Implementation of accounting information system

- **Integration:** when implementing accounting information system, it has to facilitate the acquisition of information and ensure the integration between its components.
- **Flexibility:** this means that accounting information system should be able to adapt to environmental changes and adjust to user need.
- **Accessibility:** accounting information system has to be an easy-to-use system, the required information should be easily accessed and processed.
- **Formalization:** accounting information system has to ease the communication and facilitates the interaction between all the parts involved.

2. Second variable: Financial Reporting quality

- **Relevant:** the information generated by the accounting information system should impact the decision-making of the user by helping in the prediction of the future and correcting their expectations.
- **On time:** accounting information system has to provide needed information in the right time in order to make the best benefit of it.
- **Reliable:** accounting information system must be free of any misleading notions or fault declarations, information provided has to illustrate honest events and transactions in a reasonable way.
- **Can be compared:** financial reports provided by accounting information system can be compared with the same reports from previous period or between other firms.
- **Can be understood:** financial reports provided by accounting information system has to be expressed in a clear and simple way, users should find no difficulty in understanding information presented. (FARIDA, I, MULYANI, S, AKBAR, B, & SETYANINGSIH, S.D, 2021, p. 327; 328)

3. Third variable: Organizational Performance

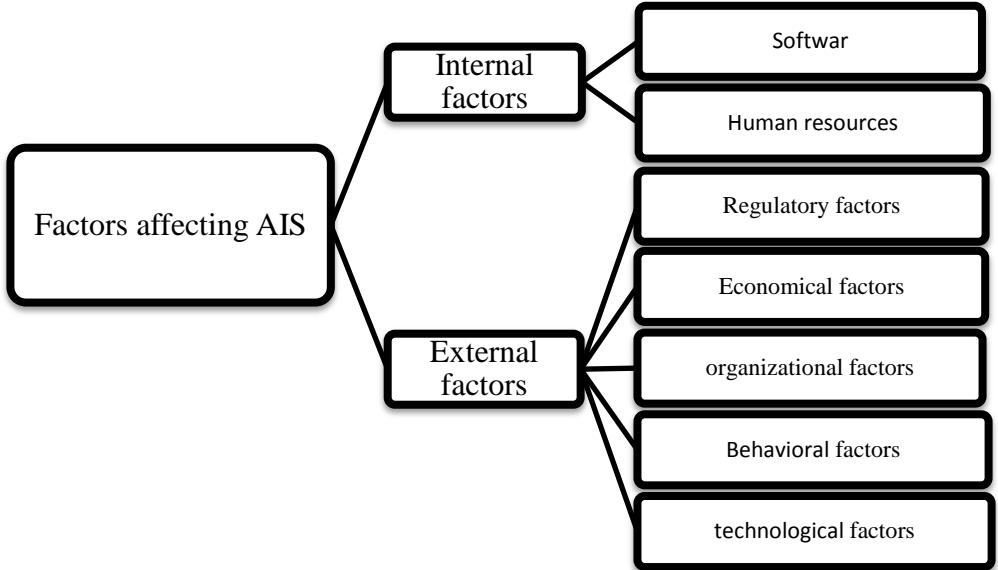
- an effective accounting information system helps in the management of the firm by reporting liable financial data to decision makers.
- Data processing facilitated the process of the company's transactions and speeds up the processes.
- An effective accounting information system can improve performance and lower costs and improve performance. (Soudani, 2012, p. 145)

B. Factors affecting Accounting Information system's performance

There are a number of factors that affect the efficiency and effectiveness of Accounting information system. Knowing these factors and taking them into account will reflect positively on the success of the system, and eventually lead to achieving its goal. Many classifications emerged for factors influencing accounting information system. One of the best

Classifications is based on the concept of the environment. The following Figure demonstrates the fundamental factors that affect Accounting information system's performance.

FIGURE 5 FACTORS AFFECTING ACCOUNTING INFORMATION SYSTEM



Source: The author based on his research

It is difficult to separate between the internal environment and the external environment due to their connectedness with each other and their connection with the organization.

- 1) **Internal Environment Factors:** Internal environment includes everything within the boundaries of the organization, it represents the software, human resources, and data used in operating the system. These factors are easy to control as they result from decisions issued by the administration.
- 2) **External Environment Factors:** an external environment represents outside the boundaries of the organization and has an effect on it. On the opposite of internal factors, they are hard and sometimes impossible to control. (Al-Tkryty, Dahiyat, & Ja, 2022, pp. 4, 5)
 - **Regulatory factors:** Accounting information system aims to ensure that all financial operations are error free from manipulation and forgery, and ensure their conformity with law and professional legislation, and reveals the extent to which the

administration's actions are in conformity with legal requirements, that's why the regulatory factor represents an important variable that affects accounting information system. Its effects are measured through determining the effect of applying legal legislation related to firms (Companies Law, the Financial Market Law and other legislations), and the the effect of applying accounting principles and standards. (Zeyoud, Houssin, & Mohamed-Manssour, 2013, p. 252)

- **Economic factors:** It is represented in the economic situation and its repercussions on the institution, and it can be measured through indicators of stability and economic growth, the degree of competition, and the ability to predict the actions and reactions of competitors. (Zeyoud, Houssin, & Mohamed-Manssour, 2013, p. 252)
- **Organizational factors:** Organizational factors include the extent to which authorities are delegated from senior management to lower administrative levels, defining tasks and duties, bureaucracy, and responsibility accounting. The impact of organizational factors on accounting information systems can be measured through the following tests:
 - Measuring the degree of formality, which indicates the extent to which there is a written job description that defines the tasks, procedures, and powers granted to implement them.
 - Measuring the degree of centralization or decentralization, which indicates the extent of senior management intervention and the degree of delegation of powers and authorities to other administrative levels.
 - Measuring the degree of integration between all departments to ensure work achieving and avoid conflicts.
 - Measuring the extent to which responsibility accounting systems are applied to all employees at all administrative levels. (chafka & mouhamed , 2020, p. 93)
- **Behavioral factors:** it represents the factors that affect the behavior of the accounting information system's users. These users are the beneficiaries of the system through the use of its outputs, and they can decide the effectiveness of the system depending on the extent of their conviction of the system's ability

to provide outputs that can contribute to achieving their goals. (Elsaa, 2011, p. 51)

- **Technological factors:** Information technology means those techniques used in a computer-based information systems including applications, hardware, software, database and communication networks. The use of Information technology enhances accounting information system's functions to be more effective and efficient because it enables more accurate reporting, processing large amount of transactions and produce more meaningful reporting for analysis. (Abd Alwali , Kamil, & Rosli, 2016, p. 240). The impact of information technology on accounting information system can be measured by the availability of appropriate technical materials to operate and produce electronic data, contribution in achieving control, achievement of integration between different departments. (Zeyoud, Houssin, & Mohamed-Manssour, 2013, p. 253)

4. CONCLUSION

This topic addresses the most important conclusions related to factors affecting accounting system's effectiveness and efficiency as follow:

- 1) Accounting information system's effectiveness and efficiency is affected by several factors that can be either internal or external.
- 2) Internal factors that affect accounting information system are mainly software and human resources, they are easy to control and adapt to changes.
- 3) External factors affecting accounting information system comes from the outside of the system, therefore, they are hard to control or adapt to. They are divided to regulatory, economical, organizational, behavioral and technological factors.
- 4) Regulatory factor affects accounting information system's effectiveness when there is an instability of legal systems and legislation on one hand, and the policies and procedures issued by the general administration on the other hand.
- 5) Economic factor affects accounting information system's effectiveness due to the fluctuation of the economic situation, the state of instability and the competition.
- 6) Organizational factor affects accounting information system's

effectiveness based on the degree of authorization and power used by general administration, the level and qualification of employees in the information system department and the presence of a description job guide with all the tasks and duties to be followed.

- 7) Behavioral factor affects accounting information system's effectiveness when users' needs are not satisfied.
- 8) Technological factors affect accounting information system's effectiveness by improving performance, increasing the ability to collect and store and process a large amount of data in a short time at a low cost, enhance the possibility of detecting and correcting errors and producing relevant and accurate information and send it to users in a timely manner.

In order to improve accounting information system's effectiveness and efficiency; This research cited some recommendations as follows:

- 1) The administration must provide support for all the characteristics of the accounting information system in the purpose of making the best use of it.
- 2) When implementing Accounting information system, compatibility with legislation and administrative policies is a necessity. This is to ensure that the system is efficient and effective in achieving its goals.
- 3) Encouraging the participation of employees in the planning and development of accounting information system to ensure its acceptance and implementation.
- 4) Employing people with academic qualifications and appropriate experience to ensure the best use of the accounting information system.

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