Transition From A Traditional Accounting Information System To A Digital Accounting Information System (ERP/SAP System)

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Abstract:

This paper aims to shed light on the role of transitioning from a traditional accounting information system to a digital information system within the ERP/SAP framework. Through a comparative study of the two systems, we arrive at several key findings. Most importantly, the SAP digital accounting information system provides real-time information that is highly relevant to decision-making processes, unlike traditional accounting information systems, which produce delayed information that may lose its reporting value.

The SAP system operates seamlessly across all branches in its accounting records and also delivers high-quality accounting information in accordance with internationally recognized standards such as IFRS and FASB

.**Keywords:** Accounting Information System ; Digital Transformation; Quality of Accounting Information .

Jel Classification Codes: M41; O33; L15**.**

1. INTRODUCTION

Today, the world is undergoing profound changes that are transforming management practices across economic institutions, driven by what is commonly referred to as the digital economy and digital transformation. These developments are reshaping various sectors, particularly accounting, including both general and financial accounting. For decades, accounting information systems have played a fundamental role in processing and analyzing financial information, from the initial occurrence and recording of transactions to their presentation in financial statements, thereby supporting decision-making within organizations. However, the growing volume of data and the increasing complexity of accounting operations, particularly in large organizations, have exposed certain limitations in traditional accounting systems. These challenges have created a growing need to adopt more advanced approaches, particularly digital accounting information systems, which offer more efficient and responsive ways of managing and processing accounting information.

In response to these transformations, organizations have increasingly turned to technological solutions to enhance the efficiency and effectiveness of their accounting information systems. Among the most widely adopted solutions are Enterprise Resource Planning (ERP) systems, which integrate various organizational functions and support strategic planning while enabling organizations to respond more effectively to changes in their operating environment. SAP is one of the leading ERP solutions used for this purpose.

In this context, large organizations have increasingly adopted SAP ERP systems to integrate and standardize resource management across different organizational units, thereby strengthening overall digital integration. This transition has brought significant changes to accounting practices and processes, making it essential to examine, analyze, and evaluate its impact on the accounting information system.

Against this background, the following research problem can be formulated:

To what extent has the application of the SAP system contributed to the transformation from a traditional accounting information system to a more efficient and reliable digital accounting system? To answer the problem of the study, the following hypothesis was formulated:

First hypothesis: There are fundamental differences between a traditional accounting information system and a digital information system in terms of accuracy, speed, and quality of the information obtained.

Second hypothesis: Implementing the SAP system contributes to improving the quality of financial statement outputs and enhancing their ability to support strategic decision-making .

Third hypothesis: The SAP system reduces accounting errors and raises the level of internal control compared to traditional accounting information systems.

Importance of the Topic:

The importance of this topic lies in its fundamental relevance within the current wave of digital transformation affecting all sectors, including the accounting sector. This research also presents a significant applied model: the SAP system. Its aim is to explore the organizational advantages and accounting methods offered by this system and to identify the benefits and limitations of its implementation.

Methodology:

The study employs a descriptive approach to present the theoretical framework, an analytical approach to analyze the various findings, and a comparative approach to compare the two systems. Furthermore, it draws upon available studies and reports on the experience of implementing the SAP system.

Study Structure:

This study is divided into three main sections:

- Section 1: Elements and characteristics of the traditional accounting information system.
- Section 2: Transition to a digital accounting information system.

- Section 3: The impact of adopting the SAP ERP system on the quality of accounting information provided and its accounting performance level.

2. Elements and Characteristics of a Traditional Accounting Information System:

Accounting is as old as history itself. No civilization has ever arisen without accounting as one of its fundamental pillars. In its modern scientific sense, accounting is considered a branch of the social sciences, and it shares many aspects with the applied sciences. It is defined as a system that aims to organize financial information, allowing for the storage of basic and numerical data through its classification, evaluation, and recording. It also aims to present financial statements, or tables, that accurately reflect the financial position, assets, and treasury status of the institution at the end of the fiscal year . (Benktaib Ali, 2020)

Accounting, throughout history, has often been manual, beginning with the recording of an organization's economic transactions in books called journals. The accountant records these transactions, and this journal serves as the initial entry, documenting all the organization's financial transactions in chronological order. These entries are then transferred to another book called the ledger, a collection of accounts essential for maintaining accounting records. The balance sheet is then used to present the organization's financial position at the end of the year. At the end of the accounting period, the accounts are reconciled, and financial statements are generated according to specific organizational procedures that meet management needs and comply with legal requirements (وداد بن زين، 2022)

An accounting information system is defined as a structure within an organization that uses financial and other resources to transform economic data into accounting information in order to meet the information needs of a variety of users (Tilahun, M, 2019)

The accounting information system is also an important part of the organization's management information system, which is responsible for collecting, compiling, processing, and transforming financial data into useful information for users inside or outside the organization. Its primary

function is to provide information and data to decision-makers (Atlaoui Z, 2023)

2.1 The Path of the Traditional Accounting Information System:

The traditional accounting information system consists of three basic elements: Inputs, which are the raw material processed in the form of primary data and information; processing, which involves various transformational operations within the information system's processing unit using a range of knowledge-based and technological methods and tools; and outputs, which are information used by various internal and external stakeholders in decision-making.

Information System Inputs (Data):

Data constitutes the system's inputs and, because it relates to the economic unit's operations and other events, it must be collected and entered into the system through subsequent processing operations. Documents and records depicting financial transactions between the economic unit and its surrounding environment form the input to the accounting system.

Processing: This represents the technical aspect of the system and comprises a set of accounting operations, logical comparisons, summarization, classification, and sorting performed on the input data to transform it into information presented to the end user.

Outputs (Information): Information is delivered to users in various forms such as reports, tables, lists, and charts. This information is called the output of the information system, as the main objective of any information system is to produce appropriate information for users (نقاز ن., . قورين ح 2019)

2.2 Characteristics of a Traditional Accounting Information System:

A traditional accounting information system is characterized by a set of features. Its value stems from the presence of these features, which determine its acceptance at both the organizational and individual levels, and whether it is worthy of use. These features reflect the desires of managers, administration, and various users. Organizations seek and strive to acquire these characteristics to distinguish their existing or proposed

accounting information systems. The most important characteristics of an accounting information system, in general, are as follows:

- The accounting information system's suitability to the organization's structure and nature, supporting the objectives it seeks to achieve.
- It applies accounting principles to its procedures, operations, and outputs.
- Ease of use and simplicity in terms of clarity and logic allow users to understand the system without difficulty. Furthermore, it should be readily available for use and access to information at any time.
- It achieves the principle of economy by keeping the costs of establishing, operating, and maintaining it within reasonable limits.
- The accounting information system balances accuracy in all its operations with rapid response to user requests, serving as the primary source of accounting information for decision-making.
- The system provides sufficient capacity for control procedures, ensuring the clarity of work processes and documentation. This includes data on the organization's economic events, as well as documents containing journals, ledgers, and other evidence for monitoring accounting practices and verifying their integrity.
- It includes distinctive technical features and advanced statistical and mathematical methods that enhance the quality of accounting information production and support its predictive value.
- It provides security in all its operations and guarantees the confidentiality of information, especially since computerized systems are exposed to a range of risks such as loss, destruction, and theft.

It achieves integration through coordination between the various system processes and components, and even with other subsystems, in order to establish interoperability and interconnection in a way that minimizes errors, conflicts, and redundancies (وداد بن زين, 2022)

- Despite all the above features, the transition to a digital accounting information system has become an essential imperative that must be embraced.

3. Transition to a digital accounting information system.

3.1 Reasons for Transitioning to a Digital Accounting System:

There are many reasons for transitioning to a digital accounting information system, the most prominent of which are: (بلول م, 2024)

-The emergence of modern digital technologies due to the development of the internet and the widespread use of social media, which has facilitated the emergence of financial technology;

-The growth of the big data market and its financial analytics systems, which was estimated at $70 billion in 2020 and is expected to reach $243 billion by 2027.

3.2 The Transition to a Digital Accounting Information System:

Digital transformation represents the massive development in information technology that the world has witnessed in recent years. This transformation has revolutionized all sectors, and the accounting sector, like all other sectors, has been significantly impacted. All accounting systems have been replaced by modern and advanced technologies.

Converting the traditional accounting system to a digital system has become essential and inevitable to reform it and make it more efficient, effective, transparent, and accountable, in order to enhance communication and access to information for stakeholders. (Belkacem B, 2025)

Digital transformation is defined as "the use of digital technologies and modern business models to bring about organizational change . (Wade. M, 2015)

It is also the process an organization applies to integrate digital technology across all areas of its business. A digital transformation program reshapes an organization's operational processes, enhancing efficiency and paving the way for faster adoption of new technologies in the future. Integrating advanced digital technologies such as machine learning into transformation projects helps organizations meet customer expectations and compete effectively in the market . (AWS , 2025)

3.3 Comparison between Traditional and Digital Accounting Information Systems :

Given that an information system is a set of records and tools designed to collect, process, store, and deliver an organization's financial data to its users, the two systems can be compared as follows:

Table 1: Comparison between Traditional and Digital Accounting Information Systems

Comparison Standard	**Traditional system**	**Digital System**
Recording	Manual or semi-automated	Automatic and Fast
Accounting Information Processing	Periodical	Continuous
Data Storage	Local databases Paper files	Cloud-Based
Accounting Information Access	Limited	Available anytime, anywhere
System Integration	Sectional isolation	Integration across all departments and interests
Accounting Reports	Periodical and without analysis	Immediate and Advanced Analytical
Security and Backup	Weak and prone to damage	Encrypted, Secure, and Protected

Source: Prepared by the researcher based on the information provided above.

4. Case Study of an SAP ERP System:

4.1 Enterprise Resource Planning System (ERP):

An Enterprise Resource Planning (ERP) system is a type of software used by companies to manage their day-to-day operations, such as accounting, procurement, project management, risk management and compliance, as well as supply chain operations. An integrated ERP package also includes Enterprise Performance Management (EPM) software, which helps with budgeting, forecasting, and reporting on the company's financial performance.

ERP systems connect many business processes and facilitate the flow

of data between them. By aggregating common transaction data from multiple sources, ERP systems eliminate data duplication and ensure data integrity through a single, reliable source. (ORACEL, 2026)

To simplify understanding an enterprise resource planning (ERP) system, researchers liken it to the human body. Just as the body needs sleep and digestion, a company needs a supply chain and sales. Although many processes operate independently, they are interconnected in their impact on the company as a whole. This means that when a problem occurs in one process, it is likely to affect the others (and this often happens). (SAP, 2026)

An Enterprise Resource Planning (ERP) system acts as the central nervous system of a company, helping to efficiently manage vital processes and systems by connecting them into an integrated system. Therefore, an ERP system is a modular product that can be tailored to a company's specific needs through configuration, which includes selecting business rules, processing options, and data formats. An ERP system is also characterized by its modular structure, meaning it consists of separate programs or modules, each corresponding to a specific business process and covering all company functions. Each function has a module specifically designed to meet its needs.

Although implementing an Enterprise Resource Planning (ERP) system requires significant financial investment, it also requires sufficient financial performance to justify project funding. However, accurately assessing the financial impact of ERP systems and determining the resulting benefits for a company is challenging. Furthermore, company financial statements do not reflect this. (Slimani R, Boukrif M, 2022)

4.2 SAP Systems:

SAP (Systems, Applications and Products), originally named Systems, Applications and Products, is a German company founded in 1972 by five engineers who had resigned from IBM. It is the world's largest provider of enterprise resource planning (ERP) systems, holding approximately 45% of the global market share (SAP, 2026) SAP has grown from a small company into a multinational corporation with over 105,000 employees worldwide, headquartered in Waldorf, Germany.

Its first software, SAP R/2 and SAP R/3, and now, with SAP S/4HANA, elevate enterprise resource planning (ERP) to a whole new level, leveraging the power of in-memory technology to process massive amounts of data and support advanced technologies such as artificial intelligence and machine learning.

SAP has established the global standard for ERP. The company's integrated applications connect all components of an enterprise in an intelligent package on a fully digital platform, replacing the traditional process-based platform. Today, SAP boasts more than 230 million cloud users, over 100 solutions covering all business functions, and a comprehensive portfolio of cloud offerings.

Christian Klein heads the group and the SAP SE Board of Management. At 44 years old, he is the youngest CEO of a major company listed on the German DAX index . (SAP, 2026)

4.3 Main Modules of an ERP/SAP System:

SAP modules manage various functional processes within a company and are classified into three main groups.

The most commonly used are : (FOCUSTRIBES, 2024)

- SAP Logistics Module
- SAP Finance Module
- SAP Human Resources Module.

Table 2. Main Modules of an ERP/SAP System

Job Description	System Name	Unit
General Accounting, Customer Accounting, Supplier Accounting, Fixed Assets Accounting, Treasury Management, Banking Accounting, Budgeting, Accounting Closing Cost Control,	Financial Management System	SAP FI
Statistical Analysis, Analytical Accounting, Information Systems. Analytical calculator, information system	Management Accounting System	SAP CO
Procurement, inventory, supply chain management	Purchasing management system	SAP MM
Project structuring, integration with Microsoft Office and Excel.	Sales and distribution management system	SAP SD
Production planning, energy planning, manufacturing control, technical data management.	Production planning system	SAP PP
Inventory management, inventory movement, purchase tracking and location, shipment management, integration of purchasing, sales and distribution management.	Inventory management	SAP WM

Source: Prepared by the researcher based on the SAP system manual.

4. 4 Advantages of implementing SAP on an accounting information system:

The selection of SAP modules depends on business needs, company size, and the maturity level of its information system. Not all SAP modules

are necessary for every organization; they are typically chosen based on the processes to be digitized and the company's digital transformation goals. Several criteria help determine the appropriate SAP modules for implementation.

One of the most significant advantages of the SAP system is the seamless integration between its various functional units. For example, when a purchase is made, the system automatically records the accounting entries in the SAP FI module, updates the inventory in the SAP WM module, and allocates the cost in the SAP CO module, all simultaneously and without any additional manual intervention. This integration eliminates the problem of duplicate data entry and ensures complete data consistency across the entire organization, making it easily accessible to all users.

4.5The impact of adopting an SAP ERP system on the quality of accounting information and its performance:

SAP (systems, applications, and products for data processing) provides a unified platform that enables companies to automate and improve their accounting processes, leading to increased accuracy, efficiency, and financial transparency.

The SAP accounting information system provides financial integration, giving companies complete control over their accounting operations. (SEIDOR, 2024)

The impact of adopting the SAP system on the quality of accounting information, according to internationally recognized standards IFRS and FASB, is evident in the following aspects:

-SAP provides relevance: It delivers timely and highly relevant information for decision-making processes, unlike traditional accounting systems that produce delayed information that may lose its reporting value.

-Complete integration of financial operations: The SAP system operates seamlessly across all branches in its accounting records.

-Reliability: The production of reliable information and the integrated verification in SAP ensure complete automation, free from human error.

-Greater accuracy in accounting records: SAP enables high accuracy in collecting, storing, and classifying accounting information.

-Comparability: SAP allows for the comparison of financial performance across different periods and units thanks to the standardization of charts of accounts and reports.
-Improved quality and efficiency of accounting and financial processes. -
-Timely delivery: The SAP system provides timely financial reports, enabling management to respond immediately to financial developments.
-Access to the financial situation immediately.
-Implementing the SAP system contributes to improving the quality of financial statement outputs.
-Facilitating strategic decision-making: The SAP system contributes to facilitating the strategic decision-making process. -Increasing accounting performance: The SAP system raises the level of accounting performance within the company.
-Simplifying regulatory compliance: The SAP system makes the process of complying with laws, regulations, and systems easier, clearer, and less complex.
-The SAP system reduces accounting errors and enhances internal control. -Scalability to keep pace with business growth: The SAP system increases the organization's ability to expand and grow, and increase profits without a significant increase in costs.

4.6 Challenges of implementing an ERP/SAP system:

-The difficulty of implementing a digital system given the large size of the inherited information infrastructure.
- The complexities of managing legacy data.
- The high cost of implementing a digital ERP/SAP system compared to a traditional system .
- The costly workforce training required before and after implementing an ERP/SAP system.

CONCLUSION

In light of the rapid digital advancements the world is witnessing, it has become imperative for all institutions to keep pace with these developments by updating their internal information systems. The most important of these systems is the accounting information system. Within this framework, this study aimed to highlight the role of transitioning from a traditional accounting information system to a digital accounting information system by comparing the two systems and focusing on the ERP/SAP system.

A number of key findings were reached, including:

-Adopting a digital accounting information system contributes to improving the accuracy and quality of accounting information and enhances the system's efficiency in supporting decision-making within the organization. The results also demonstrated a positive correlation between digitization and the development of accounting performance, while acknowledging some challenges that require addressing to ensure the effectiveness of the digital transformation. -The shift from a traditional accounting information system to a digital accounting information system based on ERP/SAP represents a significant leap forward that impacts the quality of accounting information.

-Implementing an ERP/SAP system contributes to improving the quality, reliability, and relevance of accounting information to the digital transformation occurring in all global economies.

-The ERP/SAP system addresses the weaknesses in integration and fragmentation of accounting information compared to traditional methods. -Implementing ERP/SAP increases the level of accounting performance in companies.

-It facilitates strategic decision-making due to the integration and development of its functions. The SAP ERP system enhances an organization's ability to grow and increase profits without significant increases in costs and expansion.

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