THE NECESSITY OF APPLYING IT TO THE DESIGN AND OPERATION OF ACCOUNTING INFORMATION SYSTEMS IN ENTERPRISES

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ABSTRACT

In the context of an increasingly developed economy and fierce competition, the application of Information Technology (IT) in business activities has become an indispensable factor. In particular, for Accounting Information Systems (AIS), the use of IT not only helps improve work efficiency but also creates a solid foundation for the sustainable development of businesses. This article will explore the necessity of applying IT in the design and operation of AIS in businesses. However, businesses need to be fully aware of the challenges in the implementation process to take appropriate measures to optimize the benefits that IT brings. With the continuous development of technology, applying IT to AIS will help businesses not only maintain financial stability but also enhance their competitive capacity in the market.

KEYWORDS: Information Technology, design, operation, Accounting Information System.

1. Introduction to information technology (IT) and accounting information systems (AIS)
1.1. Information Technology (IT)

Information technology (IT) is a branch of engineering. using computer systems, software, networks and electronic devices to collect, process, store, secure and transmit information. IT includes many sub-fields such as hardware, software, computer networks, information security, databases, artificial intelligence, and technologies related to data processing and analysis. IT appears around us, which can be understood as computers used to access the internet, work with office software such as Microsoft Office, and store information; computer networks: Network systems such as Wi-Fi, help connect devices together and share information; Internet; Big Data ... IT is one of the fields with the most positive changes in recent years. IT has increasingly affirmed its leading position, meeting the transformation needs of all other industries in difficult times.

Accounting is an important pillar of every business, helping to track finances, analyze performance

and ensure compliance with regulations. However, with the continuous development of IT, the accounting field has revolutionized the way accounting tasks are performed and managed. IT plays an important role in automating and optimizing accounting processes, helping to save time, minimize errors and increase work efficiency. Application of IT in accounting:

- *Accounting software:*
Helps automate bookkeeping, financial reporting, and book reconciliation processes.

- *Accounting Information System (AIS):* Accounting Information System (AIS) uses IT to collect, process, store and transmit financial and accounting information in the enterprise. Accounting software such as MISA, Sage, QuickBooks has helped millions of businesses save time and money.

- *Enterprise resource planning (ERP) systems:* ERP systems such as SAP, Oracle, and Microsoft Dynamics are used to integrate all functional areas of a business such as finance, manufacturing, sales, human resources, and supply chain management.

- *Cloud Computing:* Cloud computing helps businesses store and process data without having to invest in hardware infrastructure. Cloud services such as Amazon Web Services (AWS), Microsoft Azure, and Google Cloud help businesses reduce operating costs and easily scale operations without facing infrastructure barriers. Cloud accounting systems like QuickBooks Online, Xero, FreshBooks not only help reduce infrastructure investment costs but also ensure high flexibility and security.

- *Artificial Intelligence (AI) and Machine Learning:* Artificial Intelligence (AI) and Machine Learning can be used to analyze big data, predict trends, and optimize management decisions. Companies are using AI to analyze markets, identify customer behavior, and forecast product demand. For example, IBM Watson and Google AI have helped businesses use data to improve customer service and manage business strategies.

- *Manage invoices and payments online:* Tools like PayPal, Stripe, and other e-payment services help accountants manage payments and invoices online, reducing processing time and minimizing errors.

- *Robotic Process Automation (RPA):* Software-based process automation (RPA) technology helps accountants automate repetitive tasks such as data entry, invoice reconciliation, and transaction processing.

1.2. *Overview of Accounting Information System (AIS)*

According to Rommey and Steinbart (2017), AIS is defined as a basic information system of an organization consisting of 6 components, including: (1) System users; (2) Procedures and instructions for collecting, processing, and storing data; (3) Organizational data and business operations of the unit; (4) Software; (5) Infrastructure; and (6) IT. Thus, the Accounting Information System (AIS) is a system that collects, processes, synthesizes, and stores data to provide useful information related to accounting and finance, serving decision making.

The functions of AIS are: (1) Collecting and processing data on business activities of the enterprise; (2) Providing financial information to external parties of the enterprise; information for planning; information for controlling plan implementation; information for daily operations; (3) Control: compliance with business operation procedures; protection of assets, information materials; ensuring processing activities and information quality.

AIS can integrate key business and production processes within the unit, thereby combining resources within the enterprise, contributing to increasing production and business efficiency. A scientific AIS system helps people to implement regulations and processes conveniently, work is done quickly, avoiding troubles, complications, and overlaps in the process, thereby creating favorable conditions for human resource management, increasing employee satisfaction and increasing labor productivity. AIS provides instant accounting reports, helping administrators build a revenue, cost, profit management system and control system in the enterprise as well as other users.

In addition, when a business is in trouble, the data in AIS can be used to discover the causes of existing problems, thereby providing directions and decisions in business management.

2. The relationship between AIS and IT

Accounting information systems (AIS) and information technology (IT) have a close relationship, complementing each other in business management and operation activities. Specifically, this relationship can be understood through the following aspects:

- *IT is the foundation that supports AIS:* IT provides hardware infrastructure such as computers, servers, and network systems to operate AIS. To support accounting work, IT provides accounting software such as SAP, Oracle, MISA or QuickBooks... to help automate the process of collecting, processing, storing, and reporting accounting information. In addition, IT supports the storage of large volumes of accounting data and ensures fast and accurate access.

- *AIS is a specific application of IT:* AIS is designed based on IT platforms to meet the needs of financial management, accounting, and decision making. AIS takes advantage of advances in IT, such as artificial intelligence, big data analytics, and cloud computing, to improve efficiency and accuracy.

- *Two-way interaction:* IT supports AIS to increase processing speed, reduce manual errors, improve data analysis capabilities, but at the same time AIS guides the development of IT such as: AIS requirements for security, storage, and data processing promote the development of specialized IT solutions.

- *Security and control:* IT ensures security, data backup and risk prevention in AIS. In turn, AIS provides internal control functions, helping to prevent fraud and errors, and comply with legal requirements.

- *Development trends:* ERP (Enterprise Resource Planning) systems that integrate accounting with

other departments in the enterprise, such as inventory management, human resources, and production, are increasingly developed to suit the complexity of economic transactions. In addition, the trend of applying artificial intelligence in predicting and analyzing accounting data has been and will be widely applied. To increase accessibility and flexibility in AIS operations, the trend of cloud computing is indispensable. Thus, IT is an indispensable tool for effective AIS implementation, while AIS contributes to orienting the development of IT solutions serving businesses.

3. Benefits of applying IT to AIS design and operation

Applying Information Technology (IT) to the design and operation of Accounting Information Systems (AIS) in enterprises is an extremely important and necessary factor in the context of the modern economy.

- *Accounting process automation:* IT applications have created automation for many accounting processes, helping to save time and optimize work performance.

- *Save time and costs:* Applying IT helps reduce manual workload, saving on personnel costs. At the same time, automation also helps businesses save time in updating, reporting and analyzing data.

- *Enhanced security and transparency:* AIS systems use high security technologies, helping to protect the accounting and financial information of businesses from the risks of attacks and forgery. Furthermore, data in the AIS system can be monitored and checked transparently.

- *Support compliance with legal regulations:* IT helps businesses maintain AIS systems that are always updated and comply with the latest legal regulations on accounting, finance and tax, in accordance with legal requirements without too much human intervention.

- *Increased flexibility and scalability:* Businesses can deploy accounting software for many branches and member units without encountering many problems with uniformity and operational efficiency.

- *Improved access, delivery and sharing of information:* This supports fast and accurate decision making, while improving collaboration between departments within the business.

- *Enhance management and decision-making efficiency:* Applying IT to AIS helps create reliable data to support strategic decisions, financial management and optimization of business resources.

- *Applying new technology:* Technologies such as artificial intelligence (AI), machine learning, and big data can be integrated into AIS systems to improve the accuracy of financial forecasting, cost analysis, and fraud detection. These technologies help businesses optimize processes and achieve greater efficiency in accounting operations.

- *Support businesses to expand and integrate internationally:* IT helps businesses easily manage accounting information in different branches, supporting businesses to integrate into the global market.

The application of IT in the design and operation of accounting information systems (AIS) brings many outstanding benefits, not only helping businesses improve work efficiency, improve

management capabilities, security and legal compliance, but also enhancing competitiveness and meeting the requirements of the digital age. With the support of technology, businesses can improve work performance, secure information, be flexible in adjusting strategies and enhance transparency in financial management, thereby enhancing their competitive position and adapting quickly to the development trend of the digital economy. To improve business efficiency and control business information well, it is necessary to build an AIS suitable for the current conditions of scientific and technological development.

4. Necessary factors when applying IT to accounting information systems

When applying IT to the accounting information system, it is necessary to ensure the following factors for the system to operate effectively and provide optimal support for the business:

- *Implementation strategy:* The strategy for implementing IT into AIS needs to be designed to align with the organization's long-term goals, while ensuring factors such as efficiency, security and compliance with legal regulations. The basic elements in the implementation strategy include: Detailed implementation planning, ensuring compliance with legal regulations and accounting standards, n reasonable budget sufficient to meet hardware, software, and personnel training requirements, regularly evaluate the effectiveness of IT use in AIS and improve according to actual needs.

- *Human factor:* Accounting staff need to be trained in basic IT knowledge and skills in using accounting software, have the ability to adapt to new technology and be willing to learn. Managers need to understand the role of IT in AIS to monitor and support implementation. In addition, IT experts are an indispensable part of developing, maintaining and providing technical support to help the system operate stably. Thereby optimizing workflows, minimizing errors and increasing work efficiency.

- *Accounting software system:* Accounting software needs to be selected to suit the job requirements, and must be able to integrate with other systems in the business, such as sales, warehouse, and human resources systems, to ensure data is synchronized and accurate. At the same time, it must meet accounting standards, industry specifics, and financial reporting needs ; and must be able to integrate with other management systems (ERP, CRM).

- *Technology infrastructure:* This is a key factor. This includes ensuring that hardware such as computers, servers and storage devices are capable of meeting the processing and storage requirements of the system. In addition, a stable network system is also needed to ensure the continuity of AIS, especially for cloud-based systems, as well as building a secure, consistent and scalable database.

- *Data and information management: This* is an indispensable factor. Accounting data must be accurate, complete and strictly secured to avoid loss or unauthorized access. Security measures, such as data encryption and access control, must be implemented to protect the system. The system must also be able to analyze and retrieve data quickly, supporting accurate financial reporting when

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necessary. Therefore, a clear internal control process is needed.

- Compliance with laws and accounting standards: The system also needs to support standard financial reporting and meet compliance requirements with legal regulations, such as Vietnamese Accounting Standards (VAS) , international accounting standards (IFRS, GAAP) and state tax regulations. This ensures that businesses will always comply with the law and provide transparent financial information.

Harmoniously combining the above factors will help businesses successfully deploy IT into AIS, optimize operational efficiency and enhance competitiveness.

5. Challenges in applying IT to AIS.

Applying IT to AIS brings many benefits, but it also comes with its fair share of challenges. Here are some of the key challenges when applying IT to AIS:

- *High initial investment cost:* Implementing IT into AIS requires significant investment in infrastructure, software and equipment. Purchasing accounting software, setting up computer systems, networks and security can be costly, especially for small and medium-sized businesses. In addition, the costs of maintenance, software updates and staff training are also factors to consider.

- *Staff training:* Implementing new technology requires training of accounting staff and related departments to use new software and IT tools proficiently. This can be a major challenge, especially for businesses with staff that are not familiar with technology. Ongoing training and technical support throughout the implementation process are important, but also require costs and time.

- *Compatibility between systems:* AIS needs to integrate with other systems in the enterprise such as warehouse management, sales, manufacturing, human resources, etc. Integration between software and systems can encounter technical difficulties, especially when the systems use different technologies or are not compatible with each other. Unsuccessful integration can lead to data corruption, reporting errors, and reduced operational efficiency.

- *Information security:* One of the biggest challenges when implementing IT into accounting information systems is data security. Financial information is sensitive and valuable, so businesses must ensure that IT systems protect data from threats such as hackers, viruses, and access abuse. Data security requires implementing safeguards such as encryption, access control, regular backups, and continuous network security monitoring.

- *Technical risks:* IT systems may encounter technical problems, such as software or hardware failures, or power outages, which affect the operation and processing of accounting data. This requires effective data backup and recovery measures.

- *Difficulty in maintaining and upgrading the system:* Once deployed, maintaining and upgrading the system to ensure it continues to operate efficiently and meet changing business requirements is a challenge. This requires resources and technical expertise.

- *Legal and regulatory compliance issues:* Accounting systems need to comply with national

regulations and accounting standards. Maintaining compliance in a rapidly changing technological environment can be difficult, especially when regulations change.

- *Resistance from users:* Moving from a traditional accounting system to an IT accounting system requires changes in processes and culture within the organization. Employees may feel uncomfortable with this change, causing resistance and difficulty in the transition process.

- *The IT change and development:* IT changes rapidly, and AISs need to be constantly updated to meet new needs. This poses a challenge in maintaining and upgrading systems to avoid becoming outdated or incompatible with new standards and regulations. Businesses need to have a long-term plan to keep their systems up to date and avoid the risks associated with outdated technology.

6. CONCLUSION

Accounting information systems in the context of IT application in enterprises, as well as the application of IT in accounting, have and will make strong changes in the field of financial accounting. The quality of AIS information when applying technology will become faster, the data will be more complete, timely and accurate, to help managers make timely management decisions, the integrated information is diverse and extensive including financial and non-financial information. Currently, based on the application of smart sensors, communication devices and integrated management solutions, enterprises can digitize the entire operation process from production, business to management.

The industrial revolution creates smarter technology solutions with stronger processing power. It helps managers anywhere, anytime have full information from grasping the overall picture of the business to querying the smallest transactions, instead of having to ask many people or look up from many sources, helping to improve labor productivity and efficiency of work processes.

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