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Accounting information systems (AIS) and their effect on strategic decision-making

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Abstract. Accounting information systems have a major role in assisting the administration about making various decisions, as well as in drawing up the strategic plans of the bank. Therefore, the research focused on measuring the impact of accounting information systems on making strategic decisions for a group of banks. At the required level, or are there obstacles that led to poor use of information systems in general, The SPSS v.25 programme and the Excel programme were used on a sample of 38 branch and department managers in a sample of Iraqi banks, and the results showed that accounting information systems contributed to the strategic decision-making of the bank. The research sample and the two researchers recommend that AIS be updated in line with the expansion of the bank's activities in providing financial services to ensure the effectiveness of the system and its role in correcting the strategic decision.

Keywords. Accounting Information Systems, Strategic Decisions, Bank Administration

1. Introduction

Iraqi banks use accounting information systems represented in a computer system connected online between branches and their departments, as the system is used to record all financial transactions. The problem of the study was to answer the following questions: Do the accounting information systems used provide information of predictive value to the strategic decision-making process? Do accounting information systems honestly reflect the reality of the operations and activities carried out by banks? The importance of the study stems from the importance of accounting information systems because of their great role in collecting and processing accounting information in order to assist the administration in the process of making various decisions, as well as their role in drawing up the strategic plans of the bank, so the research focused on measuring the impact of accounting information systems in making strategic decisions. To the bank and to know whether the response in the application of AIS is at the required level or whether there are obstacles that led to poor use of information systems in general.

The research is based on the main hypothesis that there is a significant impact of accounting information systems in the strategic decision-making process. The research sample was limited to a group of Iraqi banks represented by (Al-Taif Islamic Bank, the National Bank of Iraq, and Ashur International Bank ). In order to analyses the responses of the sample members and to test and measure the research hypothesis, the program SPSS V25 was used.
The study aims to achieve a number of goals that can be summarized in the following points:

A- Identifying the modern perspective of accounting information systems
B- To identify the extent to which the research sample banks benefit from the application of AIS accounting information systems.
C- Statement of the impact of accounting information systems on strategic decision-making
D- Reaching appropriate conclusions and recommendations.

2. Literature review


Accounting information systems are defined as a component of the organization that provides decision-making information to users and stakeholders, by addressing financial events, providing warning information and other information. Accounting information systems are a logical intersection between two broader issues of accounting and information systems. It is a sharing process for everything related to information. Accounting tends to provide information while AIS generates new information. This can be illustrated by Figure (1). (Manteghi & Jahromi, 2012)

Figure 1: The relationship between accounting and management information systems and accounting information systems

Generally speaking, accounting information systems (AIS) are defined as a computer-based method for tracking accounting activities in cooperation with information technology resources responsible for collecting, storing and processing financial and accounting data that are used to make administrative decisions, including non-financial transactions that directly affect processing. Financial transactions. (Belfo & Trigo, 2013). Taking into account the costs and benefits of information, which is very important for managers in order to be able to measure the usefulness of accounting information. The benefits of information should outweigh its costs (Ponisciakova et al., 2015). The development of the accounting system leads to an increase in the confidence of investors and credit institutions, because the system provides protection for the accounting information obtained from AIS, which is collected, processed and stored, and the use of modern communication and information technology to deliver it to the beneficiaries
Information technology has greatly affected accounting by increasing the ability of companies to develop and use computerized systems to track and record financial transactions by translating all paper records, manual spreadsheets and financial data and converting them into computerized systems designed for specific industries or companies, which allowed these companies to prepare financial reports quickly and easily to making management decisions (AL Abdullah et al., 2023).

2.1. Advantages of accounting information system

There are a set of advantages of accounting information systems, which can be summarized as follows: (Ghasemi et al., 2011)

A- Increased Functionality:
Accounting information systems have improved the functionality of accounting departments by improving the timing of obtaining financial information, as accountants can prepare reports and conduct analyses that give an accurate picture of current operations management, cash flow data, profit and loss management, and market share reports faster and more easily.

B- Improved Accuracy:
Most accounting information systems have internal checks and balances to ensure that all transactions and accounts are properly balanced before financial statements can be prepared. For example, computerized systems do not allow journal entries to be out of balance, and reducing the number of accountants allowed to access financial information to ensure that only qualified supervisors make adjustments also contributes to improving the accuracy of the information.

C- Faster processing:
Accounting information systems allow accountants to quickly process large amounts of financial data through the accounting system. Also, shortening this time helps the company's management to control the cost, which increases the overall efficiency of the company. As well as reducing expenses due to the length of time spent in the traditional manual system.

D- Better External Reporting:
The accuracy and speed of reports issued to external investors and stakeholders allows them to determine whether the company is a good investment for growth opportunities and has the potential to be a company of high value or not.

2.1.2. Importance of accounting information systems

The importance of accounting information systems (AIS) is indisputable, as many recent research works on (AIS) that were presented at the Italian Annual Conference on Accounting Information Systems in 2012 in Rome revealed the importance of (AIS), as the research included design, acceptance, reliability, added value, decision making, inter-organizational linkages, and process improvements. Therefore, (AIS) is often described as the default tool for accounting automation, due to its ability to mix interrelated elements such as data, information, human resources, information technology (IT) tools, accounting models, and procedures, in a way that facilitates the achievement of the goal of accounting, which mainly involves collecting, classifying, recording, and storing data, accounting. Thus, it is undeniable that AIS is a powerful strategic tool to support decision-making (Amran et al., 2014).

As managers need information accurately and quickly, and this is what (AIS) provides, and there are a group of factors that can affect accounting information systems as follows: (Ramli & Iskandar, 2014):
A- Business intelligence  
b- Decision support  
C- The accounting manager's ability to support and commit to senior management  
d- Environmental and political instability  
e- Business strategy  
f- Organizational culture and organization structure  

These challenges that accounting information systems face can be partially addressed through some technological answers, such as managing business processes and monitoring commercial activity, using mobile devices, for example, to receive instant notifications, and cloud computing that provides access to stakeholders at any time or any time (Prabu et al., 2021). A place for accounting reports, and business intelligence that defines a better view of data representation and goal achievement. (Trigo et al., 2014). There is a series of recent studies that highlight the role of cloud technologies in financial and accounting operations within companies. There are also studies on the possibility of practicing "cloud taxation" and "cloud finance and accounting" (Brandas et al., 2015). On the other hand, this advanced technology has also generated great risks related to ensuring the security and safety of accounting information systems (AIS), because the technological development in many cases was faster than the development in control practices, and did not match with the similar development in the knowledge, awareness and skills of employees, Organizations must be aware of potential security threats to which AIS may be exposed and implement relevant security controls to prevent, detect and correct those security breaches (Abu-Musa, 2006).

2.2. Strategic Decision Making (SDM).

Strategic decisions are a necessity for the survival of companies, as they are defined as "deliberate choices or programmed responses on issues that fundamentally affect the survival prospects and the nature and well-being of the organization" (Ürü et al., 2011) and it is clear from the definition that the important and main point in the process Decision making is that the decisions are accurate and appropriate, and in order for the decisions to be appropriate and more accurate, problems must be identified, then the necessary information must be collected, then the alternatives should be identified and evaluated, and finally the best decision should be chosen. (Daştan et al., 2011) as for the strategic decision-making process, it includes the ability of the organization to align threats and opportunities within the framework of its mission, vision, and nervous system, which is the cornerstone and the main catalyst for strategic planning, and choosing the most appropriate alternative among the alternatives, as at this point a determination is made. The efficiency of the company's strategic decisions and their suitability with its organizational mission, and this is called rationality in decision-making (Çetin & Pekince, 2011) as managers must make rational decisions represented in the extent that the decision-making process reflects to take the best possible decision, and in line with Possible conditions (Musso & Francioni, 2012).

Strategic decisions are characterized by the following characteristics: (Gudonavičius & Fayomi, 2014):

1. Include strategic positions
2. To have great interests
3. It includes the largest number of jobs in the company
4. It can be considered representative of the process through which major decisions
are taken in the company.

2.2.1. The decision making process phases

The decision-making process is only a logical sequence of activities, because before the alternatives are identified, the problem must be identified. The following paragraphs explain in detail each stage of decision-making: (Lunenburg, 2010).

A- Identifying the problem: The effective decision-making process is fully aware of the importance of properly defining the problem and understanding the situation, and the process of identifying problems requires monitoring the internal and external environment regarding issues that deserve attention. Managers must scan the world around them to determine if the organization is performing satisfactorily to achieve its goals.

B- Generating alternatives: The second step in the decision-making process is generating alternatives for this problem. That is, developing alternative solutions, and the administration must first define the goals it hopes to achieve, and then propose alternatives that can contribute to solving the problem and work on developing alternatives.

C- Evaluating alternatives: This includes evaluating each proposed alternative from the second step. When evaluating alternatives, the administration must evaluate which alternative is better or is it satisfactory, and what are the implications of its implementation.

D- Choosing an alternative: After evaluating the alternatives, the administration seeks to choose the best alternative that is compatible with its capabilities and the nature of the problem or opportunity facing the organization.

E- Implementing the Decision: After choosing the best alternative, the administration faces a challenge, which is the implementation of the decision, as the decision may fail if the method of implementation is weak. Therefore, the implementation process must include qualified and experienced personnel to reach the desired goals.

F- Evaluating decision effectiveness: The final step in the decision-making process. When a decision does not achieve the desired results, this is due to several reasons: either incorrect definition of the problem, poor evaluation of alternatives, or improper implementation of the decision. Among these possible causes, the most common and dangerous error is an inadequate definition of the problem. Figure (2) shows the stages of decision making.
2.2.2. Strategic Decision Making Process Dimensions

There are a set of dimensions included in the strategic decision-making process, the most important of which are my agencies: (Ürüt et al., 2011)

A- Rationality: The degree of rationality occupied a central role in the SDM literature. Rationality is a concept that has its roots in classical economic theory. According to the rational decision-making model, goals are set beforehand and all possible ramifications of the decision made are evaluated. However, research shows that small companies tend to be less rational in their decision-making processes. This is because entrepreneurs face a more hostile and uncertain environment and therefore do not have access to extensive sources of information.

B- Formalization: It relates to the extent of organizational policies, rules, drawings, and charts, and their degree of formal clarity in SDM operations. The relationship between formalization and individual characteristics and organizational outcomes has been the subject of debate among researchers to date (Prabu et al., 2021).

C- Hierarchical Centralization: It is one of the most widely used dimensions in SDM practical studies. It stresses the role of participation in the decision-making process, and indicates that the concentration of decision-making power in the decision-making process has benefits and drawbacks. As for the benefits, centralization may increase the speed of decision-making, because few people make the decision, which reduces the chances of conflict, however, centralization may negatively affect the organizational process and specifically, it may reduce the rationality in decision-making because the small number of people reduces the possibility of collecting and exchanging knowledge information, and thus a decrease in the possibility of reaching innovative ideas to solve the problem (Al-Raamadan & Hasan, 2022).
3. Methodology

3.1. Study Sample and Data

This paragraph aims to describe and diagnose the opinions of the research sample regarding each of the two variables (accounting information systems and strategic decisions), and for this purpose, the five-point (Likert) scale was used, whose average measurement tool in this research reached a hypothetical mean (3), and After conducting the statistical analysis, the weighted arithmetic mean, standard deviations, coefficients of variation, variance, and intensity of the answer were reached. The research sample was limited to a group of Iraqi banks represented by (Al-Taif Islamic Bank, the National Bank of Iraq, and Ashur International Bank). The Time limit was represented by the period of data collection related to the practical side of the study in the surveyed banks, which extended from (12/25/2022) to (1/5/2023). For human limits, it was included the directors of departments and branches, as 40 questionnaires were distributed, of which only 38 were retrieved.

3.1. Accounting Information Systems (AIS)

Table (1) shows that the accounting information systems variable achieved a weighted total arithmetic mean of (4.09) with a standard deviation of (0.97), and the coefficient of variation was (0.24) and the variance was (0.95), which means that there is agreement among the sample regarding their opinion about the variable accounting information systems with support that the intensity of the answer was (81.8%). Paragraph (4) achieved the largest weighted arithmetic mean, as it reached (4.63) with a standard deviation of (0.49), and the coefficient of variation was (0.11) and the variance was (0.24), which means that the accounting information systems honestly reflect the reality of the company’s operations with the support that the intensity of the answer amounted to (92.6%). Paragraph (5) came second, as the weighted arithmetic mean was (4.42) with a standard deviation of (0.64), and the coefficient of variation was (0.15) and the variance was (0.41), which means that the accounting information received from the system is neutral and serves all system users. With the support that the intensity of the answer amounted to (88.4%).

Table.1: Description and diagnosis of the variable accounting information systems (AIS)

<table>
<thead>
<tr>
<th>Questions</th>
<th>Variance</th>
<th>difference standard deviation</th>
<th>The intensity of the answer</th>
<th>middle of my account</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting information systems provide information with predictive value</td>
<td>0.81</td>
<td>0.23</td>
<td>90.0%</td>
<td>4.00</td>
<td>Accounting information systems provide information on how well the user has validated his expectations</td>
</tr>
<tr>
<td>1</td>
<td>1.38</td>
<td>0.33</td>
<td>72.1%</td>
<td>3.61</td>
<td>2</td>
</tr>
</tbody>
</table>

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Paragraph (1) achieved a weighted arithmetic mean, reaching (4), with a standard deviation of (0.90), and the coefficient of variation was (0.23), and the variance was (0.81), which means that accounting information systems provide information of predictive value with the support that the intensity of the response amounted to (80%). Paragraph (3) came fourth, as the weighted arithmetic mean was (3.79) with a standard deviation of (1.12), and the coefficient of variation was (0.30) and the variance was (1.25), which means that accounting information systems provide the appropriate time to obtain accounting information with the support that the intensity of the answer reached (75.8%), and Paragraph 2) ranked last, as the weighted arithmetic mean was (3.61) with a standard deviation of (1.17), and the coefficient of variation was (0.33) and the variance was (1.38), which means that accounting information systems provide information on the extent of The success of the user in verifying the validity of his expectations supported by the intensity of the answer amounted to (72.1%).

3.2. Strategic decisions

It is clear from the results of Table (2) that the variable of strategic decisions achieved a total weighted arithmetic mean of (4.19) and a standard deviation of (0.95). The strategic decisions variable supported by the intensity of the answer amounted to (83.9%).

Table 2: Description and diagnosis of variable strategic decisions

<table>
<thead>
<tr>
<th>Variance</th>
<th>difference</th>
<th>standard deviation</th>
<th>The intensity of the answer</th>
<th>middle of my account</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.23</td>
<td>0.10</td>
<td>0.48</td>
<td>93.2%</td>
<td>4.66</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Banks manipulate the prices of services according to the information provided by the accounting information systems</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>---</td>
<td>---</td>
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<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>0.87</td>
<td>0.22</td>
<td>0.93</td>
<td>84.2%</td>
<td>4.21</td>
<td></td>
</tr>
<tr>
<td>0.36</td>
<td>0.13</td>
<td>0.60</td>
<td>90.5%</td>
<td>4.53</td>
<td></td>
</tr>
<tr>
<td>1.77</td>
<td>0.36</td>
<td>1.33</td>
<td>74.7%</td>
<td>3.74</td>
<td></td>
</tr>
<tr>
<td>0.73</td>
<td>0.22</td>
<td>0.86</td>
<td>76.8%</td>
<td>3.84</td>
<td></td>
</tr>
<tr>
<td>0.91</td>
<td>0.23</td>
<td>0.95</td>
<td>83.9%</td>
<td>4.19</td>
<td></td>
</tr>
</tbody>
</table>

Paragraph (1) had achieved the largest weighted arithmetic mean, as it reached (4.66), with a standard deviation of (0.48), and the coefficient of variation was (0.10), and the variance was (0.23), which means that according to the information provided by the accounting information systems with support, the intensity of the answer amounted to (93.2%), while paragraph (3) came second, as the weighted arithmetic mean was (4.53) with a standard deviation of (0.60), and the coefficient of variation was (0.13) and the variance was (0.36), which means that the administration is working on studying the possibility of adding new types to its basket of products With support, the intensity of the answer amounted to (90.5%), while paragraph (2) achieved a weighted arithmetic mean of (4.21) and a standard deviation of (0.93). Pricing current products with the support that the intensity of the response amounted to (84.2%).

And Paragraph (5) was solved fourthly, with a weighted arithmetic mean (3.84) and a standard deviation (0.86), and the coefficient of variation was (0.22) and the variance was (0.73), which means that the management collects the necessary information before starting the process of making strategic decisions with the support that the intensity of the answer reached (76.8%). As for paragraph (4), the weighted arithmetic mean was (3.74) with a standard deviation of (1.33), and the coefficient of variation was (0.36) and the variance was (1.77), which means that the company’s management has the ability to identify problems through the interpretation of the information it provides. With the support that the intensity of the answer amounted to (74.75%)

**4. Results and Discussion**

This paragraph aims to test the main hypothesis of the research, which is (there is a significant impact relationship of accounting information systems in the strategic decision-making process). In order to verify the validity of this hypothesis, simple linear regression was used in order to determine the relationship between the two variables. To find that:
Null hypothesis (H0): There is no significant effect of accounting information systems on the strategic decision-making process.

Existence hypothesis (H1): There is a significant impact relationship of accounting information systems in the strategic decision-making process.

Through Table (3), which shows the parameters of the regression model used to measure the impact of the accounting information systems variable (X) on the strategic decisions (Y) according to the simple regression analysis, and therefore the interpretation of the relationship will be as follows:

A- The calculated (F) value measures the significance of the simple regression model as it amounted to (119.488), which is greater than its tabular value of (2.16) at a significant level of 5%, which means that there is a significant effect relationship between the two research variables.

Table 3: The influence relationship of accounting information systems in making strategic decisions

<table>
<thead>
<tr>
<th>STANDART COEFFICIENT</th>
<th>INTERPRETATION FACTOR</th>
<th>VALUE (F)</th>
<th>ACCOUNTING INFORMATION SYSTEMS</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td>R2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BETA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.879</td>
<td>0.773</td>
<td>2.16*</td>
<td>119.488</td>
<td></td>
</tr>
</tbody>
</table>

Note: significant at 0.05

B- The value of the interpretation coefficient (R2) amounted to (0.773), meaning that the percentage of what is explained by the accounting information systems variable (X) of the changes that occur in strategic decisions is (77.3%), while the remaining percentage, amounting to (22.7%), is due to the contribution of other variables.

C- The value of the standard regression coefficient (Beta) of (0.879) means that any increase in the accounting information systems variable (X) by one standard deviation unit will lead to an increase in strategic decisions by (87.9%) from one standard deviation unit.

It is clear from the foregoing that the existence hypothesis is accepted, which states (there is a significant impact relationship of accounting information systems in the strategic decision-making process).

5. Conclusions

The accounting information systems honestly reflect the reality of the operations and activities that they carry out, which allows the management to identify the problems and obstacles more accurately in the event that the company is exposed to them. Besides, accounting information systems provide the possibility of predicting future information because the system
provides information processing operations and conducting tests and connections between them, which enhances the management’s ability to draw strategic plans. In addition, the impartiality of information and its correct timing enhance the ability to conduct rapid solutions to the obstacles it faces, especially considering a turbulent work environment such as the Iraqi one. Accounting information systems provide flexibility to its management in a way that allows it to make changes in the prices of its products or to present special offers without affecting the accuracy of the accounting information. Moreover, accounting information systems effectively affect the strategic decisions it takes, and this allowed the company to obtain a competitive advantage represented by the speed and accuracy of the decisions taken compared to its counterparts from the competing companies.

References


