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THE ROLE OF STRATEGIC INFORMATION SYSTEMS IN THE QUALITY OF BANKING SERVICES: AN APPLIED STUDY ON SOME IRAQI BANKS

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ABSTRACT

The study aims at measuring the role of strategic information systems (SISs) in the quality of banking services (QBSs) on some Iraqi banks. The researchers adopted the description and analytical approach in defining and treating its variables, which are represented by strategic information systems (SISs) as independent variable with its dimensions (technical innovation, technical requirement, strategic information resources), and the quality of banking (QBSs). The study was applied on 132 Employees of a group of private Iraqi commercial banks. Data were collected among participants via questionnaires. Results showed the presence of a significant, statistically influence relationship for strategic information systems on the quality of banking service in commercial banks in Iraq. The study recommends using technologies such as the internet and extranet in banking systems to enhance the speed and effectiveness of communication between bank departments.

INTRODUCTION

Information systems utilized in business entities, such as banks, are regarded as strategic assets and fundamental channels for furnishing management. They provide external stakeholders with financial and administrative data for purposes of planning, monitoring, and decision-making. Moreover, they play a critical and essential role in realizing a unified vision aligning the banks' capabilities, available resources, and operational domains to optimize the utilization of these resources.

Banking information systems are dynamically linked to both internal and external environments. They reflect the interaction between the bank and the surrounding internal and external factors. Developing strategic information systems (SISs) is essential in achieving

organizational goals regardless of its activities. It is considered a vital factor in enhancing the effectiveness of strategic decision-making and improving performance and various administrative activities within the organization. SISs represent a new dimension in shaping a modern concept of administrative evolution, leading to a fundamental shift in service delivery methods for citizens and organizations alike.

Introducing SISs as a tool for enhancing the organizational information structure to achieve alignment with the vision and fulfill the organization's objectives. This approach holds the potential to instigate positive change and progress across all organizational facets, addressing managerial decision-making challenges and administrative functions to boost efficiency and effectiveness.

The activation of SISs stands as a fundamental component of modern management, leveraging significant advancements in information technology. This process aids in enhancing the organization's performance, continuously refining its operations, and nurturing the development of its workforce. The research aims to explore the role of strategic information systems and their influence on the quality of banking services (QBSs) as perceived by employees in a selection of Iraqi banks.

Research problem

The banking sector is a crucial part of the economy, serving a wide range of customers, including individuals and institutions. It has been shaped by advancements in strategic information systems, leading to notable improvements in banking services. Understanding their current status is vital for all organizations, be it banks or others. Given the global connectivity and recent economic growth in the banking sector, it is imperative for organizations to stay informed about their present circumstances. This study aims to comprehensively explore the SISs of Iraqi banks and evaluate their impact on banking services and overall quality. The research questions are formulated with precision to address these aspects.

1- To what extent do SISs impact the QBSs for the studied banks?

2- Do the Iraqi banks implement good SISs that keep pace with global advancements to enhance banking services, and how capable are these systems in providing a competitive edge for the banks under study?

The research's significance lies in examining the impact of SISs on public organizations overall and specifically on the Iraqi banks under study. This exploration will facilitate their growth and practical implementation, especially in integrating strategic information systems with aspects like technological innovation, technical needs, and strategic information resources to elevate and enhance banking service quality.

Research objectives

The research aims to determine the impact of SISs on the QBSs. This can be summarized as follows:

1- Understand the current status of SISs in the Iraqi banks.

2- Advocate for the adoption of integrated information systems within the studied banking institutions.

3- Investigate the relationship between the SISs and the QBSs for the Iraqi banks under study.

Research hypotheses

The preliminary research outlines were formulated in light of the objective relationships between the SISs and the QBSs within the proposed theoretical model. In order to support these relationships in achieving their defined goals based on their paths, the researcher formulated a set of assumptions explaining these relationships scientifically aligned with achieving the main research objective. These assumptions serve as initial solutions to the research problem, which will be analyzed, measured, and statistically tested in the applied aspect to reach results that achieve this goal. These solutions are not random guesses or interpretations; rather, they are insights derived from the information that formed the research problem.

1. SISs has no statistically significant correlation with the QBSs.
2. SISs has no statistically significant Simple impact on QBSs.
3. SISs has no statistically significant multiple impact on QBSs.

Theoretical framework

To address the research problem, the researcher adopted a theoretical model as illustrated in Figure 1, which shows the relationships and influences among the SISs and the QBSs.

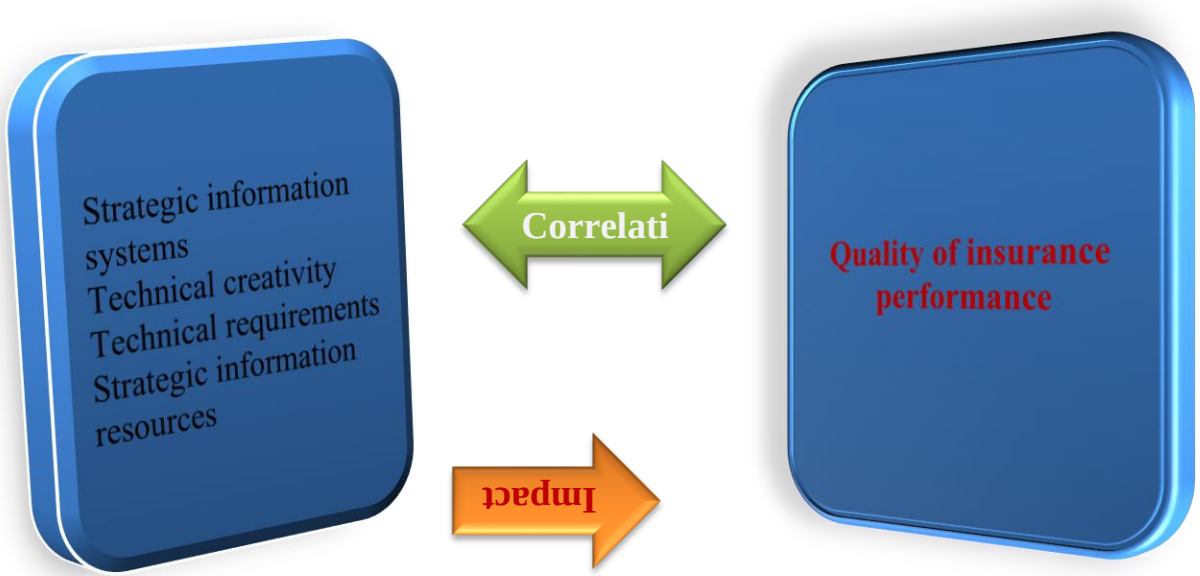

Figure 1. Hypothetical framework of the research

Literature review

Information plays a crucial role in today's work environment, where successful organizations prioritize competitive advantages by leveraging information for strategic decision-making. Over time, information has evolved from being a decision-making tool to a competitive asset and strategic resource. SISs impact all businesses, helping them achieve better competitive positions and enhance services for their stakeholders. Quality is a key focus for most administrative organizations, with SISs playing a central role in aligning organizational capabilities with work areas to optimize resource utilization and provide valuable data for strategic planning. Consequently, SISs are essential tools that support various strategic functions in managing an organization's planning process.

Strategic information systems

Various researchers and authors have presented multiple definitions of strategic information systems. Al-Zayoud (2014) defines SISs as integrated systems where computers play a key role in providing strategic information to different management levels. This supports and enhances strategic decision-making to gain a competitive advantage and deliver optimal services within the organization. Saeedi (2016) describes SISs as a method for environmental analysis, involving the creation of strategic databases based on inputs from customers, suppliers, competitors, internal managers, environmental factors, and research and development units. SISs, as described by Silkich (2006), refer to information that supports strategic planning, control, and the execution of financial and strategic accounting tasks in an organization, assisting in effective crisis management. Al-Azmi (2022) defines SISs as the organizational capability to leverage strategic information systems for gaining a competitive edge across all management levels.

The importance of strategic information systems

The significance of SISs lies in their pivotal role for organizations operating in dynamic and turbulent environments. These systems serve as the cornerstone for senior management in making strategic decisions and meeting customer needs to adapt to the rapidly changing external landscape. They provide crucial strategic information that aids managers in analyzing past scenarios, planning for the future, and predicting events. Moreover, SISs offer competitive advantages like appeal, foresight, and distinctiveness. SISs are instrumental in the success of innovative organizations that leverage them to support various activities by embracing information technology that enhances direct user interaction. Their implementation brings about substantial shifts in objectives, production methods, and processes, enabling organizations to secure a competitive edge by offering cost-effective products and conducting in-depth analysis of customer preferences and trends (Al-Yasiri & Mardan, 2022).

Indicators of strategic information systems

Haags et al. (2007) suggest that strategic information systems encompass the following indicators:

1. ***Personnel***

Individuals play a crucial role in information systems, holding implicit knowledge within the organization. The significance of individuals arises from the increasing importance of information systems in the organization, necessitating a high level of expertise and skills for effective management. As individuals gain the required experience, their assessment of available technology improves.

2. ***Information***

Information is seen as processed data that holds significance and fulfills its intended purpose, exerting a significant influence on human behavior, societal progress, and acting as the cornerstone for organizations to reach their objectives. It comprises a collection of facts designed to enhance knowledge and increase its worth for individuals. The effectiveness and precision of managerial decisions hinge on the value of information, which minimizes uncertainty for system users and offers organizations a range of advantages, encompassing tangible (financial benefits) and intangible benefits (like ethical benefits) that bolster managers' confidence in forecasting and decision-making processes (Kbosrow, 2006).

3. ***Information technology***

Information technology stands out as a crucial tool that individuals, particularly managers within organizations, invest in to address a variety of external changes. This is accomplished through the interaction of a cohesive array of devices, equipment, communication networks, and individual skills to gather, analyze, categorize, extract, store, and retrieve data as needed to streamline banking operations. Information technology serves as the central nervous system of any organization by saving time, effort, and financial resources, while also being user-friendly across a range of applications (Nissen, 2006).

Quality of banking service

The QBSs is one of the most important approaches adopted by banks, considering it a distinct weapon that aligns with all requirements for advancement and development to satisfy and connect with customers, understanding their current and future needs. Quality means that the ultimate goal of the bank is to meet customer expectations to the extent that the customer is satisfied. Understanding customer needs and expectations is essential to acquiring new customers or retaining existing ones. The key to this is providing customers with services or products of high quality that meet their needs at reasonable prices and delivering them on time. Human resources in the bank play a vital role in developing their workforce to improve their performance and efficiency in order to achieve and enhance banking services by focusing on various dimensions such as tangibility, reliability, security, and responsiveness.

Verma (2012) defines QBSs as a compilation of features and traits that differentiate a product or service, influencing its capacity to fulfill both stated and implied needs. Goetsch and Davis (2016) describes QBSs as a fluid condition intertwined with products, services, individuals, procedures, and surroundings, which not only meets but potentially exceeds expectations. Furthermore, Mahmoud and Al-Basri (2021) further view QBSs as the bank's capacity to either meet or surpass customer expectations and demands, thereby fortifying its competitive edge and bolstering its position within the target market. Finally, the American National Standards Institute and the American Society for Quality (Sultan & Al-Rubaie, 2020). QBSs is delineated as a set of attributes and characteristics that set apart a commodity or service, enabling it to fulfill essential requirements.

The importance quality of banking service

Service quality plays a crucial role in designing and marketing service products as organizations in the service sector increasingly recognize the significance of implementing total quality management concepts and their role in achieving competitive advantage. However, Mahmoud and Al-Basri (2021) set some factors have contributed to promoting the importance of quality in financial and banking services, the most important of which are:

1 - Globalization

Globalization encompasses the expansion of markets and financial institutions across borders, along with the deepening interconnections between economies globally. This heightened interplay between markets and financial institutions leads to the globalization of the financial and banking services sector.

2 – Technology

Technology in the banking sector brings about the following advantages:

1. Improves transparency by enabling borrowers and shareholders to access information through electronic reports.

2. Expands managers' capabilities to implement effective strategies for managing financial risks and promoting banking services.

3. Strengthens banks' abilities to engage and attract customers, ensuring the delivery of high-quality banking services.

4. Enhances banks' communication with regulatory bodies for reporting purposes, facilitating compliance with banking and securities regulations and thereby reducing associated costs.

3. Competition

By competition here, we do not only mean competition among banks but rather it has evolved into competition among other financial institutions offering their services to customers. Additionally, there is competition among banks across different countries, where globalization has contributed to eliminating barriers between nations. Therefore, banks can offer their services anywhere in the world, where more profitable opportunities exist, thus increasing the focus on quality to differentiate services.

METHODOLOGY AND PROCEDURES

To The study encompasses employees at various managerial levels (General Manager, Department Manager, Section Manager, Unit Supervisor, Senior Employee) within Iraqi banks. The researchers develop timeframe to the theoretical aspect of the current research, create a scale based on the main research variables and their sub-dimensions, present it to experts and reviewers, and make necessary adjustments for the scale (questionnaire) to be prepared to measure the variables of the current research in 2023. The study used **SPSS V25** to process the finding.

Validity and reliability

Testing for normal data distribution and evaluating the study's measurement instrument by assessing the consistency among its components using Cronbach's alpha coefficient, along with analyzing correlation, simple effects, and multiple effects:

To achieve reliability, the scores generated by a scale must accurately reflect some aspect of the true state of the variable being evaluated and measured. Cronbach's alpha coefficient is widely employed to gauge internal reliability in practical scenarios. It ranges from zero to one, where zero signifies no reliability (an unstable instrument) and one signifies complete reliability (a perfectly stable instrument). High reliability indicates stability among the scale's items, thereby rendering the scale itself stable. A Cronbach's alpha value of 0.60 or higher is deemed acceptable, with the test results depicted in Table 1.

Table 1. *Indicators of reliability results of the research variables*

Research variables	**Cronbach's alpha**	**Interpretation**
Strategic information systems	**0.838**	**Good reliability**
Quality of banking service	**0.806**	**Good reliability**

Total	**0.926**	**Good reliability**

It appears that the Cronbach's alpha values for the information system quality variable reached 0.838, and for the banking service quality variable, it reached 0.806. The total research stability value was 0.926. All these results are higher than the acceptable ratio of 0.60, indicating that the variables have appropriate internal consistency. These results suggest that the research scale (questionnaire) exhibited good stability.

Testing the correlation between QBSs and SISs

The primary correlation hypothesis (the first one) between the dimensions of the strategic information systems and quality banking service was examined in Table 2. It aimed to assess the strength of the correlation between the independent variable of SISs and the dependent variable of QBSs.

Table 2 shows the correlation coefficient between SISs and QBSs was found to be 0.868**, with a significance level of (0.000). Such a correlation indicates a strong positive relationship. This outcome highlights how SISs in a bank can reduce costs and enhance service quality. These findings support the rejection of the main correlation hypothesis and the acceptance of the alternative hypothesis, indicating a statistically significant relationship between SISs and banking (X) and QBSs (Y).

Table 2. *The correlation between SISs and QBSs*

	Tangibility and dependability Y1	**Security and reliability Y2**	**Rapid response Y3**	**Quality of service**
Technical creativity X1	.780**	.741**	.659**	**.787****
Technical requirements x2	.674**	.755**	.639**	**.745****
Information resources	.724**	.724**	.868**	**.834****
Strategic information systemsX3	.799**	.815**	.792**	**.868****

**. Correlation is significant at the 0.01 level (2-tailed).

Testing the simple impact of SISs on QBSs

Furthermore, the study examined the hypothesis regarding the influence of SISs on QBSs as presented in Table 3. The analysis aimed to assess the strength of the causal relationship between the independent variable of SISs and the dependent variable of QBSs. The results in Table 3 revealed a statistically significant causal link between SISs and QBSs, with a significance level of (0.000), indicating a strong relationship. The computed (F) value of (395.504) exceeded the tabulated value, supporting the relationship. The coefficient of determination (R^2 = 0.753) indicated that SISs explain 75.3% of the variations in QBSs. The standardized beta coefficient of (0.861) suggests that a one-unit change in SISs leads to an 86.1% increase in QBSs interest. The intercept value (α) was statistically significant, supporting the acceptance of the alternative hypothesis indicating a significant causal relationship between SISs and QBSs.

Table 3. *The impact of SISs (X) on QBSs (Y)*

Dependent variable	**Strategic information systems**		**(R^2)**	**(F)**	**(t) calculated**	**Sig**	**Decision**
Quality of banking service Y	**(α)**	0.542	0.753	395.504	3.135	0.000	Accept the alternative hypothesis
	(β)	0.861			19.887		

Tabular (F) value = 6.83 /// Tabular (t) value = 2.36, / Sample size = 131

Number of accepted null hypotheses = 0

Number of accepted alternative hypotheses = 4

Testing the multiple impact of SISs on QBSs

The examination of the multiple effect hypothesis between SISs and QBSs, as displayed in Table 4, aims to assess the intensity of the multiple causal correlation between the independent variable of SISs with its dimensions collectively and the dependent variable of QBSs. Table 4 presents the statistical analysis results for the primary multiple effect hypothesis, showing a calculated (F) value of 139.856, exceeding the tabulated (F) value of 3.94 at a significance level of 0.01, with degrees of freedom of 3,128. This outcome indicates a negative relationship between the independent variable of SISs and its dimensions and the dependent variable of QBSs. Essentially, the more focus on SISs and their dimensions collectively, the better the QBSs become. Consequently, the null hypothesis is rejected in favor of the alternative hypothesis, suggesting a significant multiple effect of SISs and their dimensions on QBSs. This underscores the substantial impact SISs have on enhancing QBSs when all dimensions are equally emphasized.

With an Adjusted R-squared value of 0.766, SISs and their dimensions account for 76.6% of the variance in QBSs. The remaining 23.4% indicates unaccounted variables in the research

model. In Table 4, the beta coefficient values for technical innovation, technical requirements, and SISs are 0.247, 0.171, and 0.453, respectively. These coefficients are statistically significant as their calculated t-values (3.854, 2.872, 6.802) exceed the tabulated t-values at 1% and 5% significance levels (1.65 - 2.360). The constant value in the equation is 0.475, also statistically significant as its calculated t-value (2.778) surpasses the tabulated t-value at a 1% significance level (2.36). This suggests that even when SISs s and their dimensions collectively equal zero, QBSs will not fall below this value.

Table 4. *The impact of the combined SISs dimensions (X) on QBSs (Y)*

Strategic information systems	Quality of banking service Y						
	Regression coefficients	(t) calculated	Sig	R^2	(F)	Sig	Decision
Fixed limit	.475	2.778	.006	0.766	139.856	0.000	Accept the alternative hypothesis
Technical creativity X1	.247	3.854	.000				
Technical requirements x2	.171	2.872	.005				
Information resources	.453	6.802	.000				

Tabular (F) value = 3.94 /// Tabular (t) value = 2.36, 1.65

Hausman's Test	11.62 (0.040)
R-squared	0.5287

CONCLUSION AND SUGGESTION

1- There is a weakness in utilizing technologies such as the internet and intranet in banking systems, which impacts the speed and effectiveness of communication between bank departments.

2- The researched banks employ computer hardware and software that are not advanced enough to efficiently access and update information continuously.

3- The design of bank buildings does not provide sufficient comfort for customers during their presence inside.

4- Banks do not address customer issues adequately or respond to their inquiries as required.

5- Bank management lacks prompt responsiveness in delivering services to customers.

6- The database and strategic information used in the bank provide information about the working environment (customers, suppliers, competitors).

7- Statistical results indicate the presence of a strategic information system in the bank that contributes to cost reduction and quality improvement.

8- The bank strives to possess the latest devices and equipment available in the markets to keep up with technological advancements worldwide.

9- Bank employees are characterized by polite behavior and courtesy.

Recommendations

1- Using technologies such as the internet, and extranet in banking systems to enhance the speed and effectiveness of communication between bank departments.

2- Utilizing advanced computer hardware and software in banks to efficiently access and continuously update information.

3- Recruiting qualified and specialized human resources in the field of information technology and communications.

4- Providing bank buildings with comfortable facilities for customers during their visits.

5- Focusing on addressing customer issues promptly and responding to their inquiries effectively.

6- Employing technical and qualified staff in banks to utilize modern software, devices, and equipment.

7- Ensuring that the strategic information system in the bank facilitates the establishment of efficient work methods and procedures.

8- Conducting continuous training courses for employees in the researched banks across all specialties to enhance their capabilities, skills, and experiences.

9- Developing employee training programs in banks to align with advancements seen in developed countries.

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