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The role of banking information systems in enhancing service quality for banks

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Abstract
This study examines the critical role of banking information systems (BIS) in improving the quality of services provided by banks. With the rapid technological advancements and the increasing reliance on digital solutions, banking institutions face mounting pressure to adopt efficient information systems that enhance operational performance and meet customer expectations. The research investigates the relationship between the implementation of banking information systems and the quality of banking service performance, emphasizing their impact on efficiency, accuracy, responsiveness, and customer satisfaction. Using a descriptive-analytical approach, the study highlights how BIS contribute to decision-making, resource management, risk reduction, and the provision of timely, high-quality services. Findings reveal that although BIS provide accurate and reliable data essential for banking operations, many banks lack comprehensive adoption of modern technologies such as automated teller machines, internet banking, and advanced communication tools, limiting their ability to achieve optimal service quality. The study concludes that the effective integration of BIS not only enhances customer satisfaction and loyalty but also strengthens banks' competitiveness in dynamic financial markets. Recommendations include increased investment in modern information technologies, continuous employee training, adoption of proactive customer engagement strategies, and alignment of BIS with global standards to ensure sustainable service excellence.

Keywords: Banking Information Systems, Service Quality, Customer Satisfaction, Information Technology, Decision-Making, Banking Sector, Competitive Advantage

دور نظم المعلومات المصرفية في تحسين جودة الخدمات المصرفية

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الملخص
تتناول هذه الدراسة الدور المحوري لنظم المعلومات المصرفية (BIS) في تحسين جودة الخدمات المصرفية. مع التقدم التكنولوجي السريع والاعتماد المتزايد على الحلول الرقمية، تواجه المؤسسات المصرفية ضغوطًا متزايدة لتبني نظم معلومات فعّالة تُحسّن الأداء التشغيلي وتُلبي توقعات العملاء. يبحث البحث في العلاقة بين تطبيق نظم المعلومات المصرفية وجودة أداء الخدمات المصرفية، مُركزًا على تأثيرها على الكفاءة والدقة والاستجابة ورضا العملاء. وباستخدام منهج وصفي تحليلي، تُسلط الدراسة الضوء على كيفية مساهمة نظم المعلومات المصرفية في اتخاذ القرارات، وإدارة الموارد، والحد من المخاطر، وتقديم خدمات عالية الجودة وفي الوقت المناسب. تكشف النتائج أنه على الرغم من أن نظام

المعلومات المصرفية (BIS) يوفر بيانات دقيقة وموثوقة ضرورية للعمليات المصرفية، إلا أن العديد من البنوك تفتقر إلى التبني الشامل للتقنيات الحديثة، مثل أجهزة الصراف الآلي، والخدمات المصرفية عبر الإنترنت، وأدوات الاتصال المتقدمة، مما يحد من قدرتها على تحقيق جودة خدمة مثالية. وتخلص الدراسة إلى أن التكامل الفعال لنظام المعلومات المصرفية لا يعزز رضا العملاء وولائهم فحسب، بل يعزز أيضًا القدرة التنافسية للبنوك في الأسواق المالية الديناميكية. وتشمل التوصيات زيادة الاستثمار في تقنيات المعلومات الحديثة، والتدريب المستمر للموظفين، واعتماد استراتيجيات استباقية لإشراك العملاء، ومواءمة نظام المعلومات المصرفية مع المعايير العالمية لضمان تميز مستدام في الخدمة.

الكلمات المفتاحية: أنظمة المعلومات المصرفية، جودة الخدمة، رضا العملاء، تكنولوجيا المعلومات، صنع القرار، القطاع المصرفي، الميزة التنافسية

Definition of terms

- Information systems: Systems that specialize in collecting, classifying, processing, analyzing, and communicating financial information appropriate for decision-making by stakeholders (Juma 2003).
- Banking information systems: Systems that combine data and information needs, including their physical, human, and software components, to collect, store, analyze, retrieve, and distribute information to serve administrative functions, meet their needs on time, and achieve quality (Al-Sarna 2007).
- Banking services: A set of activities and processes with utilitarian content inherent in tangible and intangible elements provided by the bank to stakeholders.
- Banking service quality: A bank's ability to meet and exceed customer expectations and requirements. It also reflects the extent to which the actual performance of the service matches customer expectations.

Introduction

The technological developments witnessed by the world over the past four decades have brought about significant changes in various aspects of economic, social, and political life. The work environment in contemporary organizations has become characterized by volatility, rapid change, openness, and the transcendence of borders between countries and societies. Among the most important of these developments are what are now known as information systems, which have brought about significant changes in the structure of organizations through the use of their tools, particularly computers, the World Wide Web, and various means of communication.

Banking information systems are a fundamental necessity imposed by these developments on global banking markets. These systems have had a clear impact on banks due to their reliance on digital technology to deliver banking services to those seeking them. This has led to an increase in the quality and effectiveness of banking services, making them more efficient and effective in increasing and improving customer satisfaction with the banking services provided. Information systems can therefore play a significant role in banks, given their ability to improve performance and provide high-quality, low-cost

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services and products by redesigning banking operations, speeding up customer communication, and providing extensive data and information on customer consumption patterns quickly, efficiently, and effectively. This enables bank managers to leverage this information to develop plans and programs that improve the quality of banking services and increase customer satisfaction and loyalty by focusing on the efficiency and skill of banking staff, thus facilitating optimal service delivery to customers. Employees have also become able to collect, store, send, process, and retrieve data and information, which has motivated a large number of organizations to use information systems as strategic assets to achieve a competitive advantage in local and global markets. The banking sector has witnessed significant interest in the use of modern information technology to improve the quality of banking services to meet customer needs and desires.

Chapter One
Research Methodology

First - Research Problem:
The banking sector is considered one of the most vital economic sectors in any country's national economy, as it deals with clients, both individuals and organizations. The banking sector may be affected by developments in the field of information technology, due to the scientific achievements and innovations it entails, which have had an effective impact on improving the services provided. This has contributed significantly to the implementation of new mechanisms characterized by flexibility and facilitating the process of cooperation between clients and banking management. Therefore, the presence of such systems in banks is accompanied by expenses and costs that deepen the implementation and deployment of these systems. Focusing on the quality of services provided and linking them to the costs and requirements of these systems is essential, requiring alignment between the costs of implementing these systems and the expected returns. Therefore, the research problem can be formulated as follows: What is the impact of implementing information systems and their requirements on the quality of banks' service performance?

Second - Research Objective:
The research aims to identify banking information systems as an important topic and the extent to which banks have adopted them. It also aims to identify the prevailing models for measuring banking service quality, and to clarify the relationship between banking information systems and the quality of banking services provided.

Third: The importance of the research:
This study derives its importance from its examination of an important economic sector, the banking sector. It attempts to shed light on various aspects

of banking information systems and banking service quality. It also demonstrates the importance of banking information systems in banking institutions in improving the quality of their services. It also clarifies the extent to which banking information systems contribute to improving banking service quality.

Fourth: The research hypothesis:
The research hypothesis can be written as follows: There is no statistically significant relationship between the implementation of information systems and their requirements and the quality of banks' service performance.

Fifth: Research variables:
Independent variable: Information systems
Dependent variable: Quality of banking service performance

Sixth: Previous Studies:
There are numerous studies that have addressed the topic of information systems, their impact on organizations, and the extent to which they contribute to achieving their goals. These studies addressed information systems indirectly, but did not directly address their relationship to the quality of service performance.

- Kaplan's study, "Creating Now Management Theory." Journal of Management, Accounting Research

The study aimed to establish an appropriate framework indicating that information technology depends on several fundamental factors, which organizational management must take into account when making any decision regarding the transition to more advanced information systems or the development of existing information systems. These factors include inappropriate optimism in anticipating the returns resulting from the implementation of information systems. In other words, refusing to transition to technologically advanced information systems may have dire consequences for the tangible benefits versus the intangible benefits. The transition to more advanced technological systems is not measured solely by the tangible returns that the organization will receive; there are also other intangible benefits that must be taken into account, such as saving time and effort. Porter's study, "How Information Gives You a Competitive Advantage," aimed to address the strategic dimensions of information systems using a competitive perspective. This approach illustrates the relationship between investment in technologically advanced information systems and competition in a complex process. Any technological change adopted by an organization is considered a good thing, but from the perspective of workers, technological progress is not always a good thing.

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- A study titled "On the Quality of Banking Services Provided by Commercial Banks in Jordan"

This study aimed to measure the quality of banking services provided by commercial banks in Jordan, from the perspective of bank customers. The study recommended that management in commercial banks in Jordan adopt integration to develop and improve the quality of services they provide, particularly in light of the increasing competition in the banking market and the growing importance of service quality as a competitive advantage.

- A study by Romney & Steinbart (2013) titled "Accounting Information Systems"

The study indicated that quality, in general, is directly related to customer expectations in terms of accuracy, mastery, speed of performance, excellent specifications, and the timely delivery of services at an appropriate cost. This will help convince customers of the quality of services provided. The study added that quality is a criterion for distinguishing between what should be achieved and measured and what has been achieved.

We note that most of the previous studies presented aimed to examine the impact of implementing information systems on achieving organizational goals, particularly in the short term, with a focus on the expected return on investment from implementing information systems in Bank management and industrial project management, which contributes to and assists senior management in the decision-making process. The current research aims to determine the extent of the impact of applying these systems (banking information systems) on the quality of service, in a way that satisfies the customer, not only at present, but also in a proactive future vision of what current and prospective customers can aspire to by adding new value to the services provided by the banks under study.

Section Two
Information Systems and Their Significance

First: The Concept of Information Systems and Their Importance:

A system is defined as a unit composed of a group of interconnected subsystems, all of which aim to achieve a set of objectives. An information system is one such system, specializing in collecting, processing, uploading, and communicating appropriate information to stakeholders needed to make appropriate decisions at the appropriate time. Numerous studies have defined the concept of information systems as a set of procedures that include collecting, processing, storing, distributing, publishing, and retrieving information with the aim of supporting decision-making and oversight processes within an organization. Information systems consist of people, procedures, and information technology. These systems perform three important functions in any organization, namely (Romney, 2003):

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- Collecting and storing data on activities and transactions so that the organization can review and present their progress.
- Processing data and transforming it into useful information for decision-making, thus enabling management to plan, implement, and monitor activities.
- Providing adequate controls and oversight to protect the organization's assets.

From here, we conclude that implementing any information system requires (Jum'a 2003):

1- Obtaining hardware
2- Obtaining software
3- Evaluating and selecting software
4- Obtaining human resources

The role of information systems:

Many organizations rely on information systems in their decision-making, providing the opportunity to improve customer service, develop planning and control processes, and introduce new services such as e-commerce. This is as follows:

- Participation in plan implementation: Information systems can participate in the implementation of plans by performing tasks previously performed manually by employees or by establishing the necessary steps and procedures for implementation.
- Linking planning, implementation, and follow-up systems: The follow-up system feeds its results into the implementation system and also feeds the planning system with the same information, ensuring that future plans are objective.
- Coordination between the work of the various subsystems: Information systems play a fundamental role in coordinating the organization's subsystems by collecting and processing data, producing information, and providing it as needed.

An organization's information system makes a number of different contributions. It automates business processes, increases flexibility, reduces errors, and increases the speed and pace of activity to deliver quality and innovative services to customers, leading to the opening of new markets and increased sales volume.

Some of these contributions are measurable, while others are difficult to measure. Measurable contributions include reducing costs incurred by the organization, while those that are difficult to measure include improving planning and administrative control, which leads to increased market value and reputation, thus increasing profitability and achieving a competitive advantage.

The value of an information system is derived not only from its economic value in streamlining decision-making and better decision-making, but also from the information it provides that is useful for learning and building modern models. Therefore, other benefits must be taken into account when comparing the cost of an information system with its return. The evaluation may not be accurate,

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given that some information systems may not have economic value from the perspective of problem-solving and decision-making alone. Rather, the value depends on the extent to which they satisfy their users.

Basic Functions of Information Systems

An information system performs several basic functions, whether traditional or computerized. These functions are as follows (Juma, 2003):

1- Monitoring System Performance: The information system must employ feedback on input and output units, controlling them by reviewing and evaluating feedback to determine whether the system is capable of achieving performance according to established standards.

2- Data Entry: The organization's data must be obtained from multiple and diverse internal and external sources, prepared by processing it, converting it into information, and then communicating it. Information is transmitted to specific physical media, such as paper and CDs, or is entered directly into the computer.

3- Data Storage and Processing: Storage is a key process within an information system. It is the function in which data is stored in an organized manner for future use. This helps in using or retrieving information after it has been processed: - as output when needed.

4- Outputting information after processing: The goal of an information system is to produce useful information for the user in the form of reports, forms, statistical figures, or graphics. This information is transmitted in various forms via the output unit (Al-Sabbagh, 2000).

Objectives of Information Systems

The objectives of an information system are to:

- Monitoring and Follow-up: The importance of continuous monitoring of all inputs and outputs of an organization's system is evident in identifying deviations and deficiencies and attempting to address them to achieve greater efficiency in the decision-making process. One of the functions of an information system is to collect data for all activities within the organization, which requires monitoring the details of these activities.

- Coordination and Communication: One of the characteristics of an information system is that communication must be coordinated between various functions. For example, the production function requires communication and coordination with the marketing, supply, and finance functions.
- Decision-making Assistance: The decision-making process is the foundation upon which modern management relies, and the decision-making process varies depending on the levels within the organization.

Second: Banking Information Systems:

A bank's information system, like any other information system, is responsible for collecting, analyzing, and transmitting information to decision-making

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centres at the appropriate time and quality required to serve banking operations.
A banking information system is defined as: interconnected components that work together to collect, process, store, and disseminate information to support decision-making, coordination, control, and analysis within the bank.
A banking information system is defined as a system that integrates data and information needs and utilizes its physical, human, and programming components to collect, store, analyze, retrieve, and distribute information to serve administrative functions, meet their needs on time, and achieve quality. It is also the system that collects, transforms, and transmits information within the organization (the bank). The bank uses various types of information processing systems to assist it in providing information according to the needs of its beneficiaries (Al-Sarna, 2007).

The Importance of the Banking Information System

The importance of the banking information system has increased in the modern era, known as the Information Age, for several reasons, including (Faisal, 2009).
- The development of electronic communication methods, which has facilitated the transfer of information over long distances.
- The development of the computer industry, which has facilitated the storage of large amounts of information and facilitated access to it.
- The development of banking marketing and its reliance on modern communication methods such as the Internet.

The functions performed by banking information systems can be summarized as follows (Al-Sayrafi, 2005):
1- Providing senior management with information. Senior management requires more information for planning and monitoring purposes. The system provides senior management with information about opportunities and threats arising from the external environment, as well as performance indicators within the organization. This enables management to increase added value.
2- Defining responsibility: The information system helps define the roles of individuals and departments within the organization and then determine their responsibilities. By defining responsibility, negligent individuals can be held accountable, the negligent identified, and the hard-working can be rewarded and encouraged to improve their performance levels. At the same time, it also provides a direct signal to those who fail to improve their performance levels.
3- Organizing procedures. This function of the system is derived from the name "system," meaning something planned, defined, and organized. In the absence of order, chaos and randomness prevail. A good system is expected to codify procedures and fill gaps in current workflow plans in order to achieve desired goals.
4- Controlling available resources: Available resources may be human, such as employees and clients, material, such as devices and equipment, or intangible, such as existing or obtainable data. Today's world is full of such resources, and

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controlling them may be extremely important to maximize their benefits. For example, a company can limit the number and specializations of its employees to redistribute their roles and functions, ensuring their use in increasing production without the need to hire any additional workers.

5- Ensuring workflow: One of the functions of the system is coordination and harmony between the components or subsystems of which it is composed, ensuring smooth workflow and eliminating existing bottlenecks. In an organization where work is carried out in stages, the system must distribute roles and energies in a way that does not create overlap. At some point, the entire chain is disrupted.

6- Providing high-quality, timely services

7- Ensuring customer satisfaction (Awad, 2016)

Characteristics of Banking Information Systems

Banking information systems are characterized by a set of characteristics that give the system greater credibility and reliability, enabling users to easily and timely obtain accurate, truthful, comprehensive, and complete information using a variety of methods and techniques, with regular access times. This information increases the effectiveness, efficiency, and transparency of the system. These characteristics are:

1- Accuracy and Truthfulness: The truthfulness and accuracy of information provided to users impacts the accuracy of their decisions, for example, providing customers with accurate information about interest rates and commissions collected by the bank, or providing the necessary data to the tax department.

2- Completeness of Information: Providing complete, unfragmented, and unbiased information without unjustified deletion or addition.

3- Timing of Information: Providing information at the appropriate time to the requesting party. Timeliness is an important factor in many processes. This does not mean delivering information well in advance, which could expose it to neglect. Forgetting, and late arrival may also diminish its value.

4- Ease of access to information: The amount of effort expended can be an indicator of the ease of access to information.

5- Broad dissemination: This refers to the number of entities or segments that can receive information and reports, as well as the diversity of delivery channels.

6- Voluntary provision of information: This refers to the organization's willingness to provide information, without a request from an external party or by law.

7- Confidentiality of information: Confidentiality is a primary argument for most administrations in concealing information from the requesting party. This does not mean disclosing everything, exposing the organization to the risk of information leakage and exploitation by competitors, but rather exaggerating the withholding of information under the pretext of confidentiality.

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8- Diversity of reports: One of the most important advantages of an information system is its ability to provide many types of reports, and its ability to sort and summarize. Therefore, organizations can provide various types of reports to serve different types of beneficiaries (Al-Ghaly et al., 2010).

Types of Banking Information Systems

Banking information systems include several types, each performing a function specific to its field. They are divided according to the specialized functional areas in banks:

1. The Banking Marketing Information System (BMIS) was defined by Saad Ghaleb Yassin as: "The integrated and interactive structure of devices, individuals, and procedures designed to generate an organized flow of information resulting from data processing from internal and external sources, and to store, retrieve, and transmit this information to decision-makers for use in planning and monitoring marketing activities. It is a system that produces marketing information related to marketing research, customer behavior, promotional research, and market competition analysis."

2. The Banking Services Industry Information System (BSI) is a system that specializes in collecting information related to the bank in terms of its various service and production activities and its relationships with the external environment. It processes this information and transmits it to decision-making centers according to the required needs and timing.

3- Human Resources Information System: The human resources information system is responsible for providing management with accurate and purposeful information about human resources management by providing management with information reports for the purpose of making sound decisions, using analytical indicators of the performance of bank employees contained in the information reports. Based on the above, the human resources information system was defined as: a combination of individuals, equipment, and procedures designed to analyze, evaluate, and distribute accurate and rapid information and make decisions in all areas related to human resource management in the bank.

4- Credit Information System: It was defined as the system upon which the process of identifying, collecting, sorting, classifying, operating, and analyzing all data needed by the bank's management in general, or the credit activity in particular, is based. Effective information is extracted from it and transmitted to the decision-maker in a manner that meets the bank's needs, with the required comprehensiveness and quality, and at the appropriate time (Yassin, 2019).

Chapter Three
Banking Services and Their Importance

The Concept of Banking Services

The concept of banking services is not much different from the concept of service in general. Given the multiplicity of definitions, we will attempt to present some definitions. Banking services are defined as a set of activities and processes with a utilitarian content inherent in tangible and intangible elements provided by the bank. These services are perceived by beneficiaries through their utilitarian features and values, which constitute a source of satisfaction for their current and future financial and credit needs and desires. They also constitute a source of profits for the bank through the reciprocal relationship between the two parties. The concept of banking services encompasses two concepts: the first is marketing, as it is a source of satisfaction for customers' needs and desires, and the second is utilitarian, representing the set of benefits the customer seeks to achieve through their use of banking services. These two concepts combine to highlight an important dimension of banking services: service quality. The importance of this dimension is evident given that the customer is the focal point of banking efforts, and that banking services are provided with the aim of satisfying their needs and desires, and achieving consistency between the banking services provided and these desires and needs. Finally, it can be said that banking services may or may not be associated with a physical product. This banking service is intangible and can be offered for profit (Al-Ajarmah 2005).

Characteristics of Banking Services

There are differing views among thinkers, researchers, and academics regarding the concept of the characteristics of banking services. This difference stems from differences in the nature and form of the diverse and varied banking services provided by banks to customers of all types.

The following are the most important characteristics (Murad, 2015):

1. Banking services are non-perishable and non-storable because they are intangible. They are produced and provided simultaneously to the customers who request them.
2. Banking services cannot be divided or divided when provided to bank customers.
3. Banking services rely on direct interaction between the bank and the customer, requiring no intermediary. They also vary from bank to bank.
4. It is difficult to evaluate the banking services provided by banks to customers because they are intangible. The evaluation of these services depends on what the bank employee provides to the customer, as the quality of this service is linked to what the customer requests and expects from this service.

5- The relevant banks cannot provide specific samples of banking services and send them to customers for approval.

6- Providing banking services to customers requires a team of competent and distinguished employees. This can only be achieved by adopting a policy of training and developing the capabilities of bank employees to suit the nature of the services provided to customers.

7- Providing services to customers will be widely applicable, as banks have an extensive network of branches. This means that there is a geographical dispersion of banks, especially in the area of risk aversion.
8- One of the primary functions of banks is to protect deposits and customer profits.

Banking Service Quality
Quality in banking services is a key strategic variable facing banks, necessitating the need to keep pace and achieve excellence that strengthens their position in the banking market. Quality is defined as "the absence of any defects or errors that require rework, cause product defects, or cause customer dissatisfaction." Banking service quality is defined as a bank's ability to meet or exceed customer expectations and requirements. It is also considered a standard for the degree to which the actual performance of a service matches customer expectations. It is also defined as the degree to which the characteristics of a banking service, its delivery method, customer service, and physical and electronic resources and capabilities match customer expectations. Through these concepts, we say that banking service quality is a measure of the degree to which banking service levels rise to meet customer expectations.

Measuring Banking Service Quality
Customers' assessment of banking service quality is not the only basis for evaluation. There are criteria related to the content of the service itself, but also extend to the manner in which the service is delivered. Hence, some scientific theories are based on two main approaches:
First - The attitude approach: This approach is based on the premise that service quality represents an attitude concept "related to satisfaction, but not synonymous with it." It is also related to the customer's perception of the actual performance of the service provided. Although researchers implicitly acknowledge the importance of customer perception of service quality, they believe that service quality and customer satisfaction are distinct concepts. The common explanation for this difference is that service quality, as evaluated and perceived by customers, is a form of attitude that relies on a long-term cumulative evaluation process. Satisfaction, on the other hand, represents a transient and fleeting psychological state. Other researchers believe that customers form their attitudes toward service based on their previous experiences, and therefore this attitude adapts according to the level of satisfaction achieved through their interactions with the institution. Service. The results of a number of studies have confirmed the effectiveness of using actual customer-perceived service performance as a measure of banking service quality.
Second: The Gap Theory Approach: This approach is based on the premise that the difference between customer expectations regarding a service and their

actual perceptions of it determines the level of service quality. Therefore, the level of service quality is determined by the difference between the expected service and the perceived service (actual performance). In other words, service quality means meeting and continuously improving customer expectations. One comprehensive study demonstrated that perceived service quality moves along a range from optimal to acceptable quality. Accordingly, service quality is measured as follows:

- If the expected quality is equal to the perceived service quality of the actual performance, then service quality is less than satisfactory.
- If the expected quality is equal to the perceived service quality, then service quality is somewhat satisfactory.
- If the expected quality is less than the perceived quality, then service quality is more than satisfactory and tends toward ideal quality over the specified range.

A group of researchers identified five types of gaps that arise between bank and customer performance in the gap model (Al-Qassim, 2015; Perry, 2015). (Zeithmal 2013, Parasuvman 2005):

- The first gap: between customer expectations and management perceptions. This results from bank management's lack of awareness of their customers' needs and desires, and their ignorance of the specifications for desired banking service quality in advance.
- The second gap: between management's perceptions of customer expectations and determining the degree of accuracy of specific specifications. This results from the mismatch between service specifications and management's perceptions of customer expectations. This means that banks are sometimes unable to translate customer expectations into service quality characteristics due to constraints related to the bank's resources, organization, or inability or failure to adhere to established objectives.
- The third gap appears as a result of the actual level of service performance differing from the specifications set by management. This is due to a number of factors, such as: poor coordination between design, production, and sales personnel; lack of team spirit among employees; insufficient and weak oversight; unclear organizational objectives; etc.
- The fourth gap: This reflects the gap between the service actually provided and the service specifications the bank promised to provide through external communications (advertisements and marketing managers). The main reason for this gap is the lack of coordination between the bank's production and service marketing activities. To bridge this gap, The gap requires coordination between the bank's various departments to ensure that what was promised to the customer is delivered.
- The fifth gap: This occurs as a result of some or all of these major gaps that arise between customer expectations and actual service performance.

Dimensions of Banking Service Quality

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A team of researchers developed ten criteria or dimensions to judge banking service quality. These dimensions include the following:

1- Reliability: This refers to consistent performance, proper completion of the service, and better than the first time, and the bank's fulfillment of its promises to the customer. This includes:

- Accuracy of accounts and files and the absence of errors
- Proper provision of banking services
- Providing services on time and within the designated timeframe
- Consistent service performance

2- Promptness of response by employees: This refers to the willingness and readiness of bank employees to provide services, assist customers, and respond to their inquiries, as well as the speed with which they perform their services and respond immediately to customer requests.

3- Competence or competence: This refers to the bank employees' possession of the skills and knowledge necessary to perform the service, and their ability to communicate effectively and understand customers.

4- Ease of access to services: This includes ease of communication and facilitating access to services for customers, such as short waiting times, convenient working hours, and the availability of a sufficient number of service outlets.

5- Customer Empathy: This refers to the good character of those providing service, the presence of a friendly spirit among service providers, the good appearance of employees, and the presence of respect, appropriate social standing, principles, and ethics among employees when dealing with customers.

6- Communication: This refers to the bank maintaining contact with customers in a manner, language, and style that suits them. This element also includes listening carefully to the customer, explaining the service, and explaining cost elements to the customer.

7- Credibility: This refers to the bank's trustworthiness and good reputation. This is achieved through the bank's name, reputation, and the characteristics of service providers who have direct contact with customers.

8- Safety: This refers to the risk-free nature of transactions with a service organization, meaning the customer feels safe when dealing with the bank and feels constantly secure in the bank's reputation and experience.

9- Customer Knowledge and Understanding: This refers to making an effort to understand the customer's needs and their specific needs, providing individual attention to the customer, familiarizing themselves with the bank's long-standing customer, and providing the necessary advice, consultation, and guidance.

10- Tangible material aspects (material components) include the material facilities used in the work, starting with the external appearance of the bank, its interior design, and the devices and means used in performing the service.

Chapter Four

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The Contribution of Banking Information Systems to Improving the Quality of Banking Services

The current information system used by commercial banks is traditional and out of step with technological developments, like electronic banks in developed countries. This is due to the need to maintain the confidentiality of banking information and reduce the risk of banking hacking, particularly in customer accounts and credit cards, due to the frequent technical failures caused by weak computer systems. Successful banking institutions not only primarily attract new customers, but also seek ways to retain them by improving the quality of banking services by adopting an efficient banking information system. A bank's banking information system is responsible for collecting, processing, analyzing, and transmitting information to decision-making centers at the appropriate time and quality required to serve banking operations. Banking institutions have shifted their focus to the banking services provided to their various users, seeking to implement quality of service to enable them to acquire the necessary knowledge that allows them to redesign and improve their services to meet the needs and desires of their customers. This has become the primary criterion for banking service success. How do banking information systems contribute to improving the quality of banking services?

Information systems play a significant role in service institutions in general, and in banks in particular. Through information, banks can provide high-quality, low-cost services and products in a timely manner. This is achieved by streamlining bank operations and redesigning operational processes. Information systems also enable employees to communicate quickly and provide data and information on customer consumption patterns, which can be used to develop informed plans. Information systems also provide management with details that enable them to make more accurate decisions (Mosecove & Bagranoff, 2003). The most important feature of information systems is their cost savings, which adds a competitive advantage to banks. This helps raise the value of services and products provided to customers by improving the efficiency and quality of operational performance (Khudair, 2020). Banking information systems also contribute to improving the quality of banking services through the following:

A. Keeping pace with the latest technological developments in banking: This is achieved through: 1. Increasing investment spending in information technology and modern systems, as these are the most important weapons banks must acquire to remain competitive and provide advanced banking services.

2. The need to expand the use of ATMs (automated teller machines) to provide various services, such as recording payment orders requested by customers.

B. Improving the human element: This is achieved through the following:

1. Seeking the assistance of a global consultancy or major bank to train banking staff.

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2. Sending bank employees on training missions abroad to understand the technological tools used by global banks.
3. Instilling advanced concepts among bank employees related to the importance of innovation, creativity, and keeping pace with modern technology.

C. Developing bank marketing: The most important pillars of bank marketing functions are the following:
1. Contributing to the discovery of economic opportunities and identifying good projects to ensure the creation of quality employment.
2- Designing a mix of banking services to ensure the continuous satisfaction of customers' desires and needs, ensuring customer satisfaction. (Al-Qassim 20015).

Conclusion

It can be said that there is agreement among bank employees that an information system is a set of computers, software, databases, individuals, and information. This is a largely correct perception that aligns with Peaucell-L's concept of an information system, which he defines as a system that produces information to support individuals in carrying out executive and management functions and making important decisions. It uses information equipment, software, databases, manual and automated procedures, and models for analysis, monitoring, and planning necessary for decision-making. However, none of the banks under study possesses an integrated set of these systems.

Results and recommendations

First: Results

1. Information systems provide accurate and reliable information necessary to perform functions and make related decisions promptly.
2. The importance of having an information system allows for the collection of data on delinquent bank customers and their activities, thus enabling caution and caution in dealing with them.
3. Lack of awareness of the latest developments in banking information technology, including techniques, equipment, and facilities that improve the quality of banking services provided to customers, as well as the services offered by competing banks at home and abroad.
4. Banks' failure to adopt long-term plans to keep pace with the introduction of modern information technology in banking, such as the use of automated teller machines (ATMs) and the Internet, which enable banking services to be completed in the shortest possible time and at the lowest cost.
5. Banks' lack of use of modern communication devices such as fax, email, and others, as well as the limited use of various information technology tools in providing banking services.

6. Lack of customer awareness of the use of information technology tools and the extent of the benefits achieved by such technologies, such as paper checks, credit cards, and electronic money.
7- Banks' reliance on deposits and the multiplicity and diversity of banking services.
8- The importance of geographical spread is considered one of the most important characteristics of banking services.
9- Banking service quality is a criterion for the degree to which actual performance matches customer expectations for that service. Accordingly, maintaining excellent banking service quality leads to reduced costs and increased profitability and market share for the bank.
10- The gap model is considered one of the most important models for measuring banking service quality. The more banks improve and develop their services, the greater customer satisfaction with the services provided.
11- Banking information systems contribute to keeping pace with the latest developments among bank customers and enhancing the human element.

Second: Recommendations
After reviewing the theoretical aspects of the research and thoroughly analyzing it, the researcher makes several recommendations, perhaps the most important of which are the following:
1. Banks should conduct studies to monitor new developments related to improving and developing the quality of banking services.
2. The necessity of using the latest electronic technologies to implement banks' policies in the field of electronic banking services.
3. The necessity of keeping track of recent developments in the field of banking information systems and reaching customers through the most modern means, given their direct and rapid impact on the quality of banking services.
4. Work to develop banking marketing, which works to improve the quality of banking services.
5. Banks should keep pace with modern scientific and technological developments and not be isolated from the outside world in order to build strong relationships with various customers and other sectors.
6. The necessity of training banking sector employees in dealing with various customers.
7. Conduct periodic customer surveys from time to time regarding banking operations to identify their desires, suggestions, and the types of services they desire.
8- Providing a proper reception for bank customers and enhancing customer service to achieve customer satisfaction, which is a key factor in enhancing the bank's performance.
9- Providing waiting rooms and improving the bank's internal and external appearance.

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