

The impact of marketing information systems on improving the quality of banking services - a case study of the Bank of Agriculture and Rural Development

أثر نظم المعلومات التسويقية في تحسين جودة الخدمات البنكية – دراسة حالة
بنك الفلاحة والتنمية الريفية

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Abstract :

This study aims to identify the role and extent of the contribution of marketing information systems in improving the quality of banking services among a sample of clients of the Bank of Agriculture and Rural Development. Its importance lies in the fact that it enables the bank under study to know its position in the local market through the opinions of its customers about the quality of banking services provided by it, and the extent of their satisfaction with these services provided.

For this purpose, the researcher in this study relied on the descriptive analytical approach to shed light on the marketing information system and its role in improving the quality of banking services. For this purpose, a questionnaire was used and distributed to a sample of 148 customers of the bank under study, chosen randomly and to achieve this goal, statistical methods appropriate to the nature of this study were used.

One of the most prominent findings of the study was that customers' evaluation of the quality of banking services provided to them by the bank under study was very high, and therefore the quality of service provided by the bank under study was satisfactory to the customers of the sample and at the level of their expectations.

Keywords: marketing information systems, quality of banking services, Bank of Agriculture and Rural Development - Tebessa.

JEL classification codes:

1. Introduction:

The world is witnessing an information and technology revolution, especially in the field of information and communication, which has affected all sectors, whether economic or social, including the banking sector. In light of this, banks have transformed from the traditional system to modern banking systems, and considering that the bank is a financial institution that carries out various banking operations, it depends on a set of systems, the most important of which are banking information systems. It is an interconnected set of physical, human and software resources that work together in an integrated manner to collect, store and process banking data and transform it into usable information.

There is no doubt that the banking sector, like other sectors, faces challenges. Among these current challenges, banks seek to maintain their customers by working to improve the quality of their banking services, which are based on the customer's point of view, which differs from one customer to another. This requires bank management to work to meet the needs of its customers in a way that matches their expectations, achieves their satisfaction, and gains their loyalty. It relies on banking information systems, which study and analyze data and data from the internal and external environment and transform them into usable information which contributes to the rational decision-making process that ensures improving the quality of banking service.

1.1 The Study problem:

Successful banks have realized the importance of marketing information systems as a modern management tool, especially with the characteristics that characterize banking services that are almost unique to other services. As a result, various studies and researches that have been conducted have proven that they guide an individual's choice of the bank he deals with, and other considerations have emerged. Such as the quality of banking service and the way of dealing with customers are important criteria in choosing a specific bank to deal with. Given the advantages that characterize banking services, banks' adoption of modern marketing information systems is inevitable as this is the only way to improve performance, survival and continuity in the banking market, which has become witnessing an atmosphere charged with intense competition due to globalization and openness to foreign markets. Thus, the information system has become one of the most important activities practiced by the bank. Through this study, we seek to answer the following main question:

To what extent does the application of marketing information systems impact the quality of banking service at the Bank of Agriculture and Rural Development?

From this question, we formulated the following sub-questions:

- Are marketing information systems necessary as a modern management tool?
- To what extent does the Bank of Agriculture and Rural Development care about marketing information systems to achieve high quality?

1.2 Study hypotheses:

This study seeks to test a main hypothesis:

It is expected that there is a significant correlation between banking marketing information systems and the quality of services with their implicit dimensions (responsiveness, intentionality, tangibility, empathy, security) provided by the Bank of Agriculture and Rural Development - Tebessa Agency -

The following sub-hypotheses emerge from this main hypothesis:

- It is expected that there will be a significant effect between bank marketing information systems and the tangibility dimension of the quality of services provided by the bank under study.
- It is expected that there will be a significant effect between bank marketing information systems and the reliability dimension for the quality of services provided by the bank under study.
- It is expected that there will be a significant effect between bank marketing information systems and the response to the quality of services provided by the bank under study.
- It is expected that there will be a significant effect between marketing information systems and the security dimension of the quality of services provided by the bank under study.
- It is expected that there will be a significant effect between marketing information systems and the empathy dimension for the quality of services provided by the bank under study.

1.3 The important of study:

The importance of the study is evident in the following points:

- It deals with one of the important and vital topics in the institutions at the present time, due to the importance and necessity of adopting marketing systems that are appropriate to the policies and strategies of the institutions in order to ensure quality and efficiency for their survival.
- Draw the attention of institutional officials that information has become one of the strategic variables, and this is due to the tremendous progress in information technology and the emergence of the information revolution that the world has witnessed today. Thus,

institutions must adopt a marketing information system in order to build a marketing plan that guarantees them the achievement of quality and efficiency for their survival.

- In view of the role played by this system in organizing the flow of information for decision makers and the facilities it provides in processing effective and correct decisions.
- The importance of the strategic decision in the organization to face uncertainties and address current marketing problems and try to develop a preventive treatment for potential problems.
- Availability of rapid means of communication through which information can be transmitted at a high speed, especially through the Internet, which made marketing information systems one of the basics of success in competition and survival for organizations, which encouraged the adoption of marketing information system applications.

1.4 Objectives of the study:

The study seeks to achieve the following objectives:

- Examine the nature and importance of marketing information as a distinct resource within the Bank.
- Identify the marketing information system and its various characteristics, components, models and sources.
- Examine the quality of banking services and their standards.
- Knowledge of the degree of dependence of the Bank of Agriculture and Rural Development on the marketing information system.

2. The theoretical framework for the variables of the study:

2.1 The nature of marketing information systems and its characteristics:

2.1.1 The concept of marketing information systems:

A- Definition of marketing information systems:

The marketing information system can be defined as:

- It is “all individuals, equipment, procedures and means designed for the purpose of collecting, classifying, analyzing, evaluating and distributing information to the marketing decision-making centers that need it at the right time” (Maala, 2005, P. 104).
- It is “an organized and sequential method for the process of collecting and analyzing data with the aim of providing marketing managers with the necessary information for making marketing decisions” (El- Zoubi, 2010, P. 159).
- It is a “planned, critical-based system designed to provide managers with a continuous flow of information regarding their area of interest

as well as a set of people, equipment and procedures that work together to classify, analyze, evaluate and distribute needs in an orderly manner to supply information to marketing decision makers” (Swidan, 2006, P. 102).

- It is “one of the sub-information systems within the organization, which aims to collect and process data from its internal and external sources, store information, retrieve it and send it to decision makers” (Al-Ajarmah & El-Ta’I, 2002, P. 15)
- It is “a formation or combination of individuals and equipment of the organization to provide data on an ongoing basis used to exchange internal and external information that the organization needs to make decisions” (El-Nosor, 2013, P. 157- 158).
- It is “a set of joint efforts among all employees of the organization to collect, analyze, classify and disseminate decision-making information for planning, implementation and marketing control and improvement” (Abu Qahf, 2006, P. 141).
- From the foregoing, the marketing information system can be defined as a set of continuous efforts to provide the flow of marketing information to the various marketing decision sites in the organization, where the marketing information system can be likened to a network in the organization.

B- Importance of Marketing Information Systems:

The age in which we live today is characterized by the proliferation of information, as it has become a very important fundamental role in organizations for decision-making, especially marketing; Due to the urgent need for marketing information more than ever before, information is the raw material and is the backbone of marketing decisions. The importance of marketing information systems is represented in the following points (El-Zoubi, Op, Cit, P.160):

- Giving a general picture of the institution and playing the role of communication and planning tool.
- Providing customer data and feedback that can help the company align its business procedures to customer needs.
- The expansion of the scope of work from local markets to international markets has increased the complexity of marketing activity and this requires more information.
- Contribute to the development of products, which leads to the creation of desires and needs for consumers.

- Helping the organization gain a competitive advantage, which is the company's ability to do something better, faster, cheaper or unique compared to competing companies in the market.
- Excellence in performance and improving the performance of workers through continuous training for them on the use of the information system and strengthening the various relationships from all sides, whether at home or abroad.
- Continuous keeping up with information technology updates.

2.1.2 Characteristics and components of marketing information systems:

A- Characteristics of marketing information systems (El-Ajarmah, Op, Cit, P. 22):

- It is an application of the concept of systems in the field of information in order to determine the data required for decision-making, data collection, operation, storage, and future retrieval.
- A system directed towards the future, as it anticipates and prevents problems, and solves them, as it is preventive and curative at the same time.
- Characterized by continuity and not dealing with isolated matters.
- The possibility of measuring and analyzing the results using various mathematical and statistical models available in the system.
- Determine accurate and reliable sources for all data.
- Speed and accuracy in obtaining detailed information within the institution.
- Reducing his time used in planning work.

B- Components of marketing information systems:

The marketing information system consists of the following elements (Arafa, 2011, P. 180):

- **Inputs:** They are the basis for generating the required outputs, as it is necessary to provide the inputs with the required specifications. A good raw material results in a good commodity, and the inputs in the marketing information system are data, meaning the raw material that is used to generate information and is not directly suitable for use in decision-making.
- **Processing:** It refers to the activities carried out by the marketing information system with the aim of converting inputs or data into outputs or information.

- **Outputs:** It is represented in the marketing information system with information only, which was obtained in the data processing stage, which has a certain significance and can benefit the decision-maker in confronting and evaluating the situation he is in, i.e. in the process of dealing with it and making a decision about it.
- **Feedback:** It is considered the most important component of the system. Given its connection to the decision-making task, which is a criterion for measuring the effectiveness of the marketing information system, if the information has contributed significantly to the success and soundness of decision-making, provided all possible alternatives and solutions, and identified problems and opportunities, that is, clarifying the picture for the decision-maker, then it is considered the criterion through which the outputs of the system are evaluated according to specific criteria. This is done through comparisons between the marketing information that was actually provided before the system and the information that is planned to be provided, with the aim of correcting deviations in the event of their occurrence, diagnosing their causes and trying to correct them.

C- Models and sources of marketing information systems:

The marketing information consists of (El- Zoubi, Op, Cit, P. 167-168):

- **General data:** which includes data on the population, data on income, data on prices, data on government laws and policies, data on the distribution system and data on the division of distributors.
- **Product data:** which includes data on production, consumption, foreign trade, data on competing and similar products, data on consumers and their preference for imported products compared to local ones, as well as for brands and classifying them according to their demographic and economic characteristics.
- **Information and data of financial and accounting information systems:** as it contributes to providing data on expected revenues from sales, marketing costs and cost estimates for the study, estimates for administrative expenses, estimated cash flows to know the expected deficits or surpluses, data on expected income, whether profit or loss, data on financial ratios to determine the strengths and weaknesses of the institution to evaluate them in the future for the contributing parties such as banks, financiers, investors and the government, the necessary data for investment plans, new expansions, direct and indirect costs.
- **Information and data of the Personnel and Human Resources Information System:** It studies the number of employees and their

distribution to job positions, available employees skills, personal data for each employee, wages, training and insurance courses, data on absence rates, delays, vacations, and internal labor regulations.

- **Information and data from the production system:** It includes providing data that helps determine the production capacity of the establishment, taking into account the determination of the available and maximum capacity, data on federations of chambers of industry and commerce, periodicals and interviews with specialists, data on the capabilities of the establishment and the appropriate technological method for production and the quality of machinery and equipment that assist in the production process. Data on the characteristics of raw materials used and other inputs, data on the number and type of labor required for production work, data on the internal layout of the factory, data from market espionage systems or marketing intelligence system: It is a method or method by which the marketing manager can examine and know the changes that occur in the external marketing environment, public and private, on a permanent, continuous and renewable basis.

2.2 What is the quality of banking services:

2.2.1 The concept of banking services and their characteristics:

A- Definition of banking services:

- Banking service is defined as “a set of apparent characteristics (management) and implicit characteristics (consumer) and external characteristics (society) that must be compatible with the needs and requirements of customers by giving a set of advantages, benefits and characteristics to each service” (El- Sarn, Op, Cit, P. 30)
- It is also defined as “a group of activities and operations with a utilitarian content inherent in the tangible and intangible elements provided by the bank, which the beneficiaries perceive through their utilitarian features and values, which constitute a source for satisfying their current and future financial and credit needs and desires, At the same time, it constitutes a source of profits for the bank through the reciprocal relationship between the two parties” (Al- Ajarmah, 2004, P. 32).
- It is also defined as “behaviors, activities, or performance provided by one party to another, and these activities are considered intangible and do not entail the transfer of ownership of anything, and the provision of the service may be linked to a tangible physical product” (Al Ruwais, 2002, P. 62).

The multiplicity of banking financial institutions and their different types and forms led to the emergence of diversity in their services, and the benefits of this diversification were represented in providing multiple and more diversified services so that banks can reduce their dependence on the demand available for only one service, which leads to reducing risk in banking globally (Madura, 2003, P. 491), accordingly, the factors that helped in the global trend of the banking services industry fall within three important factors: the first of which is the economies of scale, since large banks are able to operate and provide their services at the lowest possible cost, and with the best conditions suitable for customers, which achieves the reputation of the bank, and the possibility of obtaining good results at the global level, and the second is the communication technology that paved the way and brought the distances closer and helped in overcoming the difficulties of controlling and coordinating the banking business of the bank outside the borders of its home country, as for the last factor, it focuses on the legal determinants that have been overcome recently through the agreements of the World Trade Organization, the liberalization of trade in financial services, and the development of standard systems and specifications for the performance and operation of banking services globally (Kohn, 1994, P. 342).

B- Characteristics of banking services:

Banking services apply to the characteristics of services in general, and their known elements, but they differ from them in the manner of the performance of workers and the equipment used as well as the nature of activities and procedures and the different needs and desires of customers (Al- Mula & Al- Murad, 2008, P. 22), as the characteristics of banking services take on a wide and comprehensive feature for many aspects and characteristics, namely (Algerian et al, 2012, P. 171).

- **Intangibility:** The most important thing that distinguishes a service from a commodity is that the service is intangible in the sense that the service has no physical existence beyond that it is produced or prepared and then consumed or used when needed. In practice, the production and consumption processes occur simultaneously. The intangibility characteristic results in the difficulty of examining, examining, or trying the service before purchasing it. In other words, the beneficiary of the service will not be able to make decisions or express an opinion about the service based on a tangible evaluation through the senses before purchasing the service, as would happen if he bought a physical commodity, that is why we say that

the decision to buy the service is more difficult than the decision to buy the commodity.

- **Correlation:** because the production and consumption (distribution) of the banking service are simultaneous, as the main interest of the marketing man is usually to create the temporal and spatial benefit, this means that the service is appropriate in the right place and time, and banking services require interaction between the customer and the bank providing the service, as the customer himself is a participant in the process of providing the service.
- **High adaptability of the marketing system:** The appropriate distribution channel is usually chosen in the service sector and within a marketing program and at different levels due to the nature and importance of the service.
- **Lack of private uniformity:** services to the public are somewhat similar so banks must find a way to find consistency and embed this in the memory of the public.
- **Heterogeneity or a wider range:** banking services work to provide a wide range of services and products to meet the diverse banking needs of different customers in different regions.
- **Geographical dispersion:** owning a network of branches in any bank of a large size and scope in a sequential manner to provide the appropriate benefits and to meet the local, national and global needs.
- **Balance between growth and risk:** When banking products are risky, there must be supervision to find a balance between expanding sales and being aware of high risk.
- **Fluctuations in demand:** fluctuations may occur in certain types of service due to emergency reasons or seasonal conditions such as the demand for loans for seasonal tourism projects.
- **Fiduciary Responsibility:** Protecting customers' deposits and earnings, and this is important not in banks, but in most other financial institutions.
- **Labor intensity:** The banking services sector remains highly labor intensive, which increases the cost of production and affects the price of products.

2.2.2 What is the quality of banking services and their standards:

A. The concept of quality of banking services:

The quality of banking services is viewed as of strategic value, and it is of strategic value, and its study helps the bank to retain its customers and employees and make them satisfied, in addition to increasing the chances of selling banking services, attracting new

customers, developing relations between the customer and the bank, enhancing reputation, reducing costs, and increasing profits, market share, and improving banking performance at the global level (Rabih & Faaza, 2014, P. 21).

- The quality of banking service is defined as “the degree of satisfaction that the service achieves for customers by meeting their needs, desires, and expectations, or it is the degree of compatibility between customers’ expectations and perception of the service” (El Ta’i, 2008, P. 28).
- It is also defined as “the suitability of the service to meet or exceed the required needs when used by the customer” (Kumar & Sursh, 2008, P. 132).
- It is also defined as “the sum and characteristics of a product or service that strengthens the ability to concern certain satisfaction and meet certain needs. The important thing for this definition of the marketer is to focus on the satisfaction and needs of the customer” (El dardka & chili, 2002, P. 16).
- It is also defined by the American Society for Quality as “the total set of characteristics and advantages that affect the ability of a particular good or service to meet certain needs, and that they are different things consistent with the surroundings of individuals” (El smaidi & Youssif, 2005, P. 05).

B. Banking Service Quality Standards:

There is a set of standards that control the group of banking services (Abd El Halim, 2022, P. 931- 933):

- **The tangible physical aspects “material components”:** These include the physical facilities used in the work from the external appearance of the bank and its internal processing with the latest devices and means used in providing the service.
- **Reliability:** It means the stability of performance and the proper completion of the service, and the implementation of the bank’s promises to the customer through:
 - Accuracy of calculations and files and non-occurrence of errors.
 - Proper provision of banking services.
 - Providing the service at the specified dates and at the time designed for it.
 - Consistent level of service performance.
- **The speed of response by the employees:** It indicates the willingness and willingness of the bank employees to provide the service, assist the customers, respond to their inquiries, the speed in

performing the service, and the immediate response to the customer's request.

- **Efficiency or ability:** It means the skill and ability possessed by workers to perform the service, which is derived from the availability of information and familiarity with the conditions and nature of the work and its formation to achieve the proper performance of the service.
- **Access to the service:** This is limited to the ease of communication and the ease of obtaining the service on the part of the customer, and this reduces the waiting period for obtaining the service, and the appropriate working hours for the customer, and the availability of a sufficient number of competitions to obtain the service.
- **Credibility:** It includes honesty, trust and reputation in both the bank and the service provider.
- **Communication:** It requires providing customers with information in a language they understand, providing necessary clarifications and explanations about the nature of the service and its cost, the advantages it offers about the service and its cost, the advantages resulting from the service and possible alternatives.
- **Empathy:** It means that the bank's employees, especially those who have contact with customers, should be respectful and good-looking, and enjoy the spirit of friendship, friendliness and respect for customers, and appreciate their circumstances and sympathize with them.
- **Security:** It means that transactions with the bank are free of doubts and risks, and includes physical and financial security and maintaining the confidentiality of information related to customer accounts and a commitment to honesty and honesty in dealing with customers, which generates trust between the two parties because banking work is based on trust, which leads them to take a good image and a good impression towards the bank.
- **Knowing the customer's presentation:** It means making an effort to understand the customer's needs and know his special needs, individual attention to the customer, knowing the permanent customer of the bank and providing the necessary advice, guidance, advice and guidance.
- **Courtesy:** It means that the bank employee, especially those who have contact with customers, should be respectful and good-looking, and enjoy the spirit of friendship and respect for customers.

3. Field study:

3.1 Preparing for the fieldstudy:

3.1.1 Study population and sample:

The study population consists of clients of the Bank of Agriculture and Rural DevelopmentTebessa, the questionnaire wasdistributedelectronically, and a randomsampleconsisting of 148 clients of the bankwasselected.

3.1.2 Studytools:

The questionnaire wasreliedupon as a basic tool to obtain the necessary information and data. The questionnaire wasdividedinto 31 sequential questions formulated in accordance with the characteristics of the targetsample. It wasdividedintotwoparts:a part related to personal data, whichisgender, age, educationallevel, region, The second part includes 12 questions about banking information systems and 19 questions about the dimensions of the quality of banking services, which are tangible, reliable, responsive, safe, and sympathetic.

In addition to the use of statistical programs that are commensuratewith the hypotheses of the study, such as the analysis of the stability coefficient alpha Crow Nabach to measure the stability of the questionnaire in addition to the validity coefficient, frequencies and percentages, the arithmeticmean and standard deviation, and the coefficient of difference and correlationbetween the variables of the study.

3.1.3 Test of validity and validity of the questionnaire:

To applystatisticalmethods and test hypotheses, itwasnecessary to test the validity and reliability of the questionnaire. The stability of the questionnaire can beverified by calculatingCronbach's alpha coefficient. The value of this coefficient ranges between 0-1, sothatthe smallest acceptable value for Cronbach's alpha is 0.6. The resultswere as follows:

Table (01):Cronbach's alpha coefficient test results (stability coefficient)

Parts Of The Questionnaire	Stability Coefficient
Marketing information systems	0.876
Quality of banking services	0.839
All axes	0.916

Source:Prepared by researchersaccording to the results of the statistical program SPSS

It isclearfrom Table (01) that the value of Cronbach's alpha coefficient for the total score is 0.916, whichisgreaterthan the lowest acceptable value for the stability coefficient of 0.6, whichconfirms

the stability of the questionnaire and its validity for analysis and the reliability of the results that we will reach.

As for the validity of the internal consistency, it means the extent to which each of the statements related to the subject of the study is consistent with the total score of the axis as a whole, by taking the square root of the stability coefficient represented by Cronbach's alpha coefficient for each axis. The results were as follows:

Table (02): The results of the internal consistency coefficient test results

Parts Of The Questionnaire	The coefficient of honesty
Marketing information systems	0.935
Quality of banking services	0.915
All axes	0.957

Source: Prepared by the researchers according to the results of the SPSS statistical program

3.2 Testing hypotheses and analyzing the results of the study:

3.2.1 Characteristics of the study sample:

A. Characteristics of the study sample in terms of gender:

Table (03): Characteristics of the study sample in terms of gender

Gender	Repetition	Percentage (%)
Male	78	52.7
Female	70	47.3
Total	148	100

Source: Prepared by the researchers according to the results of the SPSS statistical program

Through table (03), we notice that the study sample is distributed in close proportions, as the percentage of males was 52.7%, while the percentage of females was 47.3%, meaning that the percentage of males is greater than the percentage of females.

B. Characteristics of the study sample in terms of age:

Table (04): Characteristics of the study sample in terms of age

Age	Repetition	Percentage (%)
Under 29 years old	92	62.2
From 30 to 50 years old	50	33.8
Over 50 years old	6	4.1
Total	148	100

Source: Prepared by the researchers according to the results of the SPSS statistical program

C. Characteristics of the studysample in terms of educationallevel:

Table (05):Characteristics of the studysample in terms of educationallevel

Education Level	Repetition	Percentage (%)
lessthansecondary	8	5.4
Secondary	20	13.5
Collegiate	108	73
Other Certificates	12	8.1
Total	148	100

Source:Prepared by the researchersaccording to the results of the SPSS statistical program

It isclearfrom Table (05) that the highest percentage, according to the educationallevel, belongs to undergraduates, as the percentage reached 73%, and the secondaryeducationlevelreached 13.5%, while the lowest percentages were for a levellessthansecondary and the level of othercertificateswith rates of 5.4% and 8.1%, respectively.

D. Characteristics of the studysampleaccording to the region in whichyoulive:

Table (06):Characteristics of the studysample in terms of region

Region	Repetition	Percentage (%)
City	124	83.8
Countryside	24	16.2
Total	148	100

Source:Prepared by the researchersaccording to the results of the SPSS statistical program

It isclearfrom Table (06) that the largest percentage, according to the region in whichhelives, belongs to the city population, whichreached 83.8%, while the percentage of the rural population reached 16.2%.

3.2.2 Descriptive analysis of the studyvariables:

A. Marketing information systems:

Table (07):Statisticalindicatorsrelated to the variable of marketing information systems

Num	Phrases	Arithmetic mean	Standard Deviation	verification
1	The bank's information system isbased on modern technology.	3.932	0.686	High
2	The Bank publisheshonest and true	3.662	0.861	High

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	information and news about its business and the efficiency of its services.			
3	The information system used in the bank helps reduce banking service costs.	3.770	0.817	High
4	The information system used in the bank helps to market its services easily and in a short time.	3.824	0.923	High
5	The information system used in the bank contributes to facilitating the process of studying and granting loans.	3.864	0.923	High
6	The bank provides credit cards for customers to withdraw from the ATM.	4.040	0.864	High
7	The use of the banking information system reduces human effort.	3.945	0.916	High
8	The banking information system gives a good picture of the bank about the quality of the services it provides.	3.891	0.866	High
9	Flexibility is one of the characteristics of the banking information system in order to adapt to changes.	3.729	0.892	High
10	The information system coordinates and arranges the efforts of individuals for banking work.	3.729	0.845	High
11	The banking information system determines the extent of bureaucracy and nepotism.	3.351	0.939	High
12	The information system can recover information if it is lost.	3.945	0.931	High
13	Marketing information system	3.807	0.525	High

Source: Prepared by the researchers according to the results of the SPSS statistical program

Table (07) shows that the average of the expressions of the marketing information systems variable is estimated at 3.8074, with a standard deviation of 0.52524, which indicates a low dispersion of the values from their arithmetic mean. Therefore, it falls at a high level of approval, which indicates that the bank seeks to devote the marketing information system to serve its customers, and these services enhance the bank's reputation and do not care about the existence of nepotism and bureaucracy.

B. Quality of banking services:

- Tangibility:

Table 08: Indicators of tangibility terms

Num	Phrases	Arithmetic mean	Standard Deviation	verification
1	The external appearance of the bank is appropriate to the nature of its activity.	3.918	0.837	High
2	The bank has advanced technical equipment.	3.716	0.983	High
3	The internal design of the bank facilitates the performance of work.	3.878	0.887	High
4	Employees are committed to looking good.	3.689	1.002	High
5	The bank enjoys a convenient and close location.	3.770	1.075	High
6	Tangibility.	3.794	0.641	High

Source: Prepared by the researchers according to the results of the SPSS statistical program

Table (08) shows that the general average of the tangible expressions was estimated at 3.7946, with a standard deviation of 0.64140, which indicates a low dispersion of the values from their arithmetic mean, and therefore it falls at the level of agreement with a high degree.

-Reliability:

Table (09): Indicators of reliability terms

Num	Phrases	Arithmetic mean	Standard Deviation	verification
1	The bank is committed to carrying out the work on time.	3.702	0.986	High
2	There will be accuracy in the work and the lack of errors.	3.756	0.869	High
3	The bank cares about	3.824	0.814	High

	customers' problems and give them solutions.			
4	The Bank maintains accurate records about the transactions that customers deal with the Bank.	4.000	0.755	High
5	Reliability	3.820	0.622	High

Source: Prepared by the researchers according to the results of the SPSS statistical program

Table (09) shows that the general average of the reliability expressions was estimated at 3.8209, with a standard deviation of 0.62204, which indicates that there is a low dispersion of the values from their arithmetic mean, and thus it falls at the level of agreement with a high degree.

-Response:

Table (10): Indicators for Response Phrases:

Num	Phrases	Arithmetic mean	Standard Deviation	verification
1	The bank is keen to reduce the waiting period for customers and give them a specific time to complete the service.	3.810	0.898	High
2	The employees of the bank are easy to communicate with customers.	3.554	0.949	High
3	Employees give time to customers to respond to their requests and inquiries.	3.648	0.967	High
4	Response	3.671	0.776	High

Source: Prepared by the researchers according to the results of the SPSS statistical program

Table (10) shows that the general average of the response axis expressions was estimated at 3.6712 with a standard deviation of 0.77663, which indicates that there is an average dispersion of the values from their arithmetic mean, which indicates that the bank is keen to reduce the waiting period for customers and give them a specific time to complete the service, as well as giving employees time to customers to respond to their requests and inquiries.

- Safety:

Table (11):Statisticalindicators of safety phrases

Num	Phrases	Arithmeticmean	Standard Deviation	verification
1	The Bank providesphysical and financialsecurity and confidentiality of operations.	4.081	0.751	High
2	The bankiskeen on honesty and honesty in dealingwithcustomers, whichgenerates trust between the two parties.	3.783	0.861	High
3	There are electronicmeanssuch as early warning to reassureemployees in dealingwith the bank.	3.770	0.833	High
4	Safety	3.878	0.663	High

Source:Prepared by the researchersaccording to the results of the SPSS statistical program

Table (11) shows that the generalaverage of the expressions of the security axis wasestimated at 3.8784 with a standard deviation of 0.66343, whichindicatesthatthereis a low dispersion of values fromtheirarithmeticmean, whichindicatesthat the bankprovidesphysical and financialsecurity and confidentiality of operations, as well as itiskeen on honesty and honestywithcustomerswhichgenerates trust between the two parties.

- Sympathy

Table 12:Statisticalindicators of sympathy expressions

Nu m	Phrases	Arithmeticm ean	Standar d Deviati on	verificati on
1	The staff alwaysprovidespersonal attention to all customers and awareness of the importance of the customer.	3.500	1.097	High
2	The bank'sworkinghours are suitable for all customers.	3.648	0.863	High

3	Bank employees have the ability to understand the individual needs and privacy of customers.	3.594	0.917	High
4	The bank grants loans to customers with appropriate interest and commissions compared to other banks.	3.729	0.877	High
5	Sympathize	3.618	0.681	High

Source: Prepared by the researchers according to the results of the SPSS statistical program

Table (12) shows that the general average of the safety axis expressions was estimated at 3.6182 with a standard deviation of 0.68166, which indicates a low dispersion of values across their arithmetic mean. Thus, it is at a high level of approval, which indicates that the bank grants loans to customers with appropriate interest and commissions compared to other banks, and also that the bank's working hours suit all customers.

3.2.3 Testing the hypotheses of the study and discussing the results:

1. The First Sub-Hypothesis:

H0: It is not expected that there will be a significant effect between bank marketing information systems and the tangibility dimension of the quality of services provided by the bank under study.

H1: It is expected that there will be a significant effect between bank marketing information systems and the tangibility dimension of the quality of services provided by the bank under study.

Table (13): The impact of the information system on tangibility

Independent Variable	Dependent Variable	Slope Constant B	Regression Coefficient a	Correlation Coefficient R	Coefficient Of Determination R ²	The calculated T value	The calculated F value	Significance level Sig
Marketing information system	Tangibility	0.845	0.775	0.634	0.402	9.914	98.288	0.000

Source: Prepared by the researchers according to the results of the SPSS statistical program

It is clear from Table (13) that there is a statistically significant relationship at a significant level ($\alpha \leq 0.05$), where the correlation reached 63.4%, which is a strong correlation, while the coefficient of determination reached 40.2%, the F test showed that the model is generally statistically significant, as the significance level was estimated at 0.000, which is less than the significant level ($\alpha \leq 0.05$).

2. The Second Sub-Hypothesis:

H0: It is not expected that there will be a significant effect between bank marketing information systems and the reliability dimension for the quality of services provided by the bank under study.

H1: It is expected that there will be a significant effect between bank marketing information systems and the reliability dimension for the quality of services provided by the bank under study.

Table (14): The effect of marketing information system on reliability

Independent Variable	Dependent Variable	Slope Constant B	Regression Coefficient a	Correlation Coefficient R	Coefficient Of Determination R ²	The calculated T value	The calculated F value	Significance level Sig
Marketing information system	Reliability	1.030	0.733	0.619	0.383	9.524	9.700	0.000

Source: Prepared by the researchers according to the results of the SPSS statistical program

It is clear from Table (14) that there is a statistically significant relationship at a significant level ($\alpha \leq 0.05$), where the correlation coefficient reached 63.4%, which is a strong correlation, while the determination coefficient reached 40.2%. The F test showed that the model is generally statistically significant where the level of significance was estimated at 0.000, which is less than the level of significance ($\alpha \leq 0.05$).

3. The Third Sub-Hypothesis:

H0: It is not expected that there will be a significant effect between bank marketing information systems and the response to the quality of services provided by the bank under study.

H1: It is expected that there will be a significant effect between bank marketing information systems and the response to the quality of services provided by the bank under study.

Table (15): The effect of the marketing information system on the response

Independent Variable	Dependent Variable	Slope Constant B	Regression Coefficient a	Correlation Coefficient R	Coefficient Of Determination R2	The calculated T value	The calculated F value	Significance level Sig
Marketing information system	Response	0.822	0.748	0.506	0.256	7.091	50.286	0.000

Source: Prepared by the researchers according to the results of the SPSS statistical program

It is clear from Table (15) that there is a statistically significant relationship at a significant level ($\alpha \leq 0.05$), where the correlation coefficient was 50.6%, which is a medium correlation, while the determination coefficient was 25.6%. The F test showed that the model is generally statistically significant where the level of significance was estimated at 0.000, which is less than the level of significance ($\alpha \leq 0.05$).

4. The Fourth Sub-Hypothesis:

H0: It is not expected that there will be a significant effect between marketing information systems and the security dimension for the quality of services provided by the bank under study.

H1: It is expected that there will be a significant effect between marketing information systems and the security dimension for the quality of services provided by the bank under study

Table (16): The impact of the marketing information system on security

Independen t Varia ble	Dependen t Vari able	Slope Con stant B	Regr essio n Coeff icient a	Corre lation Coeffi cient R	Coeffic ient Of Determ ination R2	The cal culated T value	The cal culated F value	Significan celevelSig
Mark eting infor matio n syste m	Safet y	0.82 2	0.748	0.506	0.256	7.091	50.28 6	0.000

Source:Prepared by the researchersaccording to the results of the SPSS statistical program

Table (16) shows thatthereis a statisticallysignificantrelationship at a significantlevel ($\alpha \leq 0.05$), where the correlation coefficient was 38.2%, whichis a weakcorrelation, while the determination coefficient was 14.6%. The F test showedthat the model isgenerallystatisticallysignificantwhere the level of significancewasestimated at 0.000, whichis the lowestlevel of significance ($\alpha \leq 0.05$).

5. The Fifth Sub-Hypothesis:

H0: It is not expected that there will be a significant effect between marketing information systems and the empathy dimension for the quality of services provided by the bank under study.

H1: It is expected that there will be a significant effect between marketing information systems and the empathy dimension for the quality of services provided by the bank under study.

Table (17): The impact of the marketing information system on Empathy

Independen t Varia ble	Dependen t Vari able	Slope Con stant B	Regr essio n Coeff icient a	Corre lation Coeffi cient R	Coeffic ient Of Determ ination R2	The cal culated T value	The cal culated F value	Significan celevelSig
Mark eting infor matio n syste m	Emp athy	1.18 9	0.638	0.492	0.242	6.820	46.51 2	0.000

Source:Prepared by the researchersaccording to the results of the SPSS statistical program

It is clear from Table (17) that there is a statistically significant relationship at a significant level ($\alpha \leq 0.05$), where the correlation coefficient was 49.2%, which is a medium correlation, while the determination coefficient was 24.2%, the F test showed that the model is generally statistically significant, as the significance level was estimated at 0.000, which is the lowest level of significance ($\alpha \leq 0.05$).

B. Main Hypothesis Test:

Table (18): T-TEST results for testing the main hypothesis

Statement	Arithmetic Mean	Degree Of Freedom	The calculated T value	Significance level Sig	The Decision
The Main Hypothesis	3.807	147	88.188	0.000	Acceptable

Source: Prepared by the researchers according to the results of the SPSS statistical program

It is clear from the table (18) that the calculated T value amounted to 88.188 at the significance level of 0.000, which is greater than the significant level ($\alpha \leq 0.05$). Therefore, the main hypothesis is accepted that there is a statistical relationship between the Bank of Agriculture and Rural Development - Tebessa for the marketing information system and the quality of banking services is at a significant level ($\alpha \leq 0.05$), and through the arithmetic mean, it can be said that the institution's adoption of the marketing information system has an acceptable level, which amounted to 3.807, falling in the field of approval with a high degree.

4. Conclusion:

Through this paper, we tried to study the role of marketing information systems in improving the quality of banking services at the Bank of Agriculture and Rural Development - Tebessa, and the study concluded with a set of results and recommendations.

Results:

- Customer satisfaction is a result of the efficiency of banking institutions and their ability to provide distinguished services of high quality.

- Marketing information systems are considered one of the most important information systems in the banking institution, as it is the official spokesperson for customers within the institution, because it is the only one capable of studying quality by defining the needs and expectations of consumers and customers.
- Studying the banking customer's behavior is of great importance as it helps the banking management to identify the customer's tastes and desires and make the offered banking products and services in line with these desires.
- The importance of the quality of banking services provided to customers is considered a basis for achieving excellence in the face of competitors and differentiation between banks. Therefore, the level of quality of banking services performance has become one of the competitive weapons.
- Marketing information systems contribute to improving the quality of banking services at the Bank of Agriculture and Rural Development - Tebessa.

Recommendations:

- The need for banks to pay attention to applying marketing information systems to improve and develop their banking services.
- The banking system must adopt well-thought-out and appropriate strategies that take into account modern technology in managing management.
- Attempting to educate the customer of the importance and quality of electronic services provided through publicity and advertisements.

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