The bet to achieve quality in banking information systems using internal marketing strategies in the National Bank of Algeria

Hadjab moussa [1]	**Mezghiche Abd alhalim**
University of M'sila, Algeria	**Universityof Algiers 3, Algeria**
moussa.hadjab@univ-msila.dz	*Mezghiche1@gmail.com*

Abstract :

This research aims to determine the extent to which internal marketing strategies are adopted in Algerian banking institutions as a mechanism of modern management, the extent to which it reflects on the activation and improvement of their information systems quality, and its implications for the performance and competitiveness of Algerian banks.

The research addresses the most important concepts and elements of the administrative systems and examines the case of one of the most important Algerian banks, the National Bank of Algeria, through a statistical exploratory study depends on a questionnaire directed to the frames of three central agencies: Reghaia, Rouiba, and Boumerdes agencies, leading to identify the relationship between study variables and the testing of their hypotheses.

Keywords: internal marketing strategy, information system, modern management mechanisms, Algerian banking institutions.

JEL classification codes: Z02 ;Z21

---

[1] *Corresponding author, Hadjab moussa .*

Introduction

Banks are among the most important economic institutions that contribute to the revitalization of economic activity and promote the financial performance of institutions and individuals. It is considered the most important intermediary between it and Governments by drawing clients towards the deposit of savings at certain levels and also as a source of financial liquidity for investors of different activities .Due to this strong role played by banks, many researchers have sought to derive the advantages that achieve superiority for the bank and seek out internal and external standards unique to the superior bank in activating its financial role within society. Perhaps the most important differences that the banking arrangement begins with are the technology or the technique used in internal and external activities, which generate a significant flow of information to the bank's strategic centers. This information helps the decision-maker to make a quick and active decision that serves the situations to be overcome. The basis for the quality of information is due to the nature of the system that oversees its timely collection, arrangement, storage, and transmission to the decision-maker. Moreover, banking information systems (BIS) are among the most complex systems owned by economic institutions. They are completely based on necessary indicators, including security and flexibility. These indicators and conditions should be accompanied by a core activity within the bank, which is the marketing activity that maintains continuity, customer satisfaction, and loyalty. This continuity serves the objectives of the bank and brings important competitive advantages.

First: the methodological framework of the research

The methodological aspect of the research focuses on the problem of the study, its importance, its objectives, its outline and variables, its hypotheses, the methodology used, and the methodology of the field study with its various components and elements.

Study problem:

Banks strive to develop their strategic tools to address potential risks in their dynamic environment, which knows continuous changes depending on the economic situation and the extent to which this situation has an impact on guiding clients, individuals, and institutions, to request bank services and information systems among Banks strategic tools that should be of quality.However, how can the banking information system achieve this quality within an economic entity that has more of its constants and laws than its changing and flexible frameworks?In this context, therefore, it must rely on

strategic activities that increase the flexibility and rigidity of this system, mainly depending on the most flexible activity in this, namely marketing activity. However, in the context of our study, we are trying to find out the mechanisms for operating and feeding the bank's organizational levels with information and internal marketing, one of the most important activities that serve this trend, highlighting the pattern of human resource management from a marketing perspective. The increased role of internal marketing has made the existing information system within the bank more profitable, so the problem of research can be identified by asking a number of questions:

- Do banks apply an internal marketing strategy that includes all its components?
- Do banks rely on the output of information systems on a permanent and continuous basis?
- How much impact does the adoption of the internal marketing strategy have on the activation of banking information systems?

Study hypotheses:

1- The Bank applies the internal marketing strategy with all its components.
2- The Bank adopts an integrated and effective information system.
3- The application of the internal marketing strategy improves the quality of the banking information system.

Study importance:

- The importance of research stems from the importance of the bank as an economic entity with an economic role, requiring the presence of modern strategic and operational regulatory instruments.
- This study is significant because it reflects the role of various information systems within banks that play a role in the survival or demise of the bank.
- Knowing the banks' willingness to adopt internal marketing strategies.

Study objectives:

- Providing the most important stages of information systems operation that contribute to bank decisions.
- Providing the most important features and advantages of the internal marketing strategy.
- Discovering the relationship among strategic components such as information systems and internal marketing strategy.

– Trying to produce a range of findings and recommendations that contribute to increasinginterest in internal marketing as well as information systems.

Figure (01): virtual study plan
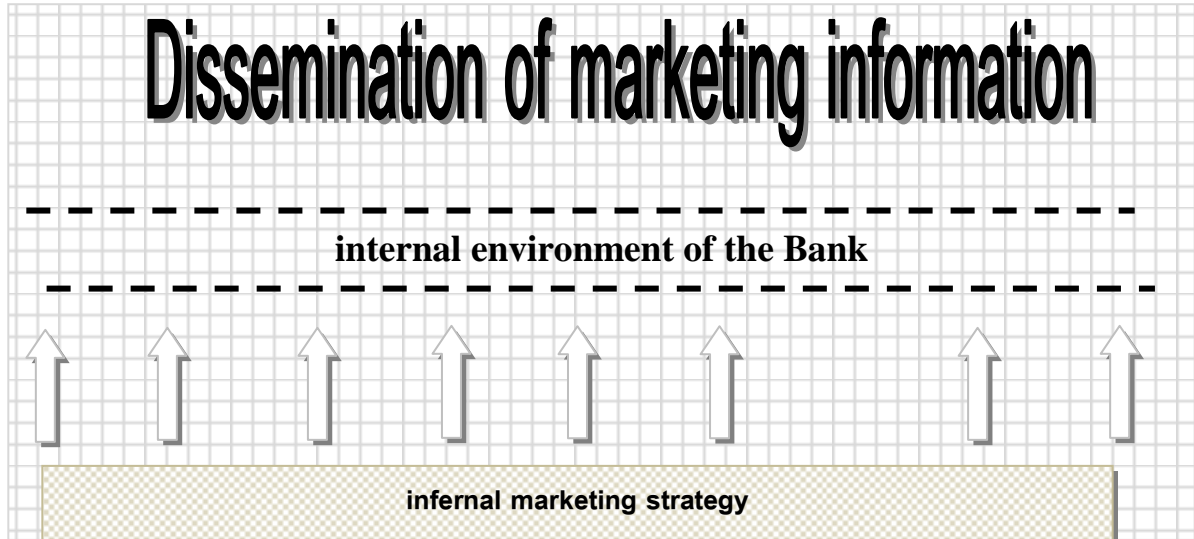
Source: made by the researchers

Variables adopted in the study:

- **Internal marketing strategy:** is the independent variable in the study, where it is expected to represent its role in achieving quality in information systems.
- **Quality of information systems**: is the dependent variable, where its realization is demonstrated by the independent variable of the study.

Methodology:

The study relied on descriptive and analytical methods to present the literature of the study from books and research that are all in the course of the study. The study required us to adopt the statistical method that requires the use of statistical tools to extrapolate the results of the field study as well as to confirm or negate research hypotheses and obtain logical and clear findings from the case study.

Community and field study sample:

The study community consists of the frames of the National Bank of Algeria; a public financial institution that is very important in the economy and has an impact on society (individuals and institutions) after its establishment through Ordinance No. 66 of June 1966.Today it has dozens of frames that specialize in different aspects, of which we have selected 75 frames from three agencies (Reghaia Agency,Rouiba Agency, Boumerdes Agency).They were questioned to determine the reality of independent and interrelated study variables within the National Bank of Algeria, 63 of which are valid for analysis i.e. 84% of the distributed forms.

Field study tool:

A questionnaire has been prepared (in Arabic and French) to processthe study variables. A section of it was devoted to the personal information of participants (gender, age, scientific qualification, number of years of employment at the Agency, wages).The questionnaire contained 20 paragraphs divided into two axes representing the study variables. The axis of the bank's internal marketing strategy (independent variable) contains 10 paragraphs, and the axis of the bank's information systems quality level (dependent variable) contains 10 paragraphs.It should be noted that the Likert Scale was adopted as a tool for studying and analyzing the questionnaire with giving the following degrees:

Strongly disagree: 1   Disagree: 2   Neutral: 3

Agree: 4   Strongly agree: 5

For average responses to paragraphs, their degrees are determined according to the following areas:

- From 1 to 1.79: strongly disagree

- From 1.80 to 2.59: disagree

- From 2.60 to 3.39: neutral

- From 3.40 to 4.19: agree

- From 4.20 to 5: strongly agree

Statistical tools used in data analysis:

The data were analyzed and processed by the statistical program SPSS25.The reliability of the study tool was measured by the Alpha Cronbach Coefficient,

and the paragraphs were analyzed by the descriptive statistics measures (frequencies, arithmetic mean, and standard deviation).

The paragraphs were arranged according to the One-Sample T-test, as well as being used to test hypotheses, supported by the Pearson coefficient to measure the correlation between axes.

For the adoptedsignificance level, (0.05) is the most commonly used in economic and social studies, i.e. we accept the zero hypothesis H_0 if the calculated significance level exceeds (0.05), and otherwise, we reject H_0 if the significance level is lower than (0.05), which means that there is a significance.

Second: Theoretical part of the research

This section deals with the theoretical bases of study variables; internal marketing and information systems.

1- Internal marketing:the emphasis is placed on its concept, objectives, and fields.

Concept of internal marketing:

Many marketing researchers have contributed to the definition of internal marketing, which is an activity whose scope depends on the internal space of an enterprise, touching its organizational structure and levels.Following the failure of many activities involving the human element to drive it towards external influence in society and the individual, marketing activity emerged as an activity that, through its own philosophy, can generate stimulation in the internal customer of the enterprise, namely, employees who have a range of communication and direct and indirect influence on the enterprise's clients.The following definitions are, therefore, given:

- Internal marketing was defined as: "**The process aimed at selecting and motivating workers, as well as working to qualify their scientific and cognitive skills and abilities in order align them with the nature of their activities, thereby meeting their needs in the face of work difficulties** (Salomão Alencar de Farias, 2010)." This definition reflects the social mainstream developed by the introduction of this marketing philosophy within the enterprise, which regards employees as clients.Thus, the enterprise should achieve its marketing objectives through satisfyingthe employees' functional needs.
- Another definition also contributed to highlighting the organizational aspect of internal marketing: "**It is an organizational and behavioral philosophy adopted by marketing enterprises within the framework**

of an expanded strategy based on the good selection of organizational levels members and their adoption of the organization's approach to attracting clients (João Pedro Sousa, Katarzyna Krot, Ricardo G. Rodrigues, 2018)**."**

– Another definition that is more precise and clear than the previous definitions attempts to emphasize the inclusion of internal and external environments in the internal marketing philosophy:"**is to deal as importantly with the needs of the internal market and the external market through programs and plans designed to achieve the desired regulatory objectives by achieving and meeting the needs starting from employees towards customers** (Hossein Mansouri, Saeed Sadeghi Boroujerdi, 2021)."

Through previous definitions, we can draw a number of points surrounding the concept of internal marketing:

✓ Internal marketing is related to long-term programs rather than short-term programs. As an organizational reference, internal organizational services start from internal clients as a condition for achieving the objective of influencing the external customer of the enterprise.

✓ Internal marketing is strictly concerned with the human component and its ability to absorb various formative programs aimed at targeting the clients of the enterprise. This targeting varies according to marketing programs, including direct to indirect, and startsfrom dealings and contacts with these clients.

✓ Internal marketing is a marketing image with organizational influences within an enterprise's marketing philosophy because it attempts to include all its legal and guiding aspects within the organization's marketing objectives, namely influencing customers' decisions and opinions towards the organization.

✓ Internal marketing is a philosophy that demonstrates that the enterprise's marketing philosophy has melted down within the organizational structure of the enterprise, involving all individuals within the enterprise in this marketing direction, thereby covering the marketing activity and its importance, and transforming it from an activity with economic objectives to an organizational, guiding, and regulatory activity, and eventually becoming a clearly social activity.

✓ Internal marketing is a contemporary trend that wants to demonstrate the efficiency of the human resource in the success of the enterprise and its persistence within the market. It implies that concrete and abstract economic instruments alone are unable to achieve continuity and survival through competition, but the human component can achieve these two indicators.

Internal marketing objectives:

The marketing activity within the enterprise brings together many objectives outside the enterprise's regulatory field towards its markets.Marketing activity has accompanied many enterprises in their successes through its profit and expansion objectives within markets, but its emerging philosophy of internal marketing derives its objectives from the organizational field of the enterprise and is associated with the human component at various organizational levels.Its tools from the marketing component, therefore, unite to achieve the following goals:

- ✓ Internal marketing contributes through periodic reports on customers that include their different reactions and the development of their ambitions and opinions towards their surroundings.These reports are translated and included in staff formative programs that help them increase awareness concerning the external customer.
- ✓ Internal marketing achieves the indicator of external customer retention,ensuringthe continuity of demand for enterprise products (goods and services), and thus contributes to the economic results of the enterprise.
- ✓ Internal marketing guarantees employees' personal freedoms and attempts to move it to the positive side to serve the performance axis.The diversity of their knowledge and communication experiences is discovered and encouraged in order to reach and influence the customer.
- ✓ Internal marketing contributes to the stability of employees in a single professional space in which they excel.
- ✓ Internal marketing increases employees'spirit to contribute to their ability in order to cope with various marketing crises.
- ✓ Internal marketing ensures organizational commitment and helps to flexibly revive renewed decisions and directives outside the automated hierarchy, ensuring the continuity of the organization in a regulatory context without deviations.

Internal marketing fields:

Internal marketing areas are identified through the enterprise's internal organizational programs and activities, which aim to increase human capacity for marketing knowledge as well as their ability to achieve job stability that is positively reflected in the organization's clients.In the following, we are trying to identify these areas: (Lydia Muriuki, Loice Maru, David Kosgei, 2016)

- • **Selection and recruitment of personnel:** An enterprise needs aneducationally and cognitively qualified human component at many of its organizational levels so that it can complete all activities and processes

that have been pre-planned.This is an area in which the organization proceeds to achieve adequate human nutrition after determining the most important criteria for selection and recruitment.

- **Training and development of employees:** The internal and external environment is constantly changing, and it is not possible for workers to understand it or deal with its events.The enterprise is then obliged to renew the gains of employees continuously so they can cope with the strong change in the two environments and ensure better results.

- **Incentives and rewards:** Training programs and the infusion of knowledge and rewards are insufficient to achieve outstanding performance among employees.Polarization and retention proceed from the normal and logical evaluation of performance, and such employees expect a material equivalent to their level of performance and operational results. These rewards and incentives give rise to a desire to continue excellence in the organizational environment.

- **Delegation of authority to employees:** It refers to the granting of decision-making freedom to staff members below executive heads and officials. This margin of responsibility in dealing with the enterprise's clients brings sufficient experience and knowledge of these customers' wishes and aspirations.

- **Dissemination of marketing information:** It points to the importance of sharing information between employees and bosses in key marketing activities.It is necessary to inform employees of all marketing components, including the output of the marketing information system and marketing programs, in order to deal efficiently and effectively with the clients of the enterprise.

2. Information systems:the emphasis is placed on its concept, functions, and forms

2.1. Concept of information systems:

Many economic institutions are increasing their strategic expenditures to serve their competitive advantage.This competitiveness begins with a real and profound understanding of the internal and external environments, and none of the tools can play this role other than information systems.We find that information systems have accompanied the economic institution at many stages, contributing to its performance development and market survival; thus many researchers have tried to shape a concept of information systems that includes it, but they have disagreed in identifying the concept's perception.The concept of information systems proceeds from many contexts. Some of the researchersdefine information systems from a technical perspective that portrays

the achievement of the system: **"an organized set of resources, devices, software, individuals, and data, as well as processing, storage, processing and dissemination of information within the organization** (Forat Falih Hasan, 2018)**."** Another definition of information systems stems from its role within the institution: **"It is a supportive system for exchanges between professions** (Demian Abrego Almazán, 2017)**."**

Previous definitions have touched on information systems as a resource and as a support for activities, as we can say that they are the basis for the organizational structure of an enterprise.It is the set of rules and procedures that contribute fully to the framing of the operational levels of the organization and the implementation of oversight functions. Further, it is a strategic intermediary between all organizational vehicles by which all rising and descending reports move.Through this concept and previous concepts, we can draw a number of characteristics of information systems:

✓ Information systems are one of the most important strategic components of an enterprise that no organization can achieve a particular activity without.
✓ Information systems are flexible. Without such flexibility, different inputs from within and outside the enterprise cannot be accepted.
✓ Information systems are among the vessels that deplete high accounting costs in contemporary institutions owing to the difficulty of recognizing the required inputs or their inconsistent structure and system.
✓ One of the distinguishing features of information systems is their ability to function independently of human management.Currently, developed technologies can generate spontaneous reactions from the system to the system and yield very effective results.

2.2. Information systems functions:

- Information systems contribute to **thestrategic planning** process through the output of various information systems that provide appropriate historical readings that serve the prediction axis of future situations.
- Information systems help to control **thescope of oversight** within organizational levels, including the operational level.
- Information systems contribute directly to different **decision-making** within the enterprise.Many users (frames and agents) fall into a crisis of data confidence outside information systems, but the output of different information systems is more effective for making appropriate decisions.
- Information systems are one of the oversight instruments used in the **evaluation** of performance. Classical oversight has become one of the

most expensive activities and is less credible and objective than the results of the evaluation supported by information systems.

– Information systems help **coordinate** the organization with its external environment. Today, all old restrictions and confidential frameworks have been lifted on who surrounds the enterprise through transparency standards, becoming a platform that enables the enterprise's customers, suppliers, the government, and all components of the environment to contribute positively to the enterprise's decisions and share the enterprise's output, such as products (goods and services).

2.3. Types of information systems:

- **Management support systems:** help decision-makers at the executive and operational levels in making the appropriate decision.It is divided into two types: (Sanghee Lim, Terence J.V. Saldanha, Suresh Malladi, Nigel P. Melville, 2013)
  - ❖ **Reporting systems:** These systemsuse the output of other information systems as one information processing system, where information conversions increase the quality of this information in the form of main reports and key activity indicators.
  - ❖ **Decision-making assistance systems:** These systems aim to achieve information satisfaction for an administrative party or a specific problem.Information is sought in a modeling manner that includes many solutions to problems in the form of descriptive indicators that constitute appropriate strategic options.
- **Operational processes support systems:**one of the most important information systemsdue to its relationship to the operational environment and is divided into three types:
  - ❖ **Information processing systems:**They are based on software and computers. The daily operations of the enterprise are recorded in the form of data about sales, purchases, and commercial settlement procedures, which requires constant processing and arrangement.
  - ❖ **Industrial procedure processing and control systems:**Special models for monitoring and controlling production processes are automatically adapted to ensure that the organization arranges all procedures for implementing product policies.
  - ❖ **Office and communications support systems:** Contribute to the success of communication activities between interests and organizational levels through office programs on internal computer networks.
- **Marketing information system:** The marketing controller is interested in identifying information systems that help to improve the efficiency of marketing, production, and financial decisions.A marketing information system is the set of rules governing the efficient and effective

dissemination of marketing information within marketing roles, consisting of three systems: (Ahmed Mohammed Fahmi, Sajjad Mohemmed Atiyah, Arcelan S. Sadiq, 2019)

❖ **Marketing Research System:** All processes, rules, and functions that link an enterprise to its markets by compiling information and data on competing consumer behavior and options within the market through statistical mathematical tools that achieve effective results for the enterprise.For example, the enterprise tries to study the possibility of accessing the market for spare parts of the main product that it is currently marketing, so it perform a number of actions, starting with the collection of primary and secondary information, then analyzing it and coming up with real and clear answers about access to this market.

❖ **Internal registry system:** A set of rules governing the rich flow of information from marketing sources within marketing channels designed to generate decisions towards competing intermediary buyers within the marketing sector and the environment in general.

❖ **Marketing intelligence system:** A system that is concerned with continuous monitoring of an enterprise and its environment, collecting data that may be relevant to the enterprise, alerting against a particular risk or taking advantage of a particular opportunity, and assisting in decision-making.

Third: Practical part of the research

Through this part, we address the reality of applying the bank's internal marketing strategy and its contribution to the quality of the banking information system.

Analysis of reliability and validity of the questionnaire items: The degree of reliability and validity of each axis of the questionnaire items was tested through the Alpha Cronbach test. The results are shown as follows:

Table (01): values of the questionnaire reliability and validity

Axis	Items number	Reliability Coefficient Alpha Cronbach	Validity coefficient
Internal marketing strategy	10	90.95%	%95.37
Information systems quality	10	85.59%	%92.52
Total	**20**	**93.35%**	%96.62

Source: based of SPSS output

There liability coefficient of the questionnaire in all its axes is very high as it ranges from 85% to 93%, which is more than the acceptable percentage (70%) concerning the total axes.

This indicates the stability of the questionnaire items and axes, as it is characterized by a very high validity coefficient (square root of the stability coefficient) above 92% that indicates the validity of its various data.

Analysis of the personal and professional data of participants: The answers of 63 frames were analyzed in the Bank's three agencies. The characteristics of their personal data showed:

- ✓ **Gender variable:** 57.14% of the participants are males, whereas 42.86% are females. This confirms the strong presence of the female element in various bank agencies and its percentage has steadily increased in recent years.
- ✓ **Age variable:**19.05% were between the ages of 21 and 30 years, 38.10% aged between 31 and 40 years, 26.98% aged between 41and 50 years, and 15.87% aged between 51 and 60 years.These ratios confirm that the Bank is fullof youth competencies that make up the majority of its frames, enabling it to achieve high financial, administrative, and strategic benefits if effectively exploited.
- ✓ **Educational qualification variable:** 17.46% have high school level and 74.60% have university level, whereas 7.94% have finished their higher studies (Master's degree). These ratios confirm that most of the Bank's frames are university graduates, which confirms the hypothesis that the bankpossesses scientific competencies that can contribute to the modernization of its management methods and the innovation of marketing and financial strategies that will provide it with a competitive advantage at the local level.
- ✓ **Years of working at the bank:**14.29% had only 5 years of experience, 25.40% had experience ranging from 6 to 10 years, 20.63% had experience ranging from 11 to 15 years, 22.22% had experience ranging from 16 to 20 years, 11.11% from 21 to 25 years, and 6.35% from 26 to 30 years.This shows that a large proportion of officials in the bank are highly experienced and have witnessed many events within the banking sector, as they belong to the strategic category.
- ✓ **Wage variable:**46.03% of the participantsare paid from 30001.00DZD to 50000.00DZD, 36.51% are paid from 50001.00DZD to 70000.00DZD, while 17.46% are paid over 70000.00DZD, which are ratios that indicate the relative weakness of workers' wages at the National Bank of Algeria.

Analysis of items of the study's axes: We will analyze the results of the answers to the items of each axis of the questionnaire:

- **Analysis of the first axis items**: The first axis represents the first variable i.e. the level of application of the bank's internal marketing strategy. It includes 10 items shown in the following table:

Table (02): Review of first axis items

Item number	Sentences
01	Individuals employed in the Bank are selected on the basis of educational and cognitive qualifications and functional competencies.
02	Decisions for promotion and appointment to senior positions within the Bank are subject to strict and carefully prepared criteria.
03	Training and formative programs serve the educational and cognitive achievements of employees and their degree of professional qualification.
04	The Bank works to renew training and formative programs to suit the dynamic environment of the banking activity.
05	Incentives and rewards are determined by the evolving performance of employees.
06	The rate of incentives and rewards is evolving.
07	The scope of supervision over activities is dynamic in line with the volume of activity within the Bank.
08	The degree of delegation of activities is very high, allowing users to benefit from experience and knowledge.
09	The strategic level of the bank is shared with all users in the preparation and application of marketing programs.
10	Marketing information system output contributes highly to decision-making within the bank

Source: Researchers' Questionnaire.

Using statistical tools, the items of the first axis were analyzed, and the following table shows the results of this analysis:

Table (03): Analysis of first axis items

Item number	Arithmetic mean	Standard deviation	Agreement degree	T test value	Significance level	decision	Rank
01	3.36	1.11	Neutral	2.607	0.011	unrealized	01
02	3.14	1.08	Neutral	1.054	0.296	unrealized	06
03	3.32	1.13	Neutral	2.223	0.030	unrealized	02
04	3.21	1.30	Neutral	1.263	0.211	unrealized	04
05	3.16	1.18	Neutral	1.067	0.290	unrealized	05
06	3.28	1.18	Neutral	1.916	0.060	unrealized	03
07	2.89	1.27	Neutral	-0.694	0.490	unrealized	08
08	3.06	1.06	Neutral	0.475	0.636	unrealized	07
09	2.63	1.00	Neutral	-2.884	0.005	unrealized	10
10	2.89	1.15	Neutral	-0.766	0.447	unrealized	09
First axis	3.12	0.86	Neutral	1.075	0.287	The level of applying the bank's internal marketing strategy is inadequate and needs improvement	

Source: Questionnaire results based on SPSS output.

The above table figures enable us to identify a number of results that we include in the following elements:

- The recruitment of individuals to the Bank, in particular officials (frames), is based on scientific and cognitive qualifications and functional competencies, which demonstrates the efficiency of the recruitment process in the bank's various agencies.
- The formative and training courses conducted by the Bank contribute to enhancing the knowledge and competencies of its staff, in particular the frames, which support the involvement of the human resource in achieving the competitive advantage of the National Bank of Algeria.
- The poor benefitfrom incentives and rewards by Bank staff, primarily by officials, creates an imbalance in the Bank's stimulus policy and its contribution to improving the performance of its human resources.
- The Bank does not renew its training programs, which makes it a failure to keep pace with the dynamic development of the banking sector in Algeria, although it is effective at present, but does not look forward to future cognitive needs.

- The system of incentives is inconsistent with the human resources performance appraisal system, leading to an unfair distribution of material and moral incentives among bank staff, which affects job satisfaction and weakens the performance of the bank's human resources.
- Decisions for promotion and appointment to senior positions within the Bank are not subject to strict and carefully prepared criteria, which show that the promotion system of the Bank is inadequate and does not take into account the level of performance of the employee.
- The degree of delegation of activities in the Bank is very low, and most decisions are centralized, buryingcreativity, innovation, and the initiative spirit of its staff.
- The non-dynamic internal activities and operations of the Bank, and its weak strategic vigilance weaken its competitiveness.
- The outputs of the Marketing Information System do not contribute to decision-making within the Bank as a result of the extreme deficiency of the system and lack of importance that it deserves as effective management and strategic tool.
- The Bank's senior management does not involve all employees in the preparation and implementation of marketing programs, which has resulted in a weak internal marketing policy of the National Bank of Algeria.

The results of the analysis show that the Bank does not apply most components of internal marketing and is not interested in involving its human resources in its marketing programs.It does not consider its human resources as internal clients to be concerned with and to satisfy them, resulting in a weak marketing information system and a deficiency of the various marketing strategies adopted by the Bank.

- Analysis of the second axis items: The second axis represents the second variable, which is the level of effectiveness of the Bank's information system.It includes 10 items shown in the following table:

Table (04): Review of first axis items

Item number	Sentences
01	The information provided by the information system covers a large area within the bank.
02	The current information system matches the goals and aspirations of decision-makers within the bank.
03	The information available is very clear
04	The information models provided help to speed up and facilitate their analysis.
05	The current information system is capable of providing information at the right time and right place.

06	The information provided by the system is up-to-date.
07	The value of the information available is much greater than the cost of collecting it.
08	The current information system controls the security index.
09	Information is stored in backups in case of an emergency.
10	Information protection methods are updated according to the changes within the environment.

Source: Researchers' Questionnaire.

Using statistical tools, the items of the first axis were analyzed, and the following table shows the results of this analysis:

Table (05): Analysis of second axis items

Item number	Arithmetic mean	Standard deviation	Agreement degree	T test value	Significance level	decision	Rank
01	2.98	1.07	Neutral	-0.125	0.901	unrealized	05
02	3.49	0.90	Agree	4.360	0.000	**realized**	02
03	3.63	1.10	Agree	4.594	0.000	**realized**	01
04	3.10	1.09	Neutral	0.695	0.490	unrealized	03
05	2.95	1.17	Neutral	-0.323	0.748	unrealized	06
06	2.82	1.06	Neutral	-1.313	0.194	unrealized	07
07	2.73	1.11	Neutral	-1.929	0.085	unrealized	08
08	3.05	1.01	Neutral	0.375	0.709	unrealized	04
09	2.51	1.09	Disagree	-3.581	0.001	unrealized	09
10	2.32	1.30	Disagree	-4.150	0.000	unrealized	10
Second axis	2.96	0.72	Neutral	-0.456	0.650	The effectiveness of the bank's information system is weak and needs to be thoroughly improved	

Source: Questionnaire results based on SPSS output.

The table provides us with important results that we can present through the following points:

- The Bank's information system provides clear and adequate information on its various activities, results, and human resource performance.
- The information system adopted by the Bank is consistent with the objectives and aspirations of the decision-maker within the Bank, which serves as a supporter of the decision-making process of the Algerian National Bank.
- The information models provided by the adopted information system do not adequately help to speed up and facilitate their analysis, thus wasting time and effort in the decision-making process.

- The information system of the National Bank of Algeria is poorly controlled by the security index.
- The information provided by the system is not comprehensive and does not cover many aspects, making it weak in improving the Bank's competitiveness and performance.
- The information system adopted at the National Bank of Algeria is unable to provide information at the right time and right place.
- Monotony of information provided by the system and not being updated on time.
- The cost of collecting available information from the system is greater than its value, resulting in a waste of financial resources and time.
- The information is not stored in emergency backups, which shows a defect in the bank's technological vigilance.
- Information protection methods are not updated in accordance with changes within the environment, which makes the Bank's information system vulnerable to cyber-attacks and piracy, making it very deficient in the area of information confidentiality and security.

From previous points, it is clear that the information system adopted at the National Bank of Algeria is inadequate and its effectiveness is weak in many aspects, particularly the security aspect of information.

Study hypotheses testing: In this part, we will try to test research hypotheses:

- **Test and analysis of the first hypothesis:** Table 03 shows that the first hypothesis is not realized in the agencies under study. It also shows that theagencies' level of application of the internal marketing strategy is relatively low, as it does not apply all its components and elements.
- **Test and analysis of the second main hypothesis:** From table 05, it is clear that the second hypothesis is not achieved in the agencies under study, and its information system is inadequate and ineffective in many aspects, primarily the security aspect of the information.
- **Test and analysis of the third hypothesis**: To test this hypothesis, the correlation between the independent variable (the level of application of the internal marketing strategy) and the dependent variable (the level of effectiveness of the information system) must be measured by the correlation coefficient as shown in the following table:

Table (06): Correlation analysis of study variables

Dependent variable	Correlation coefficient of the independent variable	Significance level	Decision
Effectiveness of the information system	79.71	0.000	There is a strong positive correlation significance.

Source: Questionnaire results based on SPSS

According to table (06), the third hypothesis is realized.The good application of the internal marketing strategy with its various components contributes effectively to improving the quality of the information system in its various subsystems.It can achieve steps to develop sectorial progress through this section because most global institutions, including the leading banking institutions, are applying strategies that do not use financial or productive instruments but tend to create such systems within them.Through these systems, banking institutions proceed to global markets by relying on the intensity and accuracy of information provided by effective information systems managed by human resources imbued with creativity and innovation, to which internal marketing contributes as the most important internal customer of the enterprise.

Fourth: Results and Recommendations

1- Results:

- The National Bank of Algeria has been able to build and engineer the most important criteria on which the human resource is employed so that its regulatory structure adequately accommodates the entire human cover.
- The National Bank of Algeria is strongly aware of the formative and training programs of its users, including frames and others, in order to enable this resource to cope with the different situations it faces and directly affects its customers.
- The National Bank of Algeria has not been able to achieve satisfaction on the motivational side of its employees. This is a dangerous pattern that does not serve its future trends in the banking market and has a negative impact on its customers.
- The National Bank of Algeria has not been able to control the positive effects of internal marketing programs, particularly with regard to strategic vigilance, which is one of the most important factors helping to mature its decisions within the banking market.
- The National Bank of Algeria has not been able to invest in its information systems, particularly in relation to its activation within strategic decisions or its security index.The latter is a major attraction index for the bank's customers.
- One of the findings for which this research established the relationship between its variables led us to the conclusion that the effective application of the internal marketing strategy enables to achieve the full quality of the different information systems within the bank.

2- Recommendations:

The National Bank of Algeria is one of the most important economic pillars of the Algerian government's fiscal policy decisions.Its economic performance affects the outcome of these decisions, and it is directly linked to financing mechanisms, thereby giving them the advantage of rigidity or fragility.Thus, from the subject of the research, we tried to read one of the axes of its marketing mechanisms, namely internal marketing and its relationship to an important tool; information systems.We have reached important conclusions, therefore, we provide the following recommendations:

- The internal marketing strategy and its motivation area strongly serve the loyalty of the frames and employees of the Algerian National Bank and increase their career prospects towards its customers,so these motivational programs must be primarily for achieving important indicators such as polarization and retention.
- The effectiveness of the marketing programs of the National Bank of Algeria depends on the decisions of the Bank's strategic levels. Therefore, the criteria for promotion and career guidance must be subject to a re-reading of the bank'saxesrelated to the performance required in these higher positions, particularly educational attainment and experience.
- The National Bank of Algeria must apply the indicator of innovation and continuous change in the various information systems because it increases the ability of the human resource to collect information and situational knowledge from within or outside the Bank.
- Activating the role of training and motivation programs and other areas of internal marketing will have results on different information systems and, therefore, the design and management expenses of different information systems can be reduced.

REFERENCES

- ❖ Ahmed Mohammed Fahmi, Sajjad Mohemmed Atiyah, Arcelan S. Sadiq. (2019, 03 01). The Impact of Marketing Information Systems on Brilliant Financial Performance in Hospital Industry. *Indian Journal of Public Health Research and Development , 10* (03), p. 577.
- ❖ Demian Abrego Almazán, Y. S. (2017, 03 01). Influence of information systems on organizational results. *contaduria y administration Available online* , p. 325.
- ❖ Forat Falih Hasan. (2018, 02 1). A Review Study of Information Systems. *International Journal of Computer Applications , 179* (18), p. 16.
- ❖ Hossein Mansouri, Saeed Sadeghi Boroujerdi. (2021, 05 25). Investigating the mediating role of market orientation between internal marketing and the development of entrepreneurial orientation within private sports clubs. *New England Journal of Entrepreneurship Emerald Publishing Limited* , p. 3.

❖ João Pedro Sousa, Katarzyna Krot, Ricardo G. Rodrigues. (2018, 02 10). Internal marketing and organisational performance of SMEs in the EDV industrial sector. *Engineering Management in Production and Services , 10* (1), p. 59.

❖ Lydia Muriuki, Loice Maru, David Kosgei. (2016, 08 1). Internal Marketing Strategy, Employee Performance, and Organizational Commitment in Selected Public Universities in Nairobi County, Kenya. *International Journal of Business and Social Science , 7* (8), pp. 93,94.

❖ Salomão Alencar de Farias. (2010, 08 15). Internal Marketing (IM): a literature review and research propositions for service excellence. *BBR.Brazillian Business Review , 12* (23), p. 102.

❖ Sanghee Lim, Terence J.V. Saldanha, Suresh Malladi, Nigel P. Melville. (2013, 06 01). Theories Used in Information Systems Research: Insights from Complex Network Analysis. *Journal of information technology theory and application , 14* (02), p. 10.