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Electronic management methods and their impact on the quality of banking services : A field study at the North African Bank in Sabratha

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Abstract: *The aim of the incentive is to identify electronic management methods and their impact on the quality of banking services, which are represented in (responsiveness - reliability - facilities - and the degree of security and empathy). The study population included all North African workers in Sabratha. The paper concluded that the higher the application of "electronic management, the higher the quality of banking services.*

Key Words: *banking services, North African workers, electronic management.*

1. INTRODUCTION :

Some informatics experts believe that electronic management is, in short, electronic business, or that electronic management does not mean anything other than managing, directing, and implementing electronic business. This valid opinion contains many elements of an accurate description of the limits and areas of work of electronic administration, but on the other hand, it places electronic administration in the framework of business and separates it indirectly from the field of electronic government. Electronic administration is an integrated system and an open functional and technical structure in A framework that includes both e-business to indicate electronic business management and e-government to indicate general electronic management or electronic management of government business directed to citizens, directed to businesses, or directed to various government institutions and departments; What we want to say in this regard is that electronic management is a concept, a system, and a structure of functions and activities that include all activities and operations at the level of electronic business on the one hand and electronic government business on the other hand, without understanding from this distinction the meaning of the traditional separation that was common.

In the past, there was a difference between business administration and public administration, because the concept of modern administration goes beyond this forced separation to integration in strategic objectives, standards, procedures, and even the practical technique used in administration at the business level and administration at the level of institutions and state organizations. If electronic administration,it is the umbrella under which the activities of business administration and public administration are folded. It is also the digital space that contributes to unifying the standards and procedures of electronic work, regardless of the type and nature of the organization. The philosophy and orientations of electronic management differ from traditional management. Traditional organizational structures are considered restrictive to innovative activities and these Activities require open organizational structures; Because openness ensures a kind of work flow, and this flow is a necessary requirement for electronic work.

2. The study Problem :

Libyan banks suffer from a significant lack of reliance on advanced technology and electronic management applications. Despite the availability of material and human capabilities, the weakness of continuous training has affected what Libyan banks provide in applying electronic management and its impact on providing the quality of banking services.

Hence the idea of this study or research paper came to identify the extent of application of electronic management methods in the North African Bank in Sabratha, and the extent of their impact on the quality of banking services. The problem can be formulated in the following **questions: -**

1. Application of electronic management methods and their impact on the quality of banking services?
2. Is it possible for the North African Bank in Sabratha to implement quality standards for banking services?
3. The extent of readiness of the banking infrastructure for electronic management methods at the North African Bank in Sabratha?

3. Objectives of the study :

1 - Identify the reality of the quality of banking services at the North African Bank in Sabratha.
Identifying the extent of the use of electronic means in the North African Bank in Sabratha, the subject of the study.

2- An attempt to determine the impact of applying electronic means on the quality standards of banking services at the North African Bank in Sabratha, the subject of the study.

4. The importance of studying :

- Introducing the concept of electronic management and its importance in the banking sector.
- Increasing the competitive capabilities of organizations at the local level through the application of electronic management.
- Expanding the application of electronic management in our scientific and banking institutions.

Study Hypotheses The study was based on the **following hypotheses:**
The first hypothesis:HO: The extent to which electronic management means are available to the bank management.
The second hypothesis:HO: The bank's management does not apply quality standards in its services.
Third hypothesis:HO: There is no statistically significant effect between the application of electronic means and the quality of banking services in the bank.

5. The limits of the study :
Spatial boundaries: North African Bank in Sabratha
Temporal limits: Data were collected during the period 2023-2024
Human limits: Employees at the North African Bank in Sabratha at various administrative levels

6. Study population and sample:
- Study community: The study community consists of all employees of the North African Bank in Sabratha.
- Study sample: Due to the difficulty of communicating with all members of society, a stratified random sample was chosen.
Terminology of study
- Traditional management: Traditional management deals with completing its tasks and transactions through direct communication, and uses papers and files in its correspondence.
- Electronic administration: Electronic administration depends entirely on electronic communication networks in all its transactions. (1)

7. Electronic management:
Electronic management "e-management" is simply the transition from completing transactions and providing public services from the traditional manual method to the electronic form for optimal use of time, money and effort.
In other words, "electronic management" is the completion of administrative transactions and the provision of banking services via the Internet or intranet without customers having to go to the departments in person to complete their transactions, with the accompanying waste of time, effort, and energies. (2)
There are many successful experiences in the field of applying "electronic management" to banking services. Several countries have made great strides in banking services, and a large number of transactions can now be carried out without the employee leaving his office chair, as he can pay fees and everything else he needs. Transaction forms, stamps, etc. can be easily accessed via the Internet, as the high percentage contributes to improving banking services to a great extent (3)
The use of electronic management in banks has become good in many banks and financial institutions, as improving banking services has become of great importance in competing in providing the best services and making the citizen or customer choose the bank with whom he will deal. (4)

Traditional management
Traditional management is the management in which work is carried out using paper information as is customary, and this requires the presence of a large warehouse to store paper transactions in files, folders and offices.

Workflow steps in traditional management:
1- Obtain a leave application form.
2- Convert the form into a transaction by filling in the data
3- Send the transaction to the department manager.
4- Approval from the department director and sending it to the department director.
5- Approval of the Department Director and sending it to the Director of Personnel Affairs.
6- Save the transaction in the file. (5)

Electronic management elements
It consists of the following:
- Paperless management: It consists of electronic archives, e-mail, directories, electronic diaries, voice messages, and automated follow-up application systems.
- Management without time: It lasts 24 continuous hours. The idea of night, day, summer and winter are ideas that no longer have a place in the new world. We sleep while other people wake up. Therefore, continuous work for 24 hours is necessary so that we can communicate. them and fulfill our interests
- Management without rigid organizations. It works through networked institutions and smart institutions that rely on the knowledge industry (6)

The difference between electronic management and traditional management

There are a set of principles that determine the fundamental differences between the two concepts,
which are as follows:
1 - The nature of the means used when dealing between parties: Traditional management depends on traditional means to conduct communications between different dealing parties, while electronic administration usually carries out communications using electronic networks.
2 - The nature of the relationship between the dealing parties: Management under the traditional concept has a direct relationship between the dealing parties, while electronic management refers to choosing the presence of a direct relationship between the dealing parties, where the dealing parties exist together and at the same time on electronic communications networks.
3 - The nature of the interaction between the dealing parties: The practice of the traditional concept of management confirms that the interaction between the dealing parties is characterized by relative slowness, while in electronic management it is characterized by speed, and collective or balanced interaction between an individual and a group is achieved through the use of electronic communication networks.
4 - The quality of documents used in carrying out business and transactions: Traditional management relies mainly on paper documents, while electronic management practices are carried out without using any paper documents.
5 - The extent to which all components of the process can be implemented: There is difficulty, under the practices of the traditional management concept, in using any of the traditional means of communication to implement all components of the process, while this can be achieved under the practices of the electronic management concept.
6 - The scope of customer service: The practices of the traditional concept of management provide services to individuals for five days a week in accordance with the work hours of the organizations, while work continues for seven days a week and for twenty-four hours a day in electronic management.
7 - The extent of reliance on material and human capabilities: The practices of the traditional concept of management depend on the existence of the best possible exploitation of the available material and human capabilities, while the practices of the electronic management concept depend on the use of virtual reality technology (7)

The best scenario is to achieve a sound application of the electronic management strategy. Therefore, dividing the plan into stages would also lead to the community's complete integration into the electronic management plan so that it adapts to it and develops with its development, unlike what happens when implementing electronic management all at once, which leads to surprise. society, and it may be rejected or resisted at the time. In general, these stages are (8)
- **First:** the stage of effective traditional management
- **Second:** The stage of effective electronic management

Advantages of electronic management
Electronic administration, according to the comprehensive vision, must be a means of building a strong economy, contribute to solving the problems of banking services, be a means of social service that contributes to building any strong society, and be a means of interaction with higher performance and lower costs. It also performs a performance by overcoming all manifestations of delay and slowness in the government apparatus, and we do not exaggerate. We said that it is the best means of control because technical systems have the capabilities of automatically analyzing and reviewing activities that take place on the site in a reliable manner. If viewed from these dimensions, it achieves its purpose. Otherwise, it may be a means of obstruction if it is not planned to build it appropriately and within a clear vision. (9)

8. Previous studies :
1- Study by Haddad and Jawda 2002) to identify electronic marketing and its impact on the quality of banking services. The study population consisted of customers of commercial banks operating in Jordan, which numbered (20) commercial banks. The study sample consisted of (214) customers from five Jordanian commercial banks who were selected by a simple random method. The study concluded that there is a relationship between the availability of an information base for marketing and the quality of banking services. It also showed that there is a relationship between research and development and the quality of banking services, and it was shown that there are statistically significant differences. The answers of the study sample regarding the quality of banking services are attributed to demographic factors.
2- Study by Abdel Hakim Majzoub 2014, entitled Automated banking service systems and competition in Jumhouria Bank. The study aimed to define the extent to which Libyan commercial banks have adopted automated banking service systems and developed them to compete. The number of subjects in the study was (120) individuals working at the senior and middle management levels. One of the most important results was the following: the necessity of adopting auxiliary automated banking service systems that are not available in Libyan commercial banks.
3- Saif Al-Arabi Abu Bakr's study, entitled "The Use of Information Technologies in Banking Institutions in Libya," an applied study at the Republic Bank of Sirte 2020. This study attempted to contribute to cybersecurity in informing officials of the dangers of banking data breaches and its impact on customer confidence.
4- A study by Sanaa Muhammad Al-Mahdi, entitled Problems of electronic management in banking to provide services and the attitudes of employees towards them. The questionnaires included a set of questions formulated and prepared by the researcher to obtain the necessary data to achieve the objectives of the study and study the hypotheses. The study produced a number of results,

the most important of which is the presence of problems facing... Banking technical development, including the problem of infrastructure, the scarcity of competencies required to use advanced technologies, and the difficulty of understanding modern technologies by administrative leaders.

Hypothesis testing

Testing the first hypothesis: The availability of electronic management means at the bank

H0: Lack of electronic management means available at the bank.

H1: Availability of electronic management means at the bank.

To test this hypothesis, the researcher used the One Sample T-Test, in order to verify the validity of this hypothesis, and to know the moral (significance) of the opinions of the study sample members on this hypothesis. The following table shows the weighted arithmetic mean of the hypothesis and its standard deviation, as well as the results of the test. T test value and statistical significance).

Table No. (1) Arithmetic mean, standard deviation, and T-test results

Mean	Standard Deviation	T-test	Statistical Significance	Score
3.15	0.61	2.88	0.004	0 Reject H

Statistically significant at the significance level of 0.05

We notice from the data in Table (1) that the arithmetic mean is 3.15, with a corresponding standard deviation of 0.616, and the test value is 2.88, with a statistical significance of 0.004, since this value is smaller than the significance level of 0.05.

The value of the weighted arithmetic mean is greater than 3, which indicates rejection of the null hypothesis, 0H, and acceptance of the alternative hypothesis, 1H, which indicates acceptance of the hypothesis that: Availability of electronic management means at the bank.

Table No. (2) Arithmetic mean, standard deviation, T-test results, and statistical significance

		Mean	Mean Standard Deviation	T-test	Statistical significance
1	The bank uses the latest technological techniques	3.5	1.16	6.17	0.000
2	The bank has electronic banking equipment	3.3	1.08	3.12	0.002
3	There is a strong means of communication linking the bank	2.6	1.99	4.5-	0.000
4	The bank is concerned with cybersecurity	3.2	1.97	2.41	0.017
5	The bank is constantly updating its infrastructure	3.2	1.07	2.84	0.005
6	The bank has qualified technical personnel	3.4	1.09	4.4	0.000
7	The bank provides an electronic marketing service	2.7	1.08	2.9-	0.000
8	The bank has a network connection between it and the general administration.	2.5	1.20	5.5-	0.000
9	The bank has electronic messaging and automated response services	3.4	1.15	4.3	0.000
10	The bank conducts modern training courses to keep pace with developments	3.4	1.17	4.6	0.000

It is clear from the data in Table No. (2) that the highest percentage is the answer “Agree,” equal to 42.2%, followed by the percentage of the answer “Strongly Agree,” equal to 22.4%. It is clear from the data in Table No. (2) that the value of the arithmetic mean for this paragraph is 3.59 with a deviation. The standard was 1.16, while the test statistic was 6.17, with a statistical significance of 0.000, and since the statistical significance value of the test is smaller than the significance level of 0.05, which indicates that the value of the weighted arithmetic mean is statistically significant, and since the value of the reference mean is greater than 3, the sample members agree with the content of this paragraph, They agree that modern equipment and information technology are available.

Testing the first hypothesis: The degree of reliability of the bank

H0: Lack of reliability in the bank.

H1: The bank provides reliability.

To test this hypothesis, the researcher used the One Sample T-Test, in order to verify the validity of this hypothesis, and to find out the moral (significance) of the opinions of the study sample members on this hypothesis. The following table shows the weighted arithmetic mean of the hypothesis and its standard deviation, as well as the results of the test. T test value and statistical significance).

Table No. (3) Weighted arithmetic mean, standard deviation, and T-test results

Mean	Standard Deviation	T-test	Statistical Significance	Score
2.85	0.696	2.587-	0.011	Do not reject 0H

We notice from the data in Table (3) that the weighted arithmetic mean is 2.85 with a corresponding standard deviation of 0.696 and that the value of the test statistic is -2.587 with a statistical significance of 0.011, and since this value is smaller than the significance level of 0.05 and the value of the weighted arithmetic mean is smaller than 3, which indicates that it is not rejected. The null hypothesis Ho indicates acceptance of the hypothesis that: The management of the North African Bank in Sabratha does not apply the reliability degree standard.

Testing the hypothesis: The degree of response at the bank
H0: The bank does not have a degree of response.
H1: Provides a degree of responsiveness at the bank.
To test this hypothesis, the researcher used the One Sample T-Test, in order to verify the validity of this hypothesis, and to find out the moral (significance) of the opinions of the study sample members on this hypothesis. The following table shows the weighted arithmetic mean of the hypothesis and its standard deviation, as well as the results of the test. T test value and statistical significance).

Table No. (4) Weighted arithmetic mean, standard deviation, and T-test results

Mean	Standard Deviation	T-test	Statistical Significance	Score
3.2	0.71	4.62	0.000	**Reject** $_0$H

We notice from the data in Table (4) that the weighted arithmetic mean is 3.27, with a corresponding standard deviation of 0.712, and the value of the test statistic is 4.617, with a statistical significance of 0.000. Since this value is smaller than the significance level of 0.05, the value of the weighted arithmetic mean is greater than 3, which indicates rejection of the null hypothesis Ho. Which indicates acceptance of the hypothesis that: The management of the North African Bank in Sabratha applies the criterion of the degree of response.

Testing the hypothesis: The degree of facilities at the bank
H0: The bank does not have a degree of facilities.
H1: The bank provides a degree of facilities.
To test this hypothesis, the researcher used the One Sample T-Test, in order to verify the validity of this hypothesis, and to find out the moral (significance) of the opinions of the study sample members on this hypothesis. The following table shows the weighted arithmetic mean of the hypothesis and its standard deviation, as well as the results of the test. T test value and statistical significance).

Table No. (5) Weighted arithmetic mean, standard deviation, and T-test results

Score	Statistical significance	T-test	standard deviation	mean
Reject$_0$H	0.000	4.09	0.65	3.2

We notice from the data in Table (5) that the weighted arithmetic mean is 3.2, with a corresponding standard deviation of 0.648, and the value of the test statistic is 4.09, with a statistical significance of 0.000. Since this value is smaller than the significance level of 0.05, the value of the weighted arithmetic mean is greater than 3, which indicates rejection of the null hypothesis 10. Which indicates acceptance of the hypothesis that: The management of the North African Bank in Sabratha applies the standard of the degree of facilities.

Testing the hypothesis: The degree of safety of the bank
H0: The bank does not have a degree of security.
H1: The bank provides a degree of security.
To test this hypothesis, the researcher used the One Sample T-Test, in order to verify the validity of this hypothesis, and to find out the moral (significance) of the opinions of the study sample members on this hypothesis. The following table shows the weighted arithmetic mean of the hypothesis and its standard deviation, as well as the results of the test. T test value and statistical significance).

Table No. (6) Weighted arithmetic mean, standard deviation, and T-test results

Mean	Standard Deviation	T-test	Statistical Significance	Score
3.36	0.858	5.101	0.011	**Reject** $_0$H

We notice from the data in Table (6) that the weighted arithmetic mean is 3.36, with a corresponding standard deviation of 0.855, and the value of the test statistic is 5.101, with a statistical significance of 0.000. Since this value is smaller than the significance level of 0.05, the value of the weighted arithmetic mean is greater than 3, which indicates rejection of the null hypothesis 10. Which indicates acceptance of the hypothesis that: The management of the North African Bank in Sabratha applies the standard of the degree of safety in the quality of services.

Testing the hypothesis: The degree of empathy in the bank
H0: The bank does not have a degree of empathy.
H1: The degree of security provides empathy.

To test this hypothesis, the researcher used the One Sample T-Test, in order to verify the validity of this hypothesis, and to find out the moral (significance) of the opinions of the study sample members on this hypothesis. The following table shows the weighted arithmetic mean of the hypothesis and its standard deviation, as well as the results of the test. T test value and statistical significance).

Table No. (7) Weighted arithmetic mean, standard deviation, and T-test results

Mean	Standard Deviation	T-test	Statistical Significance	Score
3.18	0.72	2.96	0.004	Reject H0

We notice from the data in Table (7) that the weighted arithmetic mean is 3.18, with a corresponding standard deviation of 0.724, and the value of the test statistic is 2.963, with a statistical significance of 0.004, and since this value is smaller than the significance level of 0.05, and the value of the weighted arithmetic mean is greater than 3, which indicates rejection of the null hypothesis Ho, Which indicates acceptance.

Hypothesis: The management of the North African Bank in Sabratha applies the criterion of the degree of sympathy.

Testing the third hypothesis: The impact of providing electronic means on the quality of banking services

This hypothesis focuses on measuring the impact of the independent variable providing electronic means on the dependent variables (the degree of reliability, the degree of responsiveness, the degree of facilities, the degree of security in the quality of services, the degree of empathy. The researcher used a simple regression analysis method to determine the significance of the effect, as well as to know the percentage of explanation of the variance in the dependent variable by the independent variable.

9. Results:

1 - The results of the study showed the provision of electronic management means at the North African Bank in Sabratha, where the weighted arithmetic mean is 3.15 with a corresponding standard deviation of 0.616 and the value of the test statistic is 2.887 with a statistical significance of 0.004 and since this value is smaller than the level of significance of 0.05 and the value of the weighted arithmetic mean is greater than 3, which indicates acceptance of the assumption that electronic management means are available to the bank management

2 - The results of the study also showed that the North African Bank in Sabratha applied the quality standards of banking services, which are the standard of the degree of security in the quality of services, the standard of empathy, the standard of the degree of facilities, the standard of the degree of responsiveness, and the reliability standard is not applied.

3 - The results of the study showed that the reliability standard was not applied at the North African Bank in Sabratha. Through the data in table (3), the weighted arithmetic mean is 2.85 with a corresponding standard deviation of 0.696, and the value of the weighted arithmetic mean is smaller than (3).

This indicates that this effect is positive, that is, the higher the values of "providing electronic management means," the higher the dimensions of the quality of banking services.

10. Recommendations:

- Working to continuously develop the use of the latest technological means to practice banking work
- Information and communications technologies must be developed to ensure the efficient flow of banking services. It is necessary to increase customer engagement with this bank through electronic business, which enhances its competitive position. Work to establish strict and controlled control over these electronic banking transactions.
- The confidentiality of all banking transactions must be guaranteed, and confidentiality must be guaranteed.

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