Technology Risks and their Impact on the Quality of Banking Service: Field Research in a Sample of Iraqi Private Banks

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ABSTRACT

This research aims to reach the impact of the relationship between technology risks and the quality of banking services in Iraqi private banks, and for the purpose of achieving this goal, the validity of the hypothesis was tested. There is a statistically significant relationship between technology risks and the quality of banking services provided to customers, through the descriptive and analytical method in determining the impact of the relationship among the search variables using the SPSS program .In addition to using the inductive method in interpreting the research variables and proving hypotheses, the research found a relationship with inverse statistical significance between the risks of technology and the quality of banking services provided. Users of electronic banking transactions, and this in turn reflects positively on the quality of banking service provided to customers.

Keywords: *Technology risks; quality of banking services.*

INTRODUCTION:

Banking activity is exposed to many risks, and as is well known, every banking business is not without risks, as technology moves very quickly, and with regard to innovation in the field of financial activities (financial technology), the world is currently witnessing tremendous progress, for banks need financial technology for the purpose Meeting the needs of modernization in the banking services provided, and this is what prompts it to move to work in light of the quality of these banking services provided in order to maintain the importance of the role it plays as well as competitiveness with others, and for customers this means the possibility of providing a wider scope for obtaining better services that rise to quality in providing these services.

The quality of banking services provided to customers is fraught with a set of risks, the most important of which is technological risks that represent an obstacle to the advancement of the quality of banking services provided to customers, which calls for studying banking technological risks and their impact on the quality of banking services provided to customers.

The Problem of the Research:

The research problem stems from the development taking place in banking operations, and the challenges it faces, which are represented by the increase in risks, especially technological risks. Therefore, the research problem lies in raising the following question: (What is the extent of the impact of technology risks on the quality of banking services provided to customers).

The Important Research:

The research gains its importance from the intellectual and philosophical side by highlighting the risks of banking technology and its impact on the quality of banking services. In 2018, the volume of investments in financial technology amounted to about $135.7 billion. These rapid developments in the use of technology are not without risks associated with these uses, which may affect the quality of service provided to customers.

LITERATURE REVIEW

First - Concepts of Technological Risks:

   The term risk refers to the possibility that some unfavorable event will occur, and risk is the chance or possibility of damage or loss that carries with it the possibility of financial loss. In the modern environment, the level of risks to which banks are exposed has increased, due to the increased reliance on technology, the expansion of retail operations, and the increasing use of electronic commerce, as well as the use of structured finance (derivative technologies) (Brigham, 2005 p: 202).

   Technological risks that the bank is exposed to as a result of its internal operations, such as the failure of the electronic systems used, which are called performance accidents due to people working in the bank, or fraud and piracy. In addition, technological risks arise when banks do not have sufficient human resources and sufficient training to carry out electronic banking financial operations in all its forms, and this issue created technology risks in banks. Despite the many positives that technology performs in many banking activities, it is not without some risks, which necessitates the bank's departments to harmonize between the advantages and benefits of technology and the potential risks and hedge against the risks that arise from them. The development in the fields of technology has been exploited by fraudsters and pirates to achieve their goals and desires, which affects and raises the risk to the bank and the customer. (Hassan, 2011 p: 287)

   Technology risks are defined as a combination of strengths and risks, as they give profit when exploited properly and face problems when technical failure occurs, meaning that it is a competitive advantage that should be used in the best use and with caution, for fear of failure that generates an adverse effect if it is not used properly. These risks affected multiple aspects of the banking business, including those related to information. We find that the lack of information or its loss generates the risk of the inability to arrange risk according to its priorities, as well as the lack of clarity in the procedures for appointing individuals and procedures for their protection and safety, and this leads to inefficiency in detecting and tracking fraud. (Orange Book, 2004: p10)

Second - Dimensions of Technology risks:

   Information published in the geographical area:

1- **Transfer of data and information:** data and information are increasing: information and information are increasing: information and high-tech information are increasing for the luxurious means of technical means and limited information shots in the field of analysis and information retrieval, as the world has turned to its various types and data in order to, and the use of computers, their storage and processing has greatly expanded Personal data of a reputable network. (Al-Moussawi, 2013 P:15)
2- **Cybersecurity:** means command or control, "the source of cybernetics" and means: "the science of communications and automatic control systems in both machines and living beings. Control of technology risks for any bank means the availability of a strategy that is practically and operationally implemented, in the light of which the general policy is translated Concerned with cyber security (the concept of risk and its impact on security measures) to field implementation, and helps to prevent fraud and the necessary barriers that are taken to prevent problems. Security also helps to reduce risks and their effects. (Martt, 2015 P:6)
3- **The risk of technical performance:** Risks that may occur during the preparation and design of equipment, communication channels, and computers that will implement banking information systems, through programming, data collection, entry, processing, extracting results, or defining powers. (Al-Sharif, 2006 P:95)
4- **The risk of data storage:** Banking needs computing equipment to run its web applications, provide banking services to customers, or run internal applications for accounts, human resources, and operations management. As the banking business grows and information technology operations increase, so does the breadth and quantity of required equipment. Equipment distributed across multiple branches and locations

is difficult to maintain. Instead, companies use data centers to bring their devices to a central location and manage them cost-effectively. Instead of keeping it on premises, it can also use third-party data centers, and this is all without technological risk, specifically in the field of data warehousing, to increase the amount of used data generated by banking transactions. (aws.amazon.com)

5- **The risks of the technology used:** These are those that are related to the use of system technologies. This type of risk is more important for electronic banking services due to the heavy reliance on technology in all aspects of providing these services, and it results from a defect in the efficiency of the existing infrastructure or from the inappropriate design of the systems. Or the established procedures, or the failure to provide the necessary security requirements, or the lack of knowledge of the human resources working in the bank on how to optimally use modern technology, and this leads to failure to perform electronic operations correctly. Many cases at the global level indicate the increasing emergence of issues of privacy violation in banking transactions, as bank computer systems can be hacked in order to identify and exploit customer information, whether from outside the bank or from human resources, which requires the availability of sufficient procedures to detect and impede this. hack.

Third - The concept of quality of banking services:

The high quality of banking service leads to competitive advantage, which in turn leads to customer satisfaction, as well as the possibility of purchasing banking services, which leads to competitive advantage. Therefore, the loss of quality means the bank's loss of its identity and its contribution to the market and its inability to compete. Therefore, having the ability to enter the world of competition requires achieving excellence in the field of quality at the bank's level as a whole. (Karatepe, 2005 P:373)

Fourth - Quality of banking services and technological development:

The main advantage of banking within the variables of globalization represents the great impact of banking technology, and the pursuit of optimal utilization of the technology used in communications and information, for the purpose of modernizing each of the systems and means by which banking services are provided, and also for the purpose of creating many new applications for banking services, in order to It is characterized by speed in performance and efficiency, in line with the pace of developments in the banking arena.

It is not possible to overlook the essential role of advanced information technology, which is used within competing banks, and which contributes greatly to attracting new customers, and providing them with the best banking services, as the use of modern computers and advanced communication networks leads the bank to better performance and quality of services provided at the appropriate speed. That the bank always seeks to innovate banking services that constitute an important competitive advantage within the banking market, thus enhancing its market share more and more. (Abd Breish, 2006 P:10)

Fifth- Dimensions of banking service quality:

Reaching quality means integrating the work of the bank in order to achieve the highest banking profitability, and it is not possible to reach the quality of banking service except by realizing the dimensions that form the basis for achieving the quality of banking service, which are represented in the following:

1- **Tangible elements:** It means all the material facilities that are related to the provision of the service and it is represented by (equipment, people, and means of communication). Or it does not have amenities for employees and customers, it is proprietary in providing its services whenever the tangible is of high quality. The service provider gains advantages in enhancing the capacity and effectiveness of the banking services provided, which is an attractive factor for new customers as they constitute a competitive advantage. (Abboud, 2017 P:89)

2- **Response:** The ease of obtaining service from the customer, through reducing the waiting period and the appropriate working hours for the customer, and the availability of a sufficient number of bank branches to obtain the service, or is the degree of willingness of the employees to provide the service in a manner that fulfills the desires of customers and to interact quickly with unexpected problems and solve them. well according to customer's imagination. (Ayachi, 2014 P:132)

3- **Emotional:** It is the knowledge of the customer's requirements, the effort exerted to identify the customer's needs and the appropriateness of the service provided, as well as the availability of personal attention to the

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customer and the ease of identification. It also represents the individual attention that banks provide to their customers. As the employees understand the needs of customers, and they are aware of solving their problems, which is one of the factors for the success of the service industry. (Hareem, 2004 P:112)

4- **Safety and Guarantee:** The availability of safety and security devices and related procedures, in order to preserve customers' property. The customer cannot deposit his money and property in a bank in which cases of fraud and theft increase, and this feature is highlighted by the banking service that is free from theft and risks. By seeing the protection devices deployed inside the bank. (Al-Mahyawy, 2009 P:189)

5- **Reliability:** It is the ability of the bank to provide the banking service accurately and with the least errors. And at the right time, and the customer does not stay for a long time to obtain banking service. (Kotler, 2010 P:199)

Field Aspect of Research

For the purpose of covering the field side of the research, the questionnaire was distributed to the employees of the upper and middle managements of the employees of the banks included in the research sample, which are (7) private banks as a random sample, and by (70) forms, from which (67) forms were retrieved, in order to get acquainted with their opinions on Technology risks and the quality of the provided banking service used in the private banks, the research sample.

The independent variable includes technology risks on five sub-dimensions for each dimension, including sub-questions that were answered within the questionnaire provided to employees in private banks, the research sample, and these dimensions included (the risk of data and information transfer, the risk of cybersecurity, the risk of performance, the risk of data storage, The risk of the technology used), while the dependent variable also includes five dimensions for each dimension, including sub-questions, and these dimensions are (tangible elements, response, empathy, safety, reliability). Therefore, the relationship between the research variables will be measured and the research hypotheses tested as follows:

First: Measuring the relationship between the risk of transferring data and information and the quality of banking service:

The three conditions were met to accept the simple linear regression equations to measure the relationship between the risk of data and information transfer in the banking service quality variables (tangible elements, response, sympathy, safety, and reliability), as the beta parameter appeared and for the five models is negative, meaning that the relationship is inverse and that the beta parameters are significant As evidenced by the calculated T values are greater than the tabular value and for the five models, and the simple linear regression equations are also significant because the calculated F values are greater than the tabular and for the five models.

By accepting simple linear regression rates, the regression coefficient can be accepted for the five models, which measures what the independent variable can explain from the change in the dependent variable, as shown in Table (1). Therefore, based on the results, the sub-hypothesis is accepted (there is a statistically significant relationship between the risk of transferring data and information and the quality of banking service).

Table (1) Parameters of standard models for the variable of data and information transfer risk in banking service quality

dependent variable	fixed limit	beta parameter	T calculated	correlation coefficient	regression coefficient	F calculated
Tangible element	1.285	0.929-	15.253	0.88	0.78	232
Response	1.013	0.940-	17.302	0.91	0.82	299
Emotional	1.186	0.933-	15.418	0.89	0.79	237
Safety and Guarantee	0.633-	1.010-	14.264	0.87	0.76	203
Reliability	0.362-	1.005-	18.825	0.92	0.85	354
The tabular value of (F) at degrees of freedom (1, 65) and the significance level is 0.01 = 7.08 The tabular value of (t) at degrees of freedom (1, 65) and the significance level is 0.01 = 2.390						

Source: prepared by the researcher based on the output of the spss program

Second: Measuring the relationship between cybersecurity risk and the quality of banking service:

The three conditions for accepting simple linear regression equations were met to measure the relationship between cybersecurity risk in the banking service quality variables (tangible elements, response, sympathy, safety, and reliability), as a beta parameter appeared and for the five models is negative, meaning that the relationship is inverse, and that the beta parameters are significant with evidence The calculated T values are greater than the tabular value for the five models, and the simple linear regression equations are also significant because the calculated F values are greater than the tabular values for the five models.

And by accepting the simple linear regression rates, the regression coefficient can be accepted for the five models, which measures what the independent variable can explain from the change in the dependent variable, so depending on the results, the sub-hypothesis is accepted (there is a statistically significant relationship between the risk of cyber security and the quality of banking service). And as shown in Table (2).

Table (2) Parameters of the standard models of the cybersecurity risk variable in the quality of banking service variable

dependent variable	fixed limit	beta parameter	T calculated	correlation coefficient	regression coefficient	F calculated
Tangible element	2.257	0.879-	14.859	0.88	0.88	220
Response	2.488	0.863-	14.532	0.87	0.77	211
Emotional	2.372	0.872-	14.210	0.87	0.76	201
Safety and Guarantee	1.690	0.888-	10.901	0.80	0.65	118
Reliability	1.361	0.915-	14.882	0.88	0.77	221
The tabular value of (F) at degrees of freedom (1, 65) and the significance level is 0.01 = 7.08 The tabular value of (t) at degrees of freedom (1, 65) and the significance level is 0.01 = 2.390						

Source: prepared by the researcher based on the output of the spss program

Third - Measuring the relationship between technical performance risk and banking service quality:

The three conditions were met to accept the simple linear regression equations to measure the relationship between technical performance risks in the banking service quality variables (tangible elements, response, sympathy, safety, and reliability), as a beta parameter appeared and for the five models is negative, meaning that the relationship is inverse, and that the beta parameters are significant with evidence The calculated T values are greater than the tabular

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value for the five models, and the simple linear regression equations are also significant because the calculated F values are greater than the tabular values for the five models.

By accepting simple linear regression rates, the regression coefficient can be accepted for the five models, which measures what the independent variable can explain from the change in the dependent variable. Therefore, depending on the results, the sub-hypothesis is accepted (there is a statistically significant relationship between performance risk and banking service quality). And as shown in Table (3).

Table (3) Parameters of standard models for the technical performance risk variable in banking service quality

dependent variable	fixed limit	beta parameter	T calculated	correlation coefficient	regression coefficient	F calculated
Tangible element	2.704	1.437-	15.578	0.89	0.79	242
Response	3.584	1.352-	12.821	0.85	0.72	164
Emotional	2.884	1.420-	14.575	0.88	0.77	212
Safety and Guarantee	1.723	1.489-	12.163	0.83	0.70	147
Reliability	1.850	1.494-	15.505	0.89	0.79	240
The tabular value of (F) at degrees of freedom (1, 65) and the significance level is 0.01 = 7.08 The tabular value of (t) at degrees of freedom (1, 65) and the significance level is 0.01 = 2.390						

Source: prepared by the researcher based on the output of the spss program

Fourth - Measuring the relationship between the risk of data storage and the quality of banking service:

The three conditions for accepting simple linear regression equations were met to measure the relationship between the risk of data storage in the banking service quality variables (tangible elements, response, sympathy, safety, and reliability), as a beta parameter appeared and for the five models was negative, meaning that the relationship is inverse, and that the beta parameters are significant with evidence The calculated T values are greater than the tabular value for the five models, and the simple linear regression equations are also significant because the calculated F values are greater than the tabular values for the five models.

And by accepting simple linear regression rates, the regression coefficient can be accepted for the five models, which measures what the independent variable can explain from the change in the dependent variable, so depending on the results, the sub-hypothesis is accepted (there is a statistically significant relationship between the risk of data storage and the quality of banking service). And as shown in Table (4).

Table (4) Parameters of standard models for the risk variable of data storage in banking service quality

dependent variable	fixed limit	beta parameter	T calculated	correlation coefficient	regression coefficient	F calculated
Tangible element	3.044	1.384-	12.765	0.85	0.72	162
Response	3.725	1.318-	11.368	0.82	0.67	129
Emotional	3.450	1.347-	11.574	0.82	0.67	133
Safety and Guarantee	2.569	1.399-	9.860	0.77	0.60	97
Reliability	2.689	1.396-	11.520	0.82	0.67	132
The tabular value of (F) at degrees of freedom (1, 65) and the significance level is 0.01 = 7.08 The tabular value of (t) at degrees of freedom (1, 65) and the significance level is 0.01 = 2.390						

Source: prepared by the researcher based on the output of the spss program

Fifth - Measuring the relationship between the risk of the technology used and the quality of the banking service:

The three conditions were met to accept the simple linear regression equations to measure the relationship between the technology risks used in the banking service quality variables (tangible elements, response, sympathy, safety, and reliability) as a beta parameter appeared and for the five models is negative, meaning that the relationship is inverse, and that the beta parameters are significant with valuable evidence The calculated T is greater than the tabular value and for the five models, and the simple linear regression equations are also significant because the calculated F values are greater than the tabular value and for the five models.

And by accepting simple linear regression rates, the regression coefficient can be accepted for the five models, which measures what the independent variable can explain from the change in the dependent variable, so depending on the results, the sub-hypothesis is accepted (there is a statistically significant relationship between the risk of the technique used and the quality of banking service), and as is shown in Table (5).

Table (5) Parameters of the standard models for the technology risk variable used in banking service quality

dependent variable	fixed limit	beta parameter	T calculated	correlation coefficient	regression coefficient	F calculated
Tangible element	2.165	0.878-	12.560	0.84	0.71	157
Response	0.736	0.951-	19.367	0.92	0.85	375
Emotional	2.140	0.879-	12.476	0.84	0.71	155
Safety and Guarantee	0.129-	0.979-	12.985	0.85	0.72	168
Reliability	0.893	0.934-	13.593	0.86	0.74	184
The tabular value of (F) at degrees of freedom (1, 65) and the significance level is 0.01 = 7.08 The tabular value of (t) at degrees of freedom (1, 65) and the significance level is 0.01 = 2.390						

Source: prepared by the researcher based on the output of the spss program

CONCLUSIONS:

1- One of the important objectives of banks' departments is to achieve the quality of banking service provided to customers, and this is reflected positively in the achievement of outstanding banking performance, which in turn achieves the shareholders' desire for dividends as a result of this service provided to customers.

2- The answers of the researched sample about the risks of technology and its dimensions, and the quality of banking service and its dimensions, reflected agreement and a high level for most of the questionnaire items, which is an indication of the interest of all those covered by the distribution of the questionnaire in banks in the field of the current research variables.

3- The research sample banks, through the directives of senior management, are based on improving the performance of staffing in aspects of technological developments and activating aspects of keeping them up with the quality of banking service provided to customers.

4- The research sample banks work on training and developing the functional staff, and this is what was discovered by the annual reports of the banks on the number of courses that were conducted.

5- The results of the research showed that there is an inverse relationship between technology risks in its five dimensions and the quality of banking service provided to customers. The higher the percentage of technology risk, the lower the quality of banking service provided to customers.

RECOMMENDATIONS:

1- In order to achieve the quality of banking service, it is necessary to work on the availability of modern equipment and devices, the extent of responding to the desires of customers, good dealing, spreading safety and the accuracy of the delivery of the banking service provided.
2- Stimulating the motivation of the functional staff in the humanitarian aspect, so that this is reflected in the performance of tasks and the productivity of these staff.
3- Enhancing the role of the research and survey aspects in the research sample banks in order to reach the opinions of customers in the areas of exposure to the risks of the technology used, and the extent to which the quality of banking service provided to these customers is affected.
4- The need to prepare developmental training programs in order to increase knowledge and keep abreast of technological developments and their risks.
5- Work to reduce technology risks by enhancing access to advanced electronic programs in order to protect users of electronic banking transactions, and this in turn reflects positively on the quality of banking service provided to customers.

ACKNOWLEDGMENT:

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