The Role of Artificial Intelligence in achieving Ambidextrous Performance A case study in a sample of private banks

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Abstract:

The research aims to shed light on the role of artificial intelligence in achieving Ambidexterity performance, as banks work to take advantage of modern technologies, artificial intelligence is an innovation that is expected to have a long-term impact, as well as banks can improve the quality of their services and analyze data to ensure that customers' future needs are understood. . The Bank of Baghdad and the Middle East Bank were chosen as a community for the study because they had a role in the economic development of the country as well as their active role in the banking market. A sample of department managers was highlighted in collecting data and extracting results based on the checklist, which is the main tool for the study. An assumption was built that artificial intelligence contributes to building Ambidexterity performance ... as the study reached a set of results, namely the existence of different gaps for the dimensions of artificial intelligence, as the largest size was the space for the dimension (21%) of the Bank of Baghdad for the dimension of training and development. (21%), also that there is a high gap size for the Middle East bank due to the availability of expertise (17%). Also, after exploring opportunities, there was a high gap size for the Middle East bank.

Keywords: Artificial Intelligence, Ambidexterity Performance, Exploration of Opportunities, Banking

The first topic: the scientific methodology of the study

Artificial intelligence accelerates and speeds up work in the banking sector, and this is what differs from the traditional work of banks, so that its huge impact is observed in various sectors, especially in the financial and banking sector. Currently, the financial sector aims to take advantage of all the new technologies available, especially artificial intelligence. AI stands out because it is an innovation that is expected to have long-term effects on the world as a whole. As the advantages of artificial intelligence in the banking sector are many, as banks were able to obtain an appropriate and accurate view of their data with a low level of error using artificial intelligence. Just as banks were able to improve quality and analyze data more efficiently to ensure understanding of customers' needs and provide an equal customer experience, the study will address two important variables, namely artificial intelligence and ambidextrous performance.

First: the study problem

Artificial intelligence is one of the modern administrative methods used in the process of linking information and choosing the best of it. The large number of information provided to the management of financial institutions causes confusion in the process of choosing appropriate information for the decision-making process and achieving Ambidextrous performance, which requires financial institutions to solve this problem by following specific steps To carry out the process of achieving market share and Ambidextrous performance.

Therefore, banking business environments are characterized by continuous change and development, in addition to the intense competition between banks in the Iraqi market. Therefore, artificial intelligence is one of the most important topics that help administrative leaders to face the evolving challenges in the work environment, where the research problem is represented in the following main question:

What is the impact of artificial intelligence on the performance of private banks, the research sample?

From the main question, the following two sub-questions are derived:

- What are the respondents' perceptions of the dimensions of artificial intelligence in the banks of the research sample?
- What are the respondents' perceptions of the quality of the Ambidextrous performance of the research sample?

Second, the importance of the study

The importance of the current research lies in the importance of its main topic of artificial intelligence, as artificial intelligence in itself is an important value for organizations because of its impact on determining the future of the organization, and the importance of the study is highlighted through its study of the banks surveyed, which focuses on the dimensions of Ambidextrous performance.

The importance of this study also stems from the following:

1. The importance of artificial intelligence as one of the solutions used to confront technological developments and the challenges of globalization, which are of interest to banks at the present time.
2. Shedding light on the results of the research in attracting the attention of the administrative leaders in the sample banks to the importance of applying artificial intelligence to the research sample banks to achieve Ambidextrous performance
3. The lack of studies that dealt with the relationship between artificial intelligence and ambidextrous performance, to the knowledge of the researcher.

Third: Objectives of the study

The study aims to:

1. Providing an integrated theoretical framework for all research variables.
2. Analyzing the impact of artificial intelligence in achieving the ambidextrous performance of the sample.
3. Identify the respondents' perceptions of the independent variable artificial intelligence and each of its dimensions (system capacity, user behavior, training and development, availability of experts).
4. Identify the respondents' perceptions of the dependent variable of ambidextrous performance (exploration of opportunities, investment of opportunities, exploratory creativity).
5. Presenting a set of recommendations based on the research results.

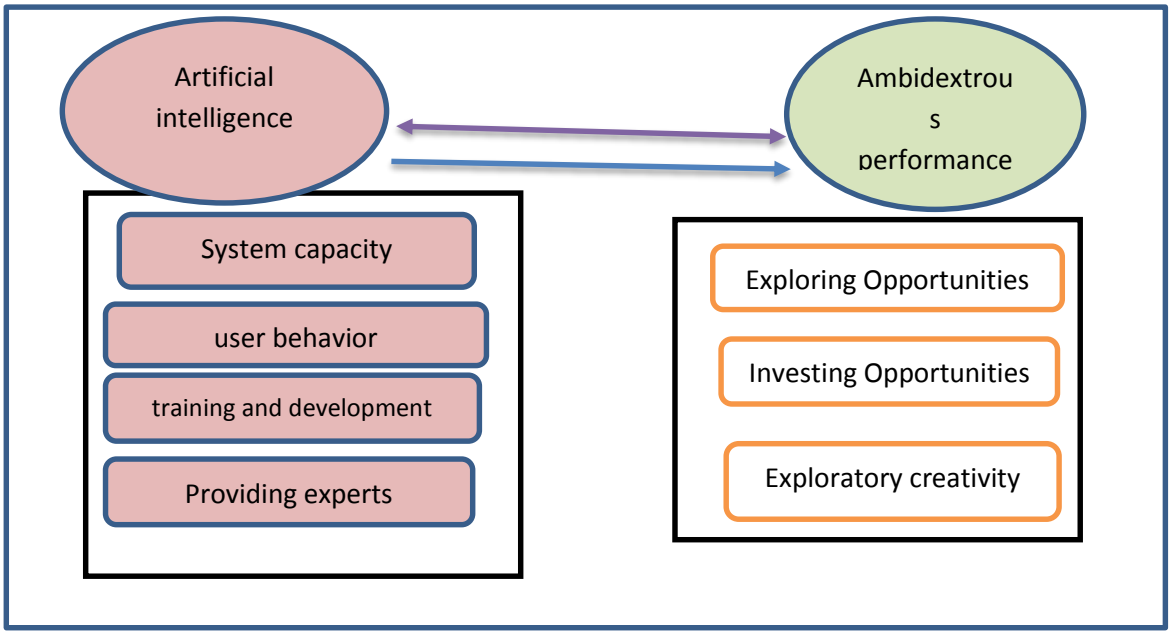
Fourth: the assumption of the study

Depending on the study problem and its objectives, the study seeks to test the following main hypotheses:

((((Artificial intelligence contributes to achieving ambidextrous performance))))

Fifth: the default search scheme

Artificial intelligence is of paramount importance, as it provides assistance and skill in obtaining the necessary and necessary information in a timely manner, from this point of view the hypothesis of the study was built.



Sixth: The search measurement tool

Table (1) Study Scale

number of paragraphs	sub variable	main variable
Faten Abdullah Ibrahim Saleh: 2009	System capacity	Artificial intelligence
	user behavior	
	training and development	
	Providing experts	
		Ambidextrous performance
Daoud: 2019 and Abdul-Jabbar 2020	Exploring Opportunities	
	Investing Opportunities	
	Exploratory creativity	

The second topic: The role of artificial intelligence in ambidextrous performance

Where the topic deals with the concept of artificial intelligence, its objectives, types, characteristics, components, classes, and applications, **as follows**:

First, the concept of artificial intelligence .

The origin of artificial intelligence dates back to the forties of the last century, and the spread and use of computers and the focus of attention began in the early fifties on neural networks, and in the sixties the research was oriented towards the representation of knowledge and the continuation of work at this pace until the end of the seventies, while the decade of the eighties witnessed a great boom in artificial intelligence research , Artificial intelligence receives a lot of attention because it covers many areas that serve man and society, but this science is still vague and unclear for the majority of people (Georgios & Togelius, 2018:25).

Artificial intelligence consists of two words: intelligence and the word artificial, and each of them has a meaning. Intelligence, according to the Webster Dictionary, is the ability to perceive and understand new and changing circumstances or situations, while the word artificial is all the things that arise as a result of activity or action that is made of fabricating and forming things and

distinguishing from things that already exist. And artificial intelligence is one of the modern computer sciences that searches for advanced methods for doing actions and conclusions, and its purpose is to rebuild using artificial means - computers - smart thinking and actions (Yassin, 2012: 114).

Table (2) the contributions of researchers in the definition of artificial intelligence for the period (2014-2019)

Focus	Concept	Researcher
Study and implementation of human activities	A computer application concerned with building programs capable of studying and implementing repetitive activities carried out by a person.	amber73: 2014،
Making smart machines	It is the science that is concerned with making intelligent machines that behave as humans are expected to behave.	Rabah & Budah,2015:203
The art of making machines	The art of manufacturing machines capable of performing operations that require intelligence when performed by humans.	Al Fadli147 :2018،
carry out things Intelligent	The science that enables machines to do things that require intelligence if they are performed by humans.	Fouad 12 :2019،
systems design	Part of computer science that aims to design intelligent systems that give the characteristics we know as intelligence in human behavior.	Aqrawi and Fakhri135 :2019،

Through the previous definitions, it is necessary to define the procedural definition of research that artificial intelligence is a science and technology based on fields such as computer science, psychology, mathematics, engineering, and in fact it represents the product of the achievements of the human mind, the product of human civilization in every time and place.

1-The goals of artificial intelligence

Artificial intelligence aims to understand the nature of human intelligence by making computer programs capable of simulating intelligent human behavior, and it means the ability of a computer program to bring up an issue or make a decision in a situation. There are three main goals of artificial intelligence, such as: (Cazenave, 2011:6-7)

a- Making devices smarter (a main goal). b- Understand what intelligence is. c- Make the devices more useful.

Artificial intelligence has several goals, the most important of which are: (Afifi, 2014: 24)

• Enabling machines to process information in a way that is closer to the human way of solving problems, meaning parallel processing where several orders are executed at the same time and this is the closest human way to solving problems.

• To better understand the nature of human intelligence by deciphering the depths of the brain, where it can be simulated, as it is known that the nervous system and the human brain are the most complex organs, and they work in a coherent and permanent way to identify things.

2- Types of artificial intelligence

There are several types of artificial intelligence as follows: (Abdul-Hussein, 2020: 254) (Aqrawi and Al-Fakhri, 2019: 135-136)

A- Narrow or weak artificial intelligence: It is the simplest form of artificial intelligence and is programmed to perform certain functions for a specific topic and in a specific environment, and its behavior is considered a reaction to a specific situation, and it works in the conditions of its own environment.

B- General Artificial Intelligence: It collects, analyzes and transforms data into useful information resulting from experiences from the situations it acquires, which qualifies it to make independent and autonomous decisions, examples of which are self-driving cars and instant chat robots.

C- Artificial superintelligence: They are models that seek to simulate humans, and here a distinction can be made between two basic types, the first is an attempt to understand human thoughts and emotions that affect human behavior and behavior and has a simple ability to social interaction, while the second is a model of the theory of mind where these models can express Its internal state and to anticipate the feelings and attitudes of others and interact with it is the next generation of highly intelligent machines.

3- Characteristics of Artificial Intelligence

Artificial intelligence has many characteristics, including: (Al-Najjar, 2010: 170)

A - Using intelligence to solve the presented problems in the absence of complete information.

b- The ability to think and perceive.

The ability to acquire and apply knowledge.

The ability to learn and understand from past experiences and expertise.

C - the ability to use trial and error to explore different things.

H - The ability to respond quickly to new situations and circumstances.

The ability to deal with difficult and complex cases.

D- The ability to visualize, be creative, and understand and perceive visual matters.

As a result of the unlimited advantages of artificial intelligence in the financial sector, the banking sector has tended to invest and incorporate artificial intelligence significantly into most of its business. There are many cases where AI can be implemented and we can see them in the examples below:

Anti-money laundering; Which needs solutions that contain artificial intelligence to be able to detect the pattern of incoming data that contains money laundering, and thus will implement prevention systems supported by artificial intelligence.

• Anti-fraud solutions such as Bank-BI Fraud Detection which allows early detection of any transactions that could be considered fraudulent and ultimately provides warnings to banks about the wrong customer.

• Virtual assistant such as ABOT Chatbot enables easy real-time communication between employees or clients without the need to be physically present. Chatbots are one of the most popular types of artificial intelligence and are among the most successful types of virtual assistants that allow remote access and use of any service that the customer needs anywhere and at any time.

• Compliance, targeted by the compliance platform Pio-Tech Bank-BI Compliance, to protect companies from violations of the law and to inform them about matters related to sanctions and regulations in order to meet their business requirements.

In short, although the banking sector has always been dependent on human labor and physical workforce and it has become clear that with the technological development that we are witnessing today many of these tasks and services can be digital and fully automated which in the future will ensure the victory of the banking sector.

Fifthly, the components of artificial intelligence

Artificial intelligence consists of three main components: (Afifi, 32:2014)

1- Knowledge base: The level of system performance is often measured in terms of the size and quality of the knowledge base it contains. Knowledge base includes:

a- Absolute facts: describe the logical relationship between the elements, concepts, and set of facts based on the experience and practice of experts in the system.

B - Methods of solving problems and providing advice.

C- Rules based on mathematical formulas.

2- Inference mechanism system: It is programmed procedures that lead the required solution by linking specific rules and facts to form a line of deduction and inference.

3- User interface: These are the procedures that equip the beneficiary with appropriate tools to interact with the system during the development and use phases.

Sixth: Types of Artificial Intelligence

There are several types of artificial intelligence: (Jarah, 2019:44-45)

1- Artificial intelligence for general purposes: The research can be conducted with different ideas, as the artificial intelligence can respond to the situations it encounters for the first time.

2- Specialized Artificial Intelligence: Artificial intelligence that excels only at thinking and examining specific contents.

3- Artificial intelligence boom: It is considered the third category, as artificial intelligence has become part of our daily lives, from smart phones to electronic assistance devices, through to self-driving mechanisms.

Seventh: Artificial Intelligence Applications

Artificial intelligence has several applications, including: (Caferra, 2011: 238)

1- Expert systems design. 2- Reasoning (logical). 3- Representation of knowledge. 4- Learning. 5- Robots, vision, image.

2- Speech and writing recognition. 7- The interaction between a person and a machine. 8- Understand natural languages. 9- Planning.

3- Get rid of restrictions. 11- Computational Linguistics. 12- Neural networks.

Artificial intelligence applications can be limited to three main areas: cognitive science applications, smart machine applications, and nature interface applications, as shown in the following figure:

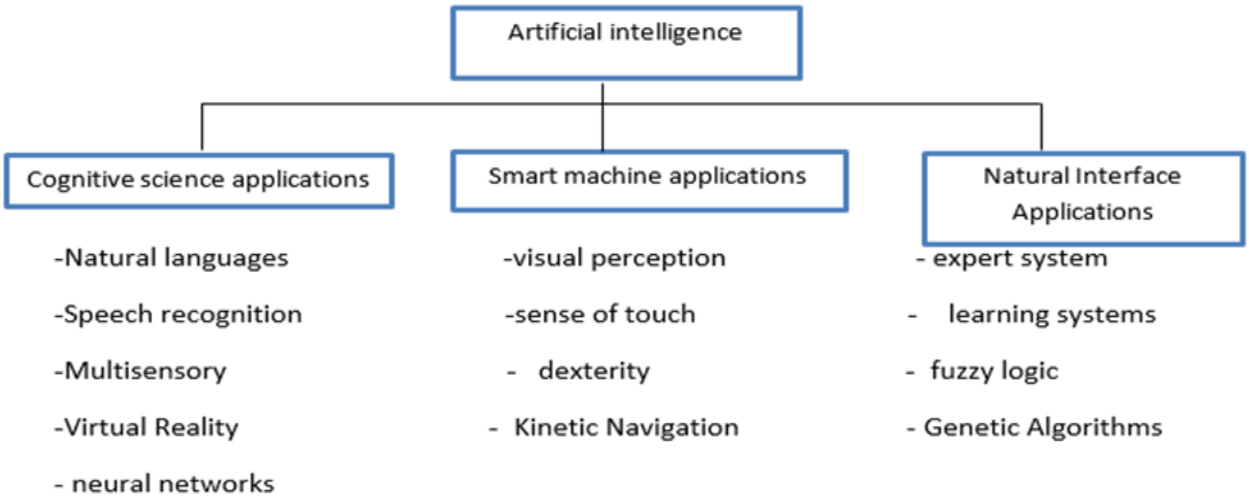


Figure (2) Artificial Intelligence Applications

Source: O'Brien , James (2011) ," Management Information system" , 10th Edition , McGraw-Hill , USA , pp.422 .

Second, the ambidextrous performance.

The topic deals with the concept of ambidextrous performance, its importance, the conditions for its success, its approaches, characteristics, strategies, and dimensions, as follows:

First, the concept of ambidextrous performance

The origin of the word dexterity is derived from the Latin word ambos, which means "both hands", meaning the use of both hands equally, or versatility (Karrer & Fleck, 2013: 2). In the Oxford English Dictionary, dexterity means the ability of an individual to use both His hands are both with equal skill (Nohman, 2015:2), and dexterity is one of the most important topics that aroused interest about organizational researchers, as the concept of ingenuity has gained influence in scientific research as a basic ability to achieve sustainable competitive advantage for organizations (Comez et l, 2011:77) . According to (Clercq et al, 2012:5-6), the term ingenuity refers to the ability to pursue two different things at the same time, such as (exploration and investment).

Table (3) Contributions of researchers in the definition of ambidextrous performance for the period 2013-2018

Focus	Concept	Researcher
Investment and exploration opportunities, risks and experimentation	The organization's ability to invest both in existing resources, improve what is currently available to the organization, and explore new opportunities through risk and experimentation.	Wessel,2013:14
Create value and explore new opportunities	The ability of the organization to manage activities related to investing its current capabilities in order to create value for the organization in the short term, and to explore new opportunities to ensure its survival and continuity in the long term.	Reasheed and jaber: 2014:13
Investing existing products and exploring new products	The organization's ability to invest in existing products with known knowledge at the same time, and to explore a new product with unfamiliar knowledge.	Zaidi & Othman,2015:22
Investing in existing capabilities and exploring new competencies	Ability to invest current capabilities while exploring new competencies at the same time.	Shoba,2017:16
Investment and exploration capabilities in a dynamic environment	The organization's ability to maintain the dual capabilities of both investing and exploration to survive in dynamic work environments and to manage organizational change.	Roglinger et.al,2018:3

Through the previous definitions, it is necessary to define the procedural definition of research that the Ambidextrous performance is the organization's ability to seek exploration and investment and its ability to invest current competencies and explore new opportunities with its ability to use and improve existing knowledge.

Secondly, the importance of Ambidextrous performance

Ambidextrous performance is linked to long-term success as it seeks to achieve a balance between exploration and investment simultaneously. The scientific literature has identified the importance of Ambidextrous performance as follows:-

1- The Ambidextrous performance is important in the management's practice of its work, taking into consideration the characteristics of the competitive environment in which organizations operate, and the need for both exploration and investment. (Ortego&Azorin, 2018:85).

(Hussain and Al-Ani, 2018: 279) pointed out another importance of Ambidextrous performance, as follows:

2- The importance of Ambidextrous performance appears in that it enables business organizations to diversify their skills, as it combines current opportunities and future visions in an environment characterized by a high degree of uncertainty and the need for rapid development and ability to shift towards opportunities, which is one of the conditions for success.

3- The importance of Ambidextrous performance in the field of projects appears widely in the public and private sectors as a means of introducing new products, commercial benefits or

organizational change, and this has led to the expansion of the scope of work methods and has become an approach for many organizations.

4- Ambidextrous performance as a strategic goal represents the desired goals that are achieved through appropriate means or organizational learning processes (Sulphey & Allkahtani, 2017:336).

Third: Conditions for the success of ambidextrous performance

O'Reilly & Tushman (2011:9) and Ibrahim (2017: 212) suggested that there are conditions for the success of high-performance organizations as follows:-

1- Clarity of the important strategic goal that shows in an intellectual way both exploration and investment.

2- Knowing the common identity by clarifying the common vision and values through the exploration and investment units.

3- The Ambidextrous team owns clear and balanced exploratory and investment strategic units that occur in the external environment.

Fourth: The entrances to ambidextrous performance

A- Structural ingenuity: Structural ingenuity is called (architectural prowess) a model in which exploration and investment are divided into different structures or sub-units, and this model is often applied in large organizations (Boukamel & Emery, 2017:5), it is an organizational design or form that does not contain Not only on separate sub-units for exploration and investment, but also on different specializations, systems, incentives, processes and cultures for each unit (Schudy, 2010:6). The basic principle of this approach is the establishment of separate structural units that are independent of each other, and each of them seeks either to explore or invest (Nohman, 2015:23).

b- Contextual Acuity: It is the behavioral ability to simultaneously demonstrate alignment and adaptability across the entire business unit. This type of ingenuity depends on the systems, incentives, and processes that shape individual behaviors in the organization (Brion et.al, 2010:4). To the Toyota Production System where workers perform routine tasks such as assembling cars (investing), but are expected to continually change their jobs to become more efficient (exploration) (Nohman, 2015:24), contextual factors that affect people's behavior include incentive systems, vision Shared, balanced discipline, support, trust and extensibility (Klinger, 2016:23).

C- Sequential ingenuity: Sequential ingenuity is considered as a category of skilful performance because the concept of ingenuity depends on the effective organizational ability to manage investment and exploration simultaneously.), which is the ability of an organization to change and build its structures, which by organizing its structures can reflect changing environmental conditions or strategies, sequential ingenuity is more appropriate in stable environments, and it is generally more beneficial for small organizations that lack the resources to apply sequential ingenuity (Nohman, 2015). :22).

Fifth, Ambidextrous performance strategies

The skilful performance strategy is a high ability to follow up with the exploration and investment strategies of products, market and resources, so organizations must respond effectively to the existing markets and at the same time prepare for the new market by practicing the strategy of skilful performance (Musigire et al, 2017: 77), And defines (Mashahadi et al, 2015:146) the strategy of Ambidextrous performance as simultaneous actions by organizations between heterogeneous things.

And each of (Comez et al, 2011: 78) Popadic et al, 2016: 296-297) explained the strategies of Ambidextrous performance as follows:

Exploratory innovation strategy: The ability to deal with changing environments, open new business opportunities, and thus produce new products to meet customer needs, create new markets, and

include high levels of uncertainty, and implement the exploratory strategy by the research and development department, and aims to enter areas of markets for new products.
Investment innovation strategy: Creates value by organizations enhancing existing knowledge base, improving existing products or processes, is a low-risk strategy, and prevents positive returns, investment innovation is linked to improvements in quality, cost and time savings, and implementation of the investment strategy in the production, sales and service departments. It aims to improve the market position of the existing products.

Sixth: The dimensions of ambidextrous performance

A- Opportunity exploration: The extent to which the organization is able and willing to use its scarce resources, skills and abilities to identify marketing opportunities available in the foreign market before they are discovered by other competitors. Exploration is linked to several activities, including research, difference, risk, flexibility, experimentation, radical innovation, diversity and the creation of new products, processes and services, and is also associated with leadership, improvisation, chaos, and the emergence of markets and technologies (Armour, 2015:5) (Kalgovas et al, 2014:3). , The exploration of opportunities by individuals is through their search for opportunities to improve current processes or technology, products, services and work relationships, and the extent to which they distinguish opportunities to make positive improvements in their work or units or even with the organization's customers (Mizhar, 2017: 10).

B- Investing in opportunities: the organization seeks to invest external marketing opportunities to achieve its goals and monitor customer needs as opportunities that contribute to improving the level of sales and increasing market share, and includes improvement processes, selection, efficiency, production, implementation, and refinement (Andersen et al, 2017:135), and links Investing opportunities also with mechanical and automated structures, structures and routines, relying on routes, bureaucracy and stable markets (Sulphey & Allkahtani, 2017:337)

C- Centralization: It is the third dimension of Ambidextrous performance, and it is an element of the independence of delegating the characteristic of the organizational authority and the degree to which the decision-making unit is centralized at the higher levels of the organization, for example the board of directors or the executive director, related to the role of official authority and hierarchical mechanisms in the processes of making Resolution (Martens et.al, 2017: 5 (Shoghi, 2013: 92).

Practical side

First: Analyze the results of the checklist: The researcher focused on presenting the results of the answers to the questions of the checklist, and analyzing the data to reach the results of the research based on a statistical method (descriptive analysis) by extracting frequencies, arithmetic means and percentages of the extent of matching sub-variables and determining the size of the gap with the reality of the Bank of Baghdad and the Middle East for Finance and Investment The research sample, by the answers to the seven-scaled checklist (not implemented and not documented, partially applied not documented, partially applied documented, partially applied wholly documented, completely applied not documented, fully applied documented, fully applied completely documented) and weights corresponding to it (0,1,2,3,4,5,6), respectively.As the average scale adopted for comparison is equal to (3), i.e. partially achieved, and as shown later, and through field coexistence and personal interviews for most departments, divisions and units in companies, the research sample and the knowledge of the nature of the business of each of them, an intentional sample was taken. The authorized director and department managers, for the purpose of obtaining realistic answers to fill out the checklist, where the contents of the questions related to the checklist were explained to clarify its paragraphs, and I also intended those contents by directing indirect questions and inquiries related to the same list without referring to it to ensure the reality of the

answers, until the checklist came out with answers The final results that correspond to reality, and the following is an analysis of the results of the checklist:

Independent variable: artificial intelligence

1- **System ability**: It is the system's ability to correctly interpret external data, learn from this data, and use that knowledge to achieve specific goals and tasks through flexible adaptation.

Table (4) analysis of the results after the capacity of the system

	Bank of Baghdad							Middle East Bank						
	Match range weights							Match range weights						
analysis of the results after the capacity of the system	Fully Implemented, Fully Documented	Fully Implemented, Partially Documented	Fully Implemented, Not Documented	Partially Implemented, Fully	Partially Applied, Partly Documented	Partially Applied, Not Documented	Not Implemented, Not Documented	Fully Implemented, Fully Documented	Fully Implemented, Partially Documented	Fully Implemented, Not Documented	Partially Implemented, Fully	Partially Applied, Partly Documented	Partially Applied, Not Documented	Not Implemented, Not Documented
	6	5	4	3	2	1	0	6	5	4	3	2	1	0
The system can keep the information confidential.		*								*				
Email through the Service Channel is a secure means of communication.		*								*				
The bank has modern electronic devices.		*							*					
The bank uses advanced programming languages in order to develop its business.	*							*						
Duplicates	1	3	0	0	0	0	0	1	1	2	0	0	0	0
Score = iterations x weights	6	15						6	5	8				
Weighted arithmetic mean = result range / group of iterations	5.25							4.75						
Match extent = arithmetic mean / highest weight	87.5							0.79						
Gap Size = 1- Percentage of match extent	12.5							21						

The calculations were made in the following way:-

= (Weighted arithmetic mean = ((frequency x weight) sum)/(sum of frequencies

$$5.25 = \frac{21}{4} = \frac{\ldots\ldots\ldots(0\times4)+(3\times5)+(1\times6)}{3+1}$$

(Percentage of fit = (arithmetic weighted mean)/(scaled higher

$$.\,\%\,87.5 = 0.833 = \frac{5.25}{6} =$$

Gap size = 1) - percentage of match

$$\%\ 12.5 = (87.5 - 1) =$$

The results of the table (...) show that the dimension of "system ability" of the independent variable (artificial intelligence) got an average of (5.25) degrees, which is higher than the weighted arithmetic mean of the Bank of Baghdad, as for the Middle East Bank, which reached (4.75), and that the percentage of the range of The conformity is (87.5%) (0.79%) for the Bank of Baghdad and the Middle East Bank, respectively, which indicates the existence of a non-conformity gap of (12.5%) (21%) for the Bank of Baghdad and the Middle East Bank, respectively, as it is noted that the Bank of Baghdad is better and has the least gap in work For the dimension of the system capacity, by calculating the gap for the Bank of Baghdad, we note that the size of the gap is relatively small in

relation to the dimension of the system capacity for the Bank of Baghdad, because the bank is working to confront all environmental changes in the market.

We note that the percentage of the extent of conformity, which depends on the amount of the weighted arithmetic mean that we obtain (represented by the numerator), - because (the denominator) is the highest degree in the scale is a fixed amount - is acceptable and at its lowest level when its amount is (87.5%) for the Bank of Baghdad , where the size of the gap is (12.5%), which is "the degree of departure from the ideal situation represented by a percentage of matching (100%), which corresponds to a weighted arithmetic mean of (5.25), and the more the gap decreases due to the good formulation and implementation of strategic plans For the bank, that was better and more close to the situation, fully implemented and fully documented. And in the same way we perform the calculations for the other variables.

This result represents a gap that points to reasons, explained as follows:

• The bank's lack of implementation of the strategies according to what is planned for the bank's link with the Central Bank and shareholders.

• The bank does not often evaluate the various actors (starting with shareholders, stakeholders and beneficiaries) in order to diagnose opportunities..

Required areas for improvement

• You must use advanced information systems that respond to any urgent changes in order to make the pioneering decision.

• The bank should go to invest the opportunities that exist in the Iraqi market and find ways to market alternative services of the bank from alternative resources according to modern devices in the promotion inside the country.

• Searching for new information and trying to develop it and conducting continuous renewal processes in the bank by searching for new ideas and new technologies of an advanced nature to increase and improve its performance and striving to increase the profits of the banks by improving the nature of its services.

1- **User behavior:** Providing new and advanced services to users and customers to serve the bank and satisfy the customer. This criterion includes (4) questions divided into seven weights as shown in the table below:

Table (4) analysis of results after consumer behavior orientation

		Bank of Baghdad							Middle East Bank						
		Match range weights							Match range weights						
	analysis of results after consumer behavior orientation	Fully Implemented, Fully Documented	Fully Implemented, Partially Documented	Fully Implemented, Not Documented	Partially Implemented, Fully	Partially Applied, Partly Documented	Partially Applied, Not Documented	Not Implemented, Not Documented	Fully Implemented, Fully Documented	Fully Implemented, Partially Documented	Fully Implemented, Not Documented	Partially Implemented, Fully	Partially Applied, Partly Documented	Partially Applied, Not Documented	Not Implemented, Not Documented
		6	5	4	3	2	1	0	6	5	4	3	2	1	0
	The bank provides services to citizens through modern technology.	*							*						
	The bank provides the ability to search and index data in an attractive way for users.		*								*				
	The bank is interested in introducing new and advanced services to satisfy the auditors.	*									*				
	The auditors can conduct their transactions with ease and convenience.		*						*						

	Duplicates	2	2	0	0	0	0	0	2	0	2	0	0	0	0
	Score = iterations x weights	12	10						12	0	8				
	Weighted arithmetic mean = result range / group of iterations	5.5							5						
	Match extent = arithmetic mean / highest weight	.92							.83						
	Gap Size = 1- Percentage of match extent	.8							.17						

The results of Table (4) show that after "consumer behavior" an average of (5.5) was obtained for the Bank of Baghdad and (5) for the Middle East Bank, and that the percentage of conformity was (92%) for the Bank of Baghdad and (83%) for the Electrical and Electronics Company, which indicates To the existence of a non-conformity gap of (8%) for the Bank of Baghdad, which is a small percentage, and (17%) for the Middle East Bank. By calculating the gap, we note that the size of the gap is relatively high in relation to the consumer behavior dimension, because the Bank of Baghdad has the flexibility to deal with environmental changes in the market and accept The ideas and innovations by the employees also lead to continuous improvement. As for the Middle East Bank, the evaluation and selection of appropriate opportunities, which are considered a problem for the senior management, as choosing the appropriate opportunities and investing them works on the continued success of the bank and excellence in its performance. However, the bank faces some problems when formulating its plans to suit the current requirements, resulting from the following:

1. Weakness of strategic measures to be taken when necessary.
2. Difficulties in the process of attracting customers due to low benefits and interest rates for products and services offered with competing products and poor promotion of services.

Required areas for improvement

1- Developing the strategic measures adopted by banks, as well as developing the cultural and cognitive capabilities required by the senior leadership, and supporting this within the bank.

2- Improving the mechanisms of distribution and promotion of banking services through the development of specific mechanisms and a specific course of action in a flexible manner that ensures the increase of its production capacity according to modern technology.

C - **Training and development**: It is of paramount importance as a key element in the administrative development process, and therefore requires great care in planning, implementation and follow-up to ensure the achievement of the set goals, so that the working individual can perform his work in an effective manner with positive behavior and attitudes. In view of the current global economic and technological developments and the direction of institutions towards openness and expansion, the need for qualified and trained cadres has increased and renewed. This criterion includes (4) questions divided into seven weights as shown in the table below:

Table (5) Training and Development

		Bank of Baghdad							Middle East Bank						
		Match range weights							Match range weights						
	Training and Development	Fully Implemented, Fully Documented	Fully Implemented, Partially Documented	Fully Implemented, Not Documented	Partially Implemented, Fully	Partially Applied, Partly Documented	Partially Applied, Not Documented	Not Implemented, Not Documented	Fully Implemented, Fully Documented	Fully Implemented, Partially Documented	Fully Implemented, Not Documented	Partially Implemented, Fully	Partially Applied, Partly Documented	Partially Applied, Not Documented	Not Implemented, Not Documented
		6	5	4	3	2	1	0	6	5	4	3	2	1	0
	The bank's employees are constantly trained to keep pace with modern technological developments.			*					*						
	The bank is constantly working to develop the skills of its employees.		*								*				
	The bank provides modern electronic devices to its employees in order to constantly develop its business.		*						*						
	The bank is interested in modernizing its systems in line with modern technology.		*						*						
	Duplicates	0	3	1	0	0	0	0	3	0	1	0	0	0	0
	Score = iterations x weights		15	4					18	0	4				
	Weighted arithmetic mean = result range / group of iterations	4.75							5.5						
	Match extent = arithmetic mean / highest weight	.79							.92						
	Gap Size = 1- Percentage of match extent	.21							.8						

The results of Table (5) show that after "training and development" the Bank of Baghdad obtained a rate of (4.75) and that the percentage of the extent of conformity is (79%), which indicates that there is a gap of non-conformity at a rate of (21%) and by calculating the gap we note that the size of the gap Relatively large for the training and development dimension. As a result of the weakness of the bank's management, the Bank of Baghdad adopts high-precision technology in its work, even though it has strategic alliances with other banks. The results also show the superiority of the Middle East Bank in this dimension over the Bank of Baghdad, as the weighted arithmetic mean reached (5.5), which is close to the highest degree in scale (6), with a matching percentage (92%) and a gap size of (8%), which is a relatively small percentage despite The circumstances that the bank and the country are going through, and this indicates that the bank is able to ally or participate in its services with local companies and banks in the service and industrial sector.

Required areas for improvement

1. Investing the expertise and competencies of banks in improving their performance, especially the existing human or technical resources.
2. It is possible to rely on the bank's database as well as the training and development programs for work, as it is easy to access information through them and to review and develop the level of performance and leadership skills.

H- **Availability of experts**: a set of experiences, skills and competencies of workers in institutions in the field of modern technologies and technology. This criterion includes (4) questions divided into seven weights as shown in the table below:

Table (6) analysis of results after the availability of experiences

		Bank of Baghdad							Middle East Bank						
		Match range weights							Match range weights						
	availability of experiences	Fully Implemented, Fully Documented	Fully Implemented, Partially Documented	Fully Implemented, Not Documented	Partially Implemented, Fully	Partially Applied, Partly Documented	Partially Applied, Not Documented	Not Implemented, Not Documented	Fully Implemented, Fully Documented	Fully Implemented, Partially Documented	Fully Implemented, Not Documented	Partially Implemented, Fully	Partially Applied, Partly Documented	Partially Applied, Not Documented	Not Implemented, Not Documented
		6	5	4	3	2	1	0	6	5	4	3	2	1	0
	There are many experts in the bank to constantly develop the bank's business.		*									*			
	The bank works on contracting with experts from abroad if necessary.		*						*						
	The bank closely follows up on the work of experts in the field of automation and technology.	*							*						
	Experts are selected according to their competence and ability to improve the bank's systems.		*							*					
	Duplicates	1	3	0	0	0	0	0	2	1	0	1	0	0	0
	Score = iterations x weights	6	15						12	5		3			
	Weighted arithmetic mean = result range / group of iterations	5.25							5						
	Match extent = arithmetic mean / highest weight	87.5							.83						
	Gap Size = 1- Percentage of match extent	12.5							.17						

The results of Table (6) show that after "the availability of expertise" for the Bank of Baghdad got an average of (5.25), and that the percentage of the extent of conformity is (87.5%), which indicates the existence of a non-conformity gap at a rate of (12.5%), and by calculating the gap we note that there is a gap and that The matching rate achieved the highest percentage. Which means that the bank's performance is good and that it encourages employees to present ideas that increase the speed in the performance of tasks away from the routine that weakens their performance. The result also indicates the existence of experiences that benefit the bank. To achieve the planned goals in a way that ensures its superiority and ability to succeed and excel in the Iraqi market, as it achieves ideal performance results. As for the weighted arithmetic mean of the Middle East Bank, it is (5) and

this indicates a good tendency for the bank with a matching percentage (83%) and a gap size of (17%), which is a small percentage, but it is influential in performance, as it is noted that the bank also has good and not bad experiences in the field of technology and modern technologies.

Required areas for improvement

1- Innovative services must be created that meet the needs of customers and are in line with the changing environment by reducing complex procedures and introducing modern technologies within the bank.

2- The bank's management should focus on competencies and systems when conducting renewal operations to increase customer satisfaction and achieve performance excellence.

Second, the skillful performance

A- **Exploring Opportunities**: The bank's ability to move towards new opportunities and prepare to adapt to fluctuating markets in a way that leads to the acquisition of new customers and markets, and the formation of new distribution channels. This criterion includes (4) questions distributed into seven weights as shown in the table below:

Table (7) Analysis of Opportunities Exploration Results

		Bank of Baghdad							Middle East Bank						
		Match range weights							Match range weights						
	Opportunities Exploration Results	Fully Implemented, Fully Documented	Fully Implemented, Partially Documented	Fully Implemented, Not Documented	Partially Implemented, Fully	Partially Applied, Partly Documented	Partially Applied, Not Documented	Not Implemented, Not Documented	Fully Implemented, Fully Documented	Fully Implemented, Partially Documented	Fully Implemented, Not Documented	Partially Implemented, Fully	Partially Applied, Partly Documented	Partially Applied, Not Documented	Not Implemented, Not Documented
		6	5	4	3	2	1	0	6	5	4	3	2	1	0
	The bank's management is working on exploring activities that require new skills or knowledge.		*								*				
	Modern technological management of the bank enters into force.	*									*				
	The bank's management is ready to try new products and services in the current market.		*						*						
	The bank's management aims to explore new business opportunities in the external environment.		*							*					
	Duplicates	1	3	0	0	0	0	0	1	1	1	0	0	0	0
	Score = iterations x weights	6	15						6	5	8				
	Weighted arithmetic mean = result range / group of iterations	5.25							4.75						
	Match extent = arithmetic mean / highest weight	.88							.79						
	Gap Size = 1- Percentage of match extent	.12							.21						

The results of Table (7) show that after "Exploring Opportunities" for "Bank of Baghdad and the Middle East", despite the discrepancy and disparity in the results, there is a superiority of the Bank of Baghdad in the answers, as it obtained an average of (5.25), which is close to fully applied, fully

documented, and that the percentage The extent of conformity is (88%), which indicates that there is a gap of non-conformity at a rate of (12%). Between them and those institutions due to the bank's technological potential and a strong desire to produce new services. As for the Middle East Bank, the weighted arithmetic mean reached (4.75), which is close to a fully applied scale that is partially documented. With a matching percentage (79.) and a gap size of (21%)) which is a high percentage for the bank, and this proves that the bank's policy is linked to the political and economic changes of the country and the fluctuations in the Iraqi market and is characterized by an environment of high uncertainty. This gap indicates reasons, explained as follows:

1- Lack of financial and human allocations and the lack of specialists and experts in the field of technology and software in the Middle East Bank.

2- The lack of awareness of the management in the Middle East Bank of the importance of knowing the needs and demands of the Iraqi market for banking services.

Required areas for improvement

1- Specialists should be employed in the field of using advanced information and expert systems that respond to any urgent changes and be alert to the external environment.

2- Finding new ways to meet the needs of customers by conducting field surveys for customers through specialized teams.

3- Formulating strategies to discover opportunities by establishing a specialized team that works to search for available opportunities in the market and provide information to the bank about environmental opportunities and work to invest them to achieve distinguished and sustainable performance.

4- Working on improving the current projects and establishing new projects with high efficiency that meet the Iraqi market demands for services.

Required areas for improvement

1- Innovative services must be created that meet the needs of customers and are in line with the changing environment by reducing complex procedures and introducing modern technologies within the bank.

2- The bank's management should focus on competencies and systems when conducting renewal operations to increase customer satisfaction and achieve performance excellence.

B. **Investing opportunities**: The bank's ability to improve activities to create value in the short term in a way that meets the needs of current customers in the current markets and seeks to expand knowledge, skills, and current products and services while increasing the current distribution channels. This criterion includes (4) questions distributed over seven weights as shown In the table below:

Table (8) Investment Opportunities

	Investment Opportunities	Bank of Baghdad							Middle East Bank						
		Match range weights							Match range weights						
		Fully Implemented, Fully Documented	Fully Implemented, Partially Documented	Fully Implemented, Not Documented	Partially Implemented, Fully	Partially Applied, Partly Documented	Partially Applied, Not Documented	Not Implemented, Not Documented	Fully Implemented, Fully Documented	Fully Implemented, Partially Documented	Fully Implemented, Not Documented	Partially Implemented, Fully	Partially Applied, Partly Documented	Partially Applied, Not Documented	Not Implemented, Not Documented
		6	5	4	3	2	1	0	6	5	4	3	2	1	0
	The bank's management has a flexible organizational structure that enables it to keep pace with external changes and invest the available opportunities.		*						*						
	The Bank's management regularly makes small modifications to the existing products and services to meet the needs of customers.	*							*						
	The bank's management seeks to increase its market share through its ability to absorb the increase in market demand.	*									*				
	The bank's management focuses on meeting the needs of existing customers more than potential customers.	*							*						
	Duplicates	3	1	0	0	0	0	0	3	0	1	0	0	0	0
	Score = iterations x weights	18	5						18		4				
	Weighted arithmetic mean = result range / group of iterations	5.75							5.5						
	Match extent = arithmetic mean / highest weight	.96							.92						
	Gap Size = 1- Percentage of match extent	.4							.8						

The results of Table (8) show that the dimension of "investment of opportunities" for the Bank of Baghdad is slightly better than the Bank of the Middle East, despite the disparity and disparity of results, but there is a superiority of the Bank of Baghdad in the answers, as it obtained an average of (5.75), which is close to fully applied and fully documented on And the percentage of the extent of conformity is (96%), which indicates the existence of a gap of non-conformity by (4%) and by calculating the gap, we note that the size of the gap is relatively small in relation to the dimension of investment opportunities. As a result of the presence of revenues with which to invest. As for the Middle East Bank, it reached the middle The arithmetic weighted by (5.5), which is close to a fully applied and fully documented scale, with a matching percentage (92.) and a gap size (8%), which is an acceptable ratio for the bank.

Required areas for improvement

1- Advanced information systems should be used that respond to any emergency changes and employees should be trained on them for the purpose of investing the minds and skills of the employees.
2- Providing individuals with high skills in the use of information technology by appointing the vacant grades.

c. Exploratory creativity: The ability of workers in financial institutions to put forward their suggestions and ideas and participate in decision-making that helps institutions generate profits, increase and acquire customers by offering creative and attractive services to the customer. This criterion includes (4) questions divided into seven weights as shown in the table below:

Table (9) Exploratory Creativity

	Bank of Baghdad							Middle East Bank						
	Match range weights							Match range weights						
Exploratory Creativity	Fully Implemented, Fully Documented	Fully Implemented, Partially Documented	Fully Implemented, Not Documented	Partially Implemented, Fully	Partially Applied, Partly Documented	Partially Applied, Not Documented	Not Implemented, Not Documented	Fully Implemented, Fully Documented	Fully Implemented, Partially Documented	Fully Implemented, Not Documented	Partially Implemented, Fully	Partially Applied, Partly Documented	Partially Applied, Not Documented	Not Implemented, Not Documented
	6	5	4	3	2	1	0	6	5	4	3	2	1	0
The management of the bank communicates continuously with the customer to get his opinions and suggestions.	*							*						
The company's senior management provides a work environment that encourages creativity and innovation.			*					*						
The bank is keen to innovate new products.		*						*						
The management of the bank depends on the selection of suppliers through a central procurement system.			*					*						
Duplicates	1	1	2	0	0	0	0	4	0	0	0	0	0	0
Score = iterations x weights	6	5	8					24						
Weighted arithmetic mean = result range / group of iterations	4.75							6						
Match extent = arithmetic mean / highest weight	.79							100						
Gap Size = 1- Percentage of match extent	.21							صفر						

the results of Table (9) show that the "Exploratory Creativity" dimension of the Middle East Bank was 100% better than the Bank of Baghdad, as it obtained a rate of (4.75), which is close to fully applied and partially documented, and that the percentage of the extent of matching is (79%), which It indicates the existence of a gap of non-conformity at (21%) and by calculating the gap, we note that the size of the gap is relatively high in relation to the exploratory creativity dimension. As a result of the weakness of the bank's capabilities and creative skills as well:

1. The lack of willingness to face the fluctuations and changes in the Iraqi market due to the highly changing environmental conditions and the lack of awareness among the management of the environmental changes that pose a threat to the bank's performance.
2. The reliance of the Bank of Baghdad on the routine administrative systems and the failure to follow developed systems that achieve the quality of the bank's performance.

Required areas of improvement:

1- Develop the skills of senior leaders in the bank, which will help to be more productive than the closed-minded leaders who do not see what is happening around them well. The creative leadership is always looking for solutions and different ways to do things, which makes them more innovative and skilled, and this helps in increasing Bank productivity.

The development and dissemination of awareness of the culture of exploratory creativity at all levels helps to give way to the desire to learn to make new things because of the pleasure that he will feel when doing creative things, and increases the desire to improve the style and growth in work and profession, and this helps in creating new job opportunities.

The third topic: Conclusions and Recommendations

Conclusions:

1- The bank’s lack of implementation of the strategies according to what is planned due to the bank’s connection with the Central Bank and its shareholders.
2- The bank does not often evaluate the various actors (starting with shareholders, stakeholders and beneficiaries) in order to diagnose opportunities..
3- Lack of financial and human allocations and the lack of specialists and experts in the field of technology and software in the Middle East Bank.
4- Lack of awareness of the management in the Middle East Bank of the importance of knowing the needs and demands of the Iraqi market for banking services.
5- Weakness of strategic measures to be taken when necessary.
6- Difficulties in attracting customers due to low interest rates and interest rates for products and services offered with competing products and poor promotion of services.

Recommendations:

1- Investing the expertise and competencies of banks in improving their performance, especially the human or technical resources they have.
2- It is possible to rely on the bank's database as well as the training and development programs for work, as it is easy to access information through them and to review and develop the level of performance and leadership skills.
3- Specialists should be employed in the field of using advanced information and expert systems that respond to any emergency changes and be alert to the external environment.
4- Working on finding new ways to meet the needs of customers by conducting field surveys for customers through specialized teams.
5- Formulating strategies to discover opportunities by establishing a specialized team that works to search for available opportunities in the market and provide information to the bank about environmental opportunities and work to invest them to achieve distinguished and sustainable performance.
6- Working on improving the current projects and establishing new projects with high efficiency that meet the Iraqi market demands for services.
7- New services must be invented that meet the needs of customers and are in line with the changing environment by reducing complex procedures and introducing modern technologies within the bank.

8- The bank management should focus on competencies and systems when conducting renewal operations to increase customer satisfaction and achieve performance excellence.
9- It is necessary to use advanced information systems that respond to any emergency changes, and to train employees on them for the purpose of investing the minds and skills of the employees.
10- Providing individuals with high skills in the use of information technology by appointing the vacant grades.
11- Advanced information systems must be used that respond to any urgent changes in order to make the pioneering decision.
12- The bank should go to invest the opportunities that exist in the Iraqi market and find ways to market alternative services of the bank from alternative resources according to modern devices in the promotion inside the country.
13- Searching for new information and trying to develop it and carrying out continuous renewal processes in the bank by searching for new ideas and new technologies of an advanced nature to increase and improve its performance and striving to increase the profits of the banks by improving the nature of its services.
14- Develop the skills of senior leaders in the bank, which will help to be more productive than the closed-minded leaders who do not see well what is happening around them. The creative leadership is always looking for solutions and different ways to do things, which makes them more innovative and skilled, and this helps in increasing Bank productivity.
15- The development and dissemination of awareness of the culture of exploratory creativity at all levels helps to give way to the desire to learn to make new things because of the pleasure that he will feel when doing creative things, and increases the desire to improve the style and growth in work and profession, and this helps in creating new job opportunities.
16- Developing the strategic measures adopted by banks, as well as developing the cultural and cognitive capabilities required by the senior leadership, and supporting this within the bank.
17- Improving and promoting distribution mechanisms for banking services through the development of specific mechanisms and a specific course of action in a flexible manner that ensures the increase of its production capacity according to modern technology.

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