Review of Contemporary Philosophy
ISSN: 1841-5261, e-ISSN: 2471-089X
Vol 23 (2), 2024
Pp 6432 - 6448

Fore sighting Artificial Intelligence Role in Acquiring Organizational Immunity "Applied Study on Saudi Banks in Abha City"

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Abstract:

Objectives: The study raised from the main question: What is the impact of the artificial intelligence applications on the organizational immunity in Saudi banks in Abha city? The study focused on the concept of artificial intelligence and the concept of organizational immunity.

Methods: It adopted the analytical descriptive approach to study a sample of Saudi banks' employees. An electronic questionnaire was designed in order to collect data. The study sample was consisted of (325) items from the banks investigated.

Results and Conclusions: The study concluded the following recommendations: An organizational culture should be established and developed in order to support an organizational learning, to build an organizational memory, to improve organizational genes and to spread the awareness of the concept of artificial intelligence and the concept of organizational immunity through holding workshops and symposiums, preparing the organizational environment and developing the infrastructure necessary for artificial intelligence technologies.

Keywords: Artificial intelligence – Organizational immunity – Saudi banks.

Received: 10 May 2024 **Revised:** 10 June 2024 **Accepted:**29 June 2024

1. Introduction:

By entering into the era of Fourth Industrial Revolution, new terms which were unknown emerged such as Internetof things, cloud computing, robot, artificial intelligence, artificial neural networks, expert systems, machine-learning, big data, etc. The new technology of artificial intelligence is considered one of the factors most affecting the level of economic advancement and growth in the world especially under the Fourth Industrial Revolution orientation towards digitalism, adopting artificial intelligence applications and encouraging innovation in various fields. Kaur et al (2020) study reported that artificial intelligence made revolutionary changes in banking business because of its influence on human resources as people tend to make errors. Therefore, in accordance with the world and innovation development, many routine and manual jobs that had been done by humans today performed by automated advanced machines. This was also confirmed by Ris et al (2020) study which stated that artificial intelligence improves commercial operations performance in each of the business sectors especially banking sector; performance becomes rapid and documented and does not depend on people. Therefore, artificial intelligence helps to reduce frequent human mistakes, prevent fraudand make better decisions.Castelli, Manzoni &Popvic (2016) study discussed building a model based on the artificial intelligence for the prediction of banking service quality focusing on the time spent by a customer to receive service; banks management decided to open new branches to fulfill customers' request. The study concluded that the adoption of artificial intelligence applications leads to increasing the banking service quality, then to increasing the customer's loyalty and therefore it is important to balance between

providing banking service with high quality through the wide implementation of the artificial intelligence applications and the reduction of operational cost.

1.1-Procedural Terms of the Study: This study includes the following terminological and procedural definitions:

1.2- Organizational Immunity: It is a strong barrier that is formed as a result of the interaction of several elements that represent organization's employees, procedures, culture, policies and operations consisting of a group of interrelated tasks in order to protect the organization from changes and threats (Gilley, Godek& Gilley, 2009).

1.3- Artificial Intelligence: It is a science and technology that studies and develops the applications of (mental science, computer science, robot, natural language processing) in order to perform tasks that simulate human mental operations.

2. Study Problem: The world witnessed changes under the Fourth Industrial Revolution and Artificial Intelligence will be a progress engine of advance, growth and prosperity. Banking is considered the capable and initiating initializing sector in using new technology; from recent banking trends, that will reform banking service, started the journey of technological creativity in the field of banking service through online banking service then mobile phones or smart phones and electronic payment. Adopting of advanced technology and benefiting from (making use of) artificial intelligence technologies is the challenge most affecting banking business as these advanced technologies have great potentials in providing customers with the most innovative electronic banking solutions to attract large number from them and enhance banks' profits. The increase in customers' demandfor banking service provided digitally as result of the increasing customers' trust in banks that tend to expand the use of advanced technology. A study conducted by American company Accenture reported that by the year 2035 artificial intelligence and its solutions are expected to add 215 billion dollars to the Saudi economy which is 12.5% increase in Gross Domestic Product GDP. This great increase to the Saudi economy will be added mostly by Industry and Public service sectors (Ahmed, 2019). Saudi Arabia it was ranked first in the Arab world and22nd worldly with regard to the world artificial intelligence indicator. The Kingdom also succeeded in launching the International Summit on Artificial Intelligence and to manage safe video calling systemsand operate during the Twentieth Twenty Group Riyadh Summit efficiently. According to the Organization, Saudi Arabia by the year 2030 will invest more than 20 billion dollars in the artificial intelligence. The Kingdom, during the International Summit of Artificial Intelligence has signed 3 strategic agreements with each of IBM, Alibaba and Huawei. Recently, Saudi Arabia plans to be classified among the first 15 countries in this field, to establish 300 corporations specialized in technology, information and data and 300 ones specialized in artificial intelligence. According to what is stated above, a need rises to investigate how the internal systems can be changed in order to meet the rapid change in the external environment through using modern management systems such as organizational immunity system which is a vital issue in organizations that provides protection from external risks and threats by employees who face any risk the organization faces. Therefore, the organization should care for employees to enhance their self-confidence and their loyalty to the organization. In accordance with what is mentioned above, organizations started to pay more attention to organizational immunity systems as a mechanism that contributes to the reduction of increasing external environment problems. In the light of this orientation, the study problem can be formulated in the following main question: "What is the impact of artificial intelligence applications on Saudi banks' organizational immunity in Abhay city?" From this main question the following sub questions branch:

- To what extent do the study respondents have perceptions about the artificial intelligence in Saudi banks in Abha city?
- To what extent do the study respondents have perceptions about the organizational immunity three dimensions (organizational learning, organizational memory, organizational DNA) in Saudi banks in Abha city?

- To what extent does the artificial intelligence contribute to the organizational immunity in Saudi banks in Abha city?

2.1- Study Hypotheses:

1Main first hypothesis:

- There is a statistically significant relationship at significant level 0.05 between the artificial intelligence and the organizational immunity in Saudi banks in Abha city. From the main hypothesis the following sub hypotheses branch:
- There is a statistically significant relationship at the significant level 0.05 between the artificial intelligence and the organizational learning in Saudi banks in Abha city.
- There is a statistically significant relationship at the significant level 0.05 between the artificial intelligence and the organizational memory in Saudi banks in Abha city.
- There is a statistically significant relationship at significant level 0.05 between the artificial intelligence and the organizational immunity in Saudi banks in Abha city.
- There is a statistically significant relationship at the significant level 0.05 between the artificial intelligence and the organizational DNA in Saudi banks in Abha city.

Main second hypothesis: Artificial intelligence affects organizational immunity.

2.2- Study Objectives: In accordance with the study questions, the present study tends to achieve the following objectives:

- To identify the most significant fields of the application of artificial intelligence in banks.
- To highlight the most significant artificial intelligence applications used in banks.
- To identify to what extent the study sample is aware of the artificial intelligence in banks.
- To identify to what extent the study sample is aware of the organizational immunity in banks.
- To determine the nature and direction of the relationship between artificial intelligence and organizational immunity.

2.3- Study Scientific Significance:

- It lies in the newness of the application of artificial intelligence technology in general and in banks particularly. Therefore, the application of artificial intelligence technology in banks is an area of investigation and research with the purpose to find out the fields of application, its interrelation and its impacts.
- The interest and the invest in the fieldof artificial intelligence applications increases; Mckinsey Global Institute reported that 6.57 billion dollars was (invested expensed) in the artificial intelligence and machine-learning in 2021.
- The study analyzes and roots the concepts of organizational immunity systems; this may contribute to enhancing them in banks.

2.4- Study Limits: The study was applied according to the following research limits:

- Objective limit: Artificial intelligence and Organizational immunity.
- Human limit: A sample of Saudi banks employees in Abha city.
- Spatial limit: The study was conducted on Abha city banks.
- Time limit: The study was conducted during the 2nd academic semester in 2023.

3.First aspect: Artificial intelligence

3.1-Definition of artificial intelligence: It is science and technology that studies and develops computer jobs in parallel to the human intelligence so as computer becomes able to perceive, learn, solve problems, make decisions rationally and implements human brain thinking method (Othmanya, 2019: 11). Artificial intelligence referred to as: "the scientific and technological current that includes methods, theories, techniques which aim to make machines able to simulate human intelligence (Li et al, 2017: 36). Al-Fifi

(2020) defines artificial intelligence as the ability of digital machines and computers to perform certain tasks simulate those performed by intelligent creations such as ability to think, learn from experience or other operations that require mental operations. Artificial intelligence aims to reach systems characterized by intelligence and acts as do people in terms of learning and understanding. According to the definitions, determinants of artificial intelligence can be set as follow:

- It is a relatively new science that includes several sciences such as mathematics, logics, computer and programming.
- It is based on simulating human intelligence through computerized programs.
- It focuses on performing works and skills that are difficult or impossible to be performed by people.

3.2 - Reasons for the interest in artificial intelligence:

- Establishing an organized cognitive database: It facilitates storing information effectively and enables employees of the institution to obtain knowledge and learn experimental rules that are not found in books or other information sources.
- Storing information and knowledge related to artificial intelligence: It enables the institution to protect its private knowledge from leakage and loss caused by employees' turnover whether through resignation, leaving the institution or death.
- Establishing a mechanism that does not subject human feelings such as anxiety, tiredness or exhaustion especially when it comes to exhaustive works which involve physical or mental danger.

3.3 -Artificial Intelligence Objectives(Al-Agal et al, 2021; Al-Bishr, 2020):

- To establish expert systems which are systems that show intelligent behavior; they learn, explain and provide users with consultation.
- To apply human intelligence on machines: Establishing systems that understand, think, learn and act as humans.
- To reach patterns of processing the higher mental operations that happen inside the human brain.
- To facilitate using and maximizing the benefits of computers through its ability to solve problems.
- To understand the nature of human intelligence to design computer programs that are able to simulate the human behavior characterized by intelligence.
- To design intelligent systems that have the same characteristics known as intelligence in human behavior.

3.4 - Artificial Intelligence Systems:

- ✓ **Expert Systems:**They are special informative programs that aim to simulate the human logicality of experts in a private cognitive (knowledge) field, to model the knowledge already owned by the human expert and then to program and store it in a knowledge base of an information system that relates to a knowledge specialization field (Ghalib, 2018: 224).
- ✓ **Neural Networks:**They are networks based on knowledgebase distributed to a package of systems and programs operating through a number of processes performed by the paralleling process method.
- ✓ **Mysterious Logic Systems (Fuzzy):**They depend on cognition and simulate human perception methods in terms of estimating values through unfussy data.
- ✓ **Intelligent Agent Systems:**It can recognize the environment in which exists through implementation mechanisms and then responds to it by the implementation mechanisms or raptors It is also one of applications of exploring environments from the Internet. It acts through a software package that implements specific frequent forecasting tasks for the beneficiary. It consists of: Recognition: The data that the agent receives by sensors,Reaction of events issued from the agent.
- ✓ **Genetic Algorithms:**An algorithm is a group of orders repeated to solve a problem; it is the methods that contribute to find solutions for problems especially using methods that are appropriate to the environment. It provides with research methods for all possible probabilities of digits to determine the right non-digital variables than can be the best solution for the problem because they are programmed for working as the way a man does (Aggam, 2018).

- ✓ **Robots:**It is an electromechanical machine that receives orders from a computer that belongs to it performing certain works; artificial intelligence enables robot to move, understand the surroundings and respond to some external factors (Taha, 2019: 397).

3.5 - Fields and Applications of Artificial Intelligence:

- Mental science applications expert systems, knowledgebase, learning systems, logic systems).
- Computer science applications (G5 computer, parallel processing, neural networks).
- Robot applications (Visual expecting, touching, handling and processing, moving and accessing).
- Natural languages processing applications (understanding languages, recognizing speech, translating languages).

3.6 -Rtificial intelligence applications: Artificial intelligence technology made great changes in various directions of banks' practicing their businessand in the patterns of customers' interaction in the banking sector because this sector is one of sectors most affected by the advanced technology. The most important artificial intelligence applications:

First: Fingerprint technology: It is one of the banking solutions provided by banks in order to expand digital service so as to identify the customer instead of the password, secret number, identity card. The following are types of this technology:

- ✓ **Using eye-print technology:** It is used to identify the customer; it allows the customer to receive money from ATM without the card or secret number and this achieves the process quickly.
- ✓ **Finger vein blade:**It is a service provided to the customer through a technology that adopts biological identification; this is done using tablet designed especially to the customer identification service easily and securely.
- ✓ **Voiceprint:**It is a technology that identifies human voices and makes an unrepeated voiceprint for each one; the system identifies a voiceprint that consists of approximately 100 letters so as to be more secure.
- ✓ **Vision recognition: It** utilizes deep science technology in order to recognize images and texts; it identifies faces and identifies images contents among a number of images.
- ✓ **Secondly: Chat robot:**It is computer software designed to chat with humans simulates the way two people do. It uses natural language processing technology to understand customers' input; this helps banks employees focus on the important customers' interests and innovations.
- ✓ **Third: Intelligent assistant technology:**It is software that can interact with human orders, provides a service to customers and reduces costs.
- ✓ **Fourth: Intelligent branches: They** use robots without need for employees; they adopt many technologies such as biological identification, voice identification, data mining, face identification in order to provide intelligent service to customers that is characterized by intelligence and innovation.
- ✓ **Fifth: Fraud prevention:**Protecting customers' money is one of the basic jobs of the banks; the bank using machine learning technology that based on computer software and algorithms can detect the fraud operations depending on the customers' history and behavior. The bank also can use the deep learning technology which is a group branched from machine learning that based on neural network simulating the human; this technology depends on several methods of fraud prevention such as controlling financial movement to ensure the username and the place of financial movement and whether it is related to suspicious places.

Sixth: Credit risk management: Providing a customer with credit facilities is implemented through several steps that aim to evaluate his risk and competent credit. Banks can use artificial intelligence applications to evaluate the customer's risk accurately through expert system applications which is software that collects and analyzes data and then provides financial analysts with consultations and answers so as to make credit decisions. Machine learning technology also allows evaluate the customer's risk according to the risk accompanying market condition; a machine learning algorithm enables to analyze data, evaluate individuals' behavior and make prediction using the natural language generation technology.

3. **Second Aspect: Organizational Immunity:** De Geus (1997) study is considered the real start of discussions that investigated the concept of organizational immunity as a result of one of an organization's attempts to adaptwith its internal and external surrounding and to protect its internal values from penetration. Despite its relatively newness, few researchers defined this concept as independent from research fields related such as learning, organizational change, governance and innovation. Famcombe (2014) thinks that organizational immunity maintains the organization's value, vision and ability to continue maintaining the performance level required. While Bhattari (2016: 116) describes the organizational immunity as an internal system of the organization's active entities that are able to predict the undesired changes, resist them. It prevents intruders from reaching organization's recent achievements. Organizational immunity is defined as the organizations' ability to fend off constant attacks from individuals who are not fully loyal to the company. The organization's immunity system protects the organization against intrudersand solves their impact. Althabit (2020) defines organizational immunity as a network of policy and culture within the organizational structure that works in a way simulates the human immunity through which prevents bad ideas to enter and harm the organization. The high culture in the performance provides a protection level against ideas and persons that may hinder the organization's performance, (Watkins, (2018), and Altaee (2016:11) define the organizational immunity as a group of components and basic jobs that are integrated to fight the environmental virus or organizational dangers that the organization and its structure may be exposed to such as economic, financial, managerial and competitive crises. Nafei (2015:26) defines organizational immunity as it represents a metaphor of the biological immunity systems and protects the management entity against any threat that can prevent practice its work properly. Others define it as one of the intelligent systems of organization that consists of complex processes that aim to protect the organization from the environmental viruses and dangers; this system is characterized by strength, independence and adaptation.(Lee & Elmegy (2011: 114) and Watkins (2007) define the organizational immunity as a network of policies and cultures within the organizational structure that works in a manner similar to the human immune system to prevent bad ideas from entering and causing damage to the organization; that high-performance culture provides a certain level of immunity against ideas and people who may disrupt the work of the organization.Bhattarai(2016: 15-20) defines it as an internal system that is able to predict and resist the unpleasant challenges of the current situation in the organization and aims to protect the organization from intruders. The immune system of the organization is a network of policies and culture within the organizational structure that works In a way similar to the human immune system to prevent bad ideas from entering and causing damage to the organization (Perry, 2014: 17), and thus organizational immunity can be described as an internal system that reflects the strength of organizational processes carried out by all corners and functions of the organization, which require a change in the organization's inputs, processes and outputs, so that it works continuously to correct and develop it in line with environmental changes and developments on a regular basis to face the complex environment. Abboudi(2019)states that the organizational immunity is referred to as complex groups of integrated, interrelated and tasks, which are carried out by individuals that protect the organization from environmental changes, and the dangers resulting from building an impenetrable barrier consisting of the organization's employees, and includes all of the policies, procedures, processes, and culture; all of them interact to prevent change and external threats from having a negative impact on the organization and may threaten its stability and they contribute to utilize opportunities (Alshawabkeh, 2021).

4.1- Organizational Immunity Benefits: Simmons(2013: 1136) explained that the benefits of organizational immunity include preventing the effects of internal errors in the organization by enhancing flexibility, creating mechanisms to predict the external environment, and confronting its threats to provide balance within the organization, preventing hasty decisions, looking for new solutions, and stimulating behavior desired employees, assisting organization leaders in recognizing risky and fraudulent business practices as well as strengthening self-reporting mechanisms.

4.2 -Organizational immunity significance: (Alwan, 2016)

- It recognizes negative internal and external influences that can cause damage and disruption in organizational performance.
- It performs the defense process and removes the organizational entity threats.
- It documents the control process and benefits from the organization's experience in order to avoid threats and harmful factors in the future.
- It enables the organization's employees at all levels to practice their roles against the threat activities.
- It controls the operation performance of the organization's and employee's personal performance.

4.3 -Organizational Immunity Objectives: (Abd Al-Mageed, 2016 & Ismail, 2020)

- To protect the management entity against all external factors and elements that may lead to a crisis.
- To protect the management entity against all internal factors and elements that may lead to a crisis.
- To act as the first line of defense against violations and misbehavior inside the organization.
- To maintain the organization's values and vision and performance level.

4.4 - Organization Immunity Dimensions:

Organizational Memory:

Dunham & Burt (2014) stated that organizational memory is one of the most significant dimensions of the organizational immunity; it includes the stored information and organizational knowledge that can affect the current and future decision making. Shirsavar (2015) argues that organizational memory contributes to developing the organization's intellectual capital. It also increases the organization's effectiveness through improving methods of knowledge management and prevents information loss and forgetting based on the previous works and how to make use of them since the intellectual capital cannot be promoted without the existence of an organizational memory. Lee (2017) emphasizes that organizational memory cares about the experience of organizational process and what the organization benefits and learns; it performs a role in directing work towards achieving the objectives.

Learning organization: It is a multi-level process that aims to achieve knowledge acquisition inside the organization collectively and individually.

Organizational DNA:

Vanov (2013:208) defines an organizational DNA as it reflects the internal and dynamic structure of the organization; it consists of the roles and relations that form the organization internal and external dynamicity. Hovivyan (2006) lists the dimensions of the organizational DNA in: the organizational structure through which the structure of organization is determined including the management levels, responsibilities and powers and communication lines. Information is also another dimension through which activities are organized, information transferred from individuals who own them to those who need them. The information provided should be determined and classified according to decision making it helps in. Decision making rights is also one of the dimensions through which decision-makingpower and the limit of power is determined. Incentives are the dimension through which the rewards the organization gives to employees determined in order to encourage them to be interested in their jobs directly and indirectly.

According to what is stated above, the organizational DNA may be described as a tool that helps management to determine the characteristics distinguishing the organization in terms of the organizational structure, the mechanisms of decision making, the means used to encourage employees make the maximum effort and the ability to provide information of high quality, the responsiveness to unexpected events; since it determines the organization's caution ability. Organizational DNA can identify genetic instructions necessary for performing various jobs and implementing work by their first owners; they greatly affect inheritance of the norms, traditions and systems of work applied under which the jobs, they also identify the general direction of the organization and identify the level and stereotype of

thinking dominated and required for completing tasks from which it can be start to fulfill the work requirements that meet the organization customers' needs and desires (Tang et al, 2020).

5.Study Methodology: This study is considered analytical descriptive; it is descriptive through reviewing the theoretical literature referring to references, sources, scientific periodicals in order to build the theoretical framework of the study. It is also analytical as a questionnaire was designed to collect the data related to the issue investigated; the data then were analyzed and processed statistically to obtain the results and verify the hypotheses to see whether the study objectives have been achieved.

5.1- Study Tool: The study adopted an electronic questionnaire as tool to collect the data as it is one of the most appropriate means of data collection. The researcher considered that the tool should accurately measure all of the study variables in the light of the hypotheses, questions and theoretical framework; the form of the questionnaire included four aspects that were aiming at achieving the study objectives.

5.2-Analysis Results Discussion and Hypotheses verification: In accordance with the questions, objectives and hypotheses of the study, the results can be discussed as follow:

5.3-Study population description: The following table No. (1) shows the characteristics of the study sample investigated; these are the general data obtained through the first part of the questionnaire:

Table No. (1): Study population description

Variable	Variable categories	Frequency	Percentage
Gender	Male	278	85.5%
	Female	47	14.5%
Qualification	Higher Diploma	80	24.6%
	Bachelor	245	75.4%
Organizational level	President	98	30.2%
	Manager	127	39.1%
	Employee	100	30.8%
Experience years	6-10 years	129	39.7%
	Over 10 years	196	60.3%
Age	31-40 years	84	25.8%
	41-50 years	191	58.8%
	51 years and more	50	15.4%
Total		325	100%

- Gender: The majority of the study sample was males; they were (278) employees 85% of the study sample. While females were (47) 14.5% of the total number. Therefore, most of the respondents were males; this indicates that most of employees in banks are males.

- Academic qualification: The majority of the study sample 75.4% were Bachelor holders, followed by Higher Diploma holders 24.6%. This indicates that banks employ higher academic degrees holders.

- Organizational level: Most of the respondents (127) 39.1% were from managers followed by employees (100) 30.8% and finally presidents who were (98) 30.2% of the study sample.

-Years of experience: The category (over 10 years) represents most of the respondent'snumber (196) 60.3% followed by (6-10 years) (129) 39.7%of the study sample.

- Age: The age category (41-50 years) represents most of the respondents 58.8% followed by (31-40 years) 25.8% and finally (51 years and more) 15.4% of the study sample.

Result and discussion of the first question: To what extent do the study respondents have perceptions about the artificial intelligence in Saudi banks in Abhay city? In order to answer this question, the following descriptive tests: Mean, standard deviation, consequence of artificial intelligence dimensions individually and total degree of statements.

Table No. (2): First question results

No.	Statements	Mean	SD	Sequence	Level
1	You know expert systems role in problem solving.	2.2185	.93869	3	Moderate
2	Modeling of knowledge and human experience through expert systems.	1.7015	1.00623	10	Low
3	Expert systems are used in achieving quality.	1.6523	.89531	12	Low
4	Expert systems help to gain knowledge.	1.8308	1.04186	8	Low
5	Expert systems help not only in providing with information but also in thinking process.	1.9662	1.19235	7	Low
6	Expert systems are used in complex problem solving.	2.1323	1.03535	6	Moderate
7	Expert systems are used in providing with advice and guidance is accepted.	2.3108	1.03877	2	Moderate
8	You know that the neuronal network use in the artificial intelligence helps to make more effective decision among alternatives.	2.5662	1.48639	1	Moderate
9	Neuronal network systems are distinguished with the characteristic of learning as in human case.	2.1908	.97210	4	Moderate
10	You know that the neuronal network determines and orders the decisions they make in accordance with priority.	1.6862	.99379	11	Low
11	You think that the artificial neuronal network are information systems that simulate the human neural and the method brain processes.	1.7046	.96168	9	Low
12	Artificial intelligence components are considered an excellent tool to obtain rapid results when there is much input.	1.5415	.60525	13	Low
13	Components used in artificial intelligence help to find rapid solutions in changing environment.	2.1631	.88254	5	Moderate
	Overall Mean for Artificial Intelligence	1.9742	.57294	Low	

The table (2) above shows that the arithmetic mean of the categories of the study sample was (1.9742) with a standard deviation of (.57294). It is noted that the arithmetic averages of the expressions are low, which means that the concept of artificial intelligence and its application mechanisms are not clear from the point of view of the study sample. These results are consistent with the findings of the Kumar study, Tamils elvan, Sha7Harish, 2018, which aimed to identify the role of artificial intelligence applications in supporting the bank's communication with its customers through banking chat, through which smart solutions can be provided that help increase and improve the quality of services provided to customers,

and thus the customer obtains banking services around the clock. The study indicates that the expansion of the use of chat techniques through artificial intelligence techniques that help self-learning and reduce the use of human cadres, and the study of Al-Bestow& Al-Baqni, 2015, which aimed to clarify the impact of applying expert systems in commercial banks on electronic audit procedures and concluded that there is A statistically significant effect of the quality of expert systems applied in commercial banks on enhancing the efficiency of electronic auditing from the point of view of external legal accountants. Modern technology and training of those who deal with it in order to communicate easily between users of data and information from bank employees and outsiders.

5.4- Results of discussion and discussion of the second question: What is the level of respondents' perceptions about organizational immunity in its three dimensions (organizational learning, organizational memory, and organizational DNA) in Saudi banks in Abha city?

Table No. (3): Second question results

No.	Statements	Mean	SD	Sequence	Level
Organizational learning					
1	The bank benefits from experience lessons it passed.	2.7508	1.36627	3	Moderate
2	The bank trains employees according to programmed plan to develop their skills.	2.4031	1.46376	5	Moderate
3	The bank analyzes the methods of competing banks to benefit from their experience.	2.3169	1.24270	7	Moderate
4	The bank holds brainstorming sessions to analyze deviations and find out solution for them.	2.3600	.95723	6	Moderate
5	The bank encourages group learning process among employees.	2.7508	1.05528	2	Moderate
6	The bank fulfills the employees' training needs.	2.6031	1.45275	4	Moderate
7	The bank selects competent managers.	2.7785	1.63493	1	Moderate
8	The bank asks employees about their desires for developing abilities.	2.0369	1.22419	9	Moderate
9	The bank internal follow-up helps employees overcome work problems.	2.2708	1.32424	8	Moderate
Organizational memory					
1	The bank uses experience systems to analyze events.	2.0985	1.11229	5	Moderate
2	The bank saves the distinguish knowledge in the memory sores.	1.3569	1.02228	8	Low
3	Employs knowledge memory store when making decisions.	1.9015	1.17438	7	Low
4	Provides databases and updates them continuously.	2.1108	1.08868	3	Moderate

5	Uses the experience of former employees in problem solving.	2.1169	1.09932	2	Moderate
6	Consults managers' experience and suggestions when making decisions.	2.0708	1.26853	6	Moderate
7	The bank provides employees with information necessary for doing the work.	2.2062	1.16161	4	Moderate
8	The bank has an information protection system againstleakage.	2.5600	1.34265	1	Moderate
Organizational genes (Information)					
1	Provides methods of communication among different individuals and departments to obtain information necessary for the work.	2.4954	1.31144	1	Moderate
2	Provides beneficiaries with modern and keeping pace with technological developments communication system.	2.1262	1.63094	2	Moderate
3	Facilitates communication among all managers affected by the problem determined.	1.8862	1.21053	3	Low
4	Encourages sharing information among different departments in the bank.	1.8092	.95931	4	Low
5	Ensures transparency in providing all stakeholders inside and outside the bank with performance information.	1.6862	.83146	5	Low
Organizational genes (decision making rights)					
1	Makes clear and declared to all decisions.	2.4615	1.34115	1	Moderate
2	Considers employees' abilities that are necessary for implementing decisions.	2.1846	1.48752	4	Moderate
3	Provides a climate that encourages employees to make decisions.	2.2246	1.04321	3	Moderate
4	Avoids any external interventions to affect decisions.	2.4554	1.06372	2	Moderate
5	Trains employees on making decisions that relate to work Incentives.	2.1169	1.26632		Moderate
6	The bank work system clearly defines decision making rights for each specialization.	2.0092	1.31113	5	Moderate
Organizational genes (Incentives)					
1	Gives employees real opportunities for development, promotion and achieving ambitions.	1.8954	1.27469	5	Low
2	Adopts objective principles in evaluating employees' performance to differentiate between high and low performance.	2.1969	1.52489	4	Moderate

3	Considers rewarding employees who achieve higher performance.	2.3415	1.49803	3	Moderate
4	Promotion in jobs based on a fair declared system.	1.6646	1.19727	6	Moderate
5	Promotion system in the bank creates a positive competitive environment among employees.	2.7231	1.64155	1	Moderate
6	The bank always attempts towards excellence through developing the organizational environment.	2.5046	1.59788	2	Moderate
Organizational genes (organizational structure)					
1	Practices a high degree of rooted centralism in the bank.	2.0831	1.09820	7	Moderate
2	Emphasizes that powers are clear and appropriate to responsibilities.	2.0462	1.26967	8	Moderate
3	Provides clear lines for managing the job path and developing the jobs and managers to run management jobs in the bank.	2.3477	1.47794	6	Moderate
4	Emphasizes interlinking the activities in the bank as an integrated unit.	2.8338	1.32057	2	Moderate
5	The organizational structure in the bank is clear and declared and achieves an integration among departments.	3.0092	1.12350	1	High
6	Communication channels and power and responsibility lines are defined by the organizational structure.	2.6246	1.54780	5	Moderate
7	Working system is characterized by flexibility in accordance with changes.	2.7323	1.67563	4	Moderate
8	Working system is characterized by participation and determination of tasks in accordance with specializations.	2.7785	1.67595	3	Moderate
	Overall Mean for Organizational immunity	2.2990	.65381	Moderate	

The table (3) above shows that the mean for the categories of the study sample was (2.2990) with a standard deviation of (.65381). It is noted that the means are high for the statements;this means that the study sample agree with all elements of the organizational immunity dimension and the extent of its clarity for the sample, where each statement got amean close to (3) Which indicates the importance of all these statements from the point of view of the sample.

5.5- Hypotheses Verification: In order to verify the first main hypothesis and sub hypotheses, coefficient of correlation Pearson was used between the artificial intelligence total degree and the organizational immunity dimensions and of each aspect individually as follow:

Table No. (4): Correlation matrix between the total degree for artificial intelligence and organizational immunity aspects

Variables	Item	OI	OL	OM	Organizational DNA			
					OS	Information	Decision	Incentives

							making	
AI Total degree	R	.269**	.270**	-.081-	.443**	-.188-**	-.186-**	.532**
	Sig	.000	.000	.145	.000	.001	.001	.000

The table No. (4) above shows that there is a direct strong correlation between the artificial intelligence as an independent variable and the organizational immunity as a dependent variable. The coefficient of correlation is (.269**) with a p-value (.000) which is less than the significance level (0.05); this means that there is a statistically significant relationship between artificial intelligence and the organizational immunity. This result agrees with (Chang, 2019) study which aimed to evaluate the performance of environmental systems based on artificial intelligence. The study sample consisted of 36 companies; a quantitative methodology and an interview were used; the results showed that the performance of the environmental systems based on the artificial intelligence was effective and therefore the systems are qualified to perform management tasks.

5.6 -Secondly: Verification of the Second Main Hypothesis: Artificial intelligence affects organizational immunity

In order to verify the hypothesis, the coefficient of linear regression was used as follow:

Table No. (5): Artificial intelligence/Organizational immunity regression equation

Model	Beta	B	R	R2	T	F	Sig
Stable		1.433	.269**	.072	12.764	25.150	.000b
Dependent Variable	.269	.236			5.015		.000b

The table No. (5) above shows that the coefficient of correlation is (.269**); therefore, there is a direct strong significant relationship. The explanatory coefficient of determination is (.072); this proves that the changein artificial intelligence explains 72%of the change in the organizational immunity, it means that the relationship is statistically significant and each of the artificial intelligence and the organizational immunity has a significant impact according to the regression equation: the organizational immunity = (0.236 × the artificial intelligence). The researcher interprets that when there is an artificial intelligence that banks achieve an organizational immunity; therefore, there is an impact relation between the artificial intelligence and the organizational immunity. The present study agrees with (Nafen, 2015) study which focused on the role of the organizational DNA in improving the organizational performance; the study used a questionnaire to collect data from a sample of (372) of the three management levels, the results indicated that the organizational DNA dimensions (organizational structure, decision making rights, Incentives and information) have a direct effect on the organizational performance.

6.Study Recommendations:

The researcher investigates the mechanisms of the implementation of the study results through a work plan that includes the recommendations and the requirements for their implementation as follow:

Table No. (6): Implementation plan for achieving study results

Recommendation field	**Recommendation**	**Requirements for implementation**
Improving artificial	To spread the culture of artificial intelligence applications and its applications among employees and its role in providing	Continuing training course &

intelligence level	distinguished service. To build and develop an organizational culture aimed at supporting organizational learning, building, organizational memory, and improving organizational genes. To maintain clear policies and objectives for leveraging artificial intelligence. To create a regulatory environment and develop the necessary infrastructure to support artificial intelligence technologies, in a way that enhances the skills of its employees by adopting innovative ideas. To increase investment in the field of artificial intelligence and modern digital technologies. To create cooperation protocols with companies working in the field of technology. An appropriate environment must be created that enables and facilitates the adoption of AI applications. To establish a fair and efficient system to motivate talents, and the reward is based on achievement, creativity and innovation. To dodevelop the organizational structure to become flexible through which individuals can be creative and initiative	Technical workshops Providing modern devices & Advanced technology
Improving the organizational immunity level	To develop relationships that help transfer experiences and thus achieve and spread talent. To set a strategy to attract and retain talented people. To increase interest in organizational memory by providing hardware, software, networks, human resources and communications to build a special organizational memory. To develop a culture of organizational immunity and provide a supportive infrastructure. To reconsider the method of granting incentives and rewards. To give employees the opportunity to show their creativity by following the democratic consultative method. To make a balance between centralization and decentralization. To organize seminars and workshops to consolidate the concept of organizational immunity and how to apply it	Building an organizational culture that supports human relations, open door policy and problem solving.

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***Acknowledgements:**

"The authors extend their appreciation to the Deanship of Research and Graduate Studies at King Khalid University for funding this work through small group research under grant number

RGP1/56/45

Conflicts of Interest:

The authors declare no conflict of interest

استشراف دور الذكاء الاصطناعي في اكتساب المناعة التنظيمية

" دراسة تطبيقية على البنوك السعودية بمدينة أبها"

الملخص:

الأهداف:انطلقت الدراسة من التساؤل الرئيسي ما أثر تطبيقات الذكاء الاصطناعي على المناعة التنظيمية على البنوك السعودية بمدينة أبها ؟ وقد اهتمت الدراسة بمفهوم الذكاء الاصطناعي والمناعة التنظيمية.

الطرق: اعتمدت على المنهج الوصفي التحليلي لعينة من العاملين في البنوك السعودية وتم تصميم استبيان الكتروني لتجميع البيانات وتمثلت عينة الدراسة من (325) مفردة من البنوك محل الدراسة.

النتائج والتوصيات:وتوصلت إلى التوصيات التالية أهمية بناء وتنمية ثقافة تنظيمية تستهدف دعم التعلم التنظيمي وبناء ذاكرة تنظيمية وتحسين الجينات التنظيمية ونشر الوعي بمفهوم الذكاء الاصطناعي والمناعة التنظيمية من خلال الورش والندوات، مع تهيئة البيئة التنظيمية وتطوير البنية التحتية اللازمة لدعم تقنيات الذكاء الاصطناعي.

الكلمات المفتاحية:الذكاء الاصطناعي – المناعة التنظيمية – البنوك السعودية