The Role of Artificial Intelligence in Supporting Commercial Companies Governance

Hamada Mohamed Abdelati Nasr[1], Maher Ibrahim Ebed Emam[2], Mohamed Elaalim Adam Ahmed[3], Ali Saeed Alshamrani[4]

Abstract

This study aims to address the role of artificial intelligence in supporting the governance of commercial companies, through descriptive and comparative analytical approach. The importance of the study was that governance is one of the most important mechanisms for improving companies' performance and ensuring the integrity and transparency of their transactions, adopting artificial intelligence to support corporate governance is considered one of the most important features of good governance. The researcher addressed this study through two sections, The first section is devoted to the nature of governance and artificial intelligence and the position of countries on artificial intelligence, The second section discusses the adoption of artificial intelligence as one of the governance mechanisms for commercial companies. At the end of the study, the researcher reached some results and recommendations, the most important of which is that the Egyptian legislator should provide special legislation for artificial intelligence, The legislator should establish specialized courts in artificial intelligence cases, A special guarantee fund should be established to compensate for damages arising from artificial intelligence applications.

Keywords: *Artificial intelligence; corporate governance; board of directors; responsibility.*

Introduction

Corporate governance is one of the most important means of addressing the negative effects of many businesses' financial collapses, due to, inter alia, administrative and financial corruption, improper practices of oversight and supervision, lack of expertise and skill, as well as lack of disclosure and transparency.

Since AI applications are the latest in today's world, the majority of countries have sought to adopt AI technologies in the field of corporate governance, this is due to its contribution to increasing the productive efficiency of the project, enhancing decision-making process, promoting innovation and creativity, improving safety and security, not to mention its effective role in detecting errors and working to rectify them quickly.

The company leadership's conviction of the role of AI in the implementation of governance rules is undoubtedly one of the most important features of good governance, especially since the adoption of AI within the scope of governance does not affect the fundamental principles of the practice of the Council Management, but provides the Board members with additional tools to assist them in making appropriate decisions, Disclosure and transparency are among the most important principles underlying AI governance. This study aims to demonstrate the concept of governance and AI. and highlighting each other's advantages and disadvantages, as well as the position of comparative legislation on the use of artificial intelligence in supporting corporate governance in addition to the statement of liability for damages caused by the adoption of AI systems in the governance of Companies. This study relied mainly on the comparative analytical approach, in addition to adopting the descriptive curriculum, especially since it is not possible to separate the curriculum of scientific research, as we presented the topic of the study with an analytical view in all its aspects, in addition to adopting the descriptive approach, and finally presented the position of some legislation through the comparative approach. The problem with this study lies in trying to answer a President's question, which is how effective the use of artificial intelligence is in applying governance principles? This question has a range of sub-questions:

---

[1] Assistant Professor at the dept. of Private law, faculty of law., Arab open University, OMAN. Email: hamada.m@aou.edu.om

[2] Assistant Professor at the dept. of public law, faculty of law., Arab open University, OMAN, Email: maher.e@aou.edu.om or maher.e@aou.edu.om

[3] Assistant Professor at the dept. of Private law, faculty of law., Arab open University, OMAN, Email: mohammed.e@aou.edu.om

[4] The Author is full-time Associate Professor in Commercial Law at the College of Islamic Law (Taif University) in Taif, Saudi Arabia. Email: a.alshamrani@tu.edu.sa

What is corporate governance and artificial intelligence? What are the main challenges facing AI? What is the position of comparative legislation on the adoption of artificial intelligence as a mechanism for applying governance principles? To what extent can AI systems be relied upon to support corporate governance? How responsible is the damage caused by the adoption of artificial intelligence to support corporate governance?

This topic is important in that the use of artificial intelligence is one of the mechanisms for applying the principles of corporate governance, and therefore States give it special attention, so we have chosen it as the subject of our study.

1. Headquarters, Asma & Azuz, Fathia (2023). The role of artificial intelligence in promoting corporate governance.

In the first part of this study, the researchers discussed the concept of artificial intelligence and its applications in the field of corporate governance, its role in promoting disclosure and transparency, and in the second part the use of Artificial intelligence to establish governance principles for running the company.

Some findings and recommendations from this study include the adoption of AI systems in businesses that reflect the realistic application of governance principles and achieves a high degree of discretion and transparency, and the smart electronic agent is one of the most prominent and widespread AI applications The study recommended that The Algerian Companies Act should be amended, particularly the provisions relating to commercial companies, in order to make them more open and responsive to the persistent variables of artificial intelligence. and the need to work towards a national strategy for digital transformation, Despite the pros and cons of AI, it has some downsides and challenges.

2. Abdulshafi Study, Mini (2022). Business Corporate Governance via AI technology.

The researcher addressed the topic through preliminary research in which she presented what AI and corporate governance were, in the first, the use of AI to oversee the commitment to corporate governance, and in the second, the use of AI to manage the company in accordance with governance rules.

The study found, among other conclusions and recommendations, that artificial intelligence is today's technology and that it is a means of assisting the Governing Council in the application of governance and Increase transparency and disclosure, that Egyptian legislators must adopt legislation on artificial intelligence, and that explicit texts of governance must be adopted and adhered to.

3. Michelle, George (2023). The role of artificial intelligence in corporate governance.

The study dealt with the topic through a preliminary study in which we addressed what AI and corporate governance are, and in the first study addressed the legal basis in the use of AI in corporate governance, and in the second study the role of AI in corporate governance.

The study concluded, inter alia, that there was a correlation and relationship between the application of corporate governance and the achievement of information technology governance and that there is considerable interest in the application of corporate governance in many Arab States due to their advantages, Governance must be adopted in its modern form to move towards digitization, digital transformation and the use of artificial intelligence. and that digital connectivity must be adopted by all relevant entities of commercial companies, as well as the adoption of intelligence systems because of its usefulness.

First Axis

What governance, artificial intelligence and countries' attitude to artificial intelligence is

Governance has emerged as a reaction to major global ethical, financial and administrative corruption in major financial institutions in the West, America, Al Baali. (2016).

Governance is one of the most important mechanisms for improving companies' performance and ensuring the integrity and transparency of their transactions, and plays a significant role in establishing the efficiency of financial markets, as an imperative against any money market manipulation, as it is a means of ensuring a balance of public and private interests aimed at protecting the rights of individuals, shareholders, companies and various financial institutions. Murad. (2016).

This is due to the fact that governance is a guarantee of the mastery of work and honesty in relation to the preservation of financial rights, thereby achieving transparency and good clarity. Alhassan. (2016).

Due to the significant benefits of AI, most legislation has tended to adopt AI systems to strengthen the governance of their enterprises, especially businesses, yet AI is not without some drawbacks in the light of the foregoing, we will address this consideration in two requests, as follows:

First Requirement

Definition of corporate governance and artificial intelligence

There is no uniform definition of governance, and the reason for this is the overlap of governance in many organizational matters. The Egyptian legislator avoided a specific definition of governance, leaving this task to jurisprudence and the judiciary. The establishment of tariffs does not fall within the legislator's function. However, some legislation has defined governance, " "The set of controls, standards and procedures that achieve institutional discipline in the management of the company in accordance with global standards and methods, by defining the responsibilities and duties of the members of the board and the executive management of the company, and taking into account the protection of the rights of shareholders and stakeholders." (UAE Federal Law No. 32/2021). Most Arab legislation did not define artificial intelligence. However, some legislation did define it, including UAE law.

In the light of the foregoing, we will address this requirement in two sections, as follows:

Section I. Corporate governance and characteristics

Definition of Corporate Governance

Some of the jurisprudence considers that corporate governance means "a set of rules, processes, policies, practices and committees that influence the means by which the company is managed, directed and controlled." Weshahi.A. (2008).

Some have defined it as "a system to be followed as a means of managing the company in the interests of all parties, whether through follow-up Supervision or supervision, provided that it is carried out in a transparent.

Corporate Governance is a broad term defines the methods, structure and the processes of a

company in which the business and affairs of the company managed and directed. Corporate governance also enhances the long-term shareholder value by the process of accountability of managers and by enhances the firm's performance. Khan, H. (2011, December).

The Organization for Economic Cooperation and Development (OECD) defined governance as "the set of relationships between the management of the enterprise (stakeholders), indicating the mechanism through which the objectives of the institution are developed and the means to achieve those goals and to monitor their achievement"., Al Baali (2016). The Egyptian Governance Manual defined it as "a set of principles and regulations governing the relationship between the Board of Directors, on the one hand, and between the Company's owners and other dealers, on the other hand, with a view to achieving the best protection and balance of the interests of all those parties Egyptian Directory of Corporate Governance. (2016). The International Finance Corporation defines corporate governance as "the system through which companies are managed and their business controlled", Alamgir, M. (2007).

Given the importance of governance, States are doing their utmost to develop legal and regulatory frameworks for governance, as they are instrumental in supporting the economy, sustainable development, as well as financial stability, which contributes significantly to attracting more investment.

Second: Characteristics of corporate governance:

1. Transparency in disclosure and fairness within the company between the company's management on the one hand and shareholders and stakeholders on the other.

2. Enhancing the Board's responsibility when managing the Company.

3. Respect for stakeholders' rights.

4. Equality between all shareholders in the company and non-discrimination between large shareholders and their young.

5. Separation of company ownership and management and establishment of a decision-making mechanism within the company and distribution of powers.

6. Supporting the national economy through more efficient use of resources.

 maximizing the value of economic unity and strengthening market competitiveness, which contributes to expansion and the creation of new jobs.

Section II: AI and its Characteristics

First: Definition of artificial intelligence:

It should be noted that most Arab legislation has not defined artificial intelligence. However, some legislation has defined it, including the UAE law, which it defines as "automated electronic intermediary" in article 1 of Act No. 1 of 2006. It is "an electronic software or system for an automated account that can act or respond independently, in whole or in part, without the supervision of any natural person while acting or responding." American scientist John McCarthy, nicknamed "AI", has defined the term AI as "the science and engineering of making smart machines, especially smart software". John McCarthy sees artificial intelligence as linked to the task of using computers to understand human intelligence. Michelle, J. (2023). Another aspect of the doctrine was defined as "science and technology based on a number of areas of knowledge, such as computer science, mathematics, neighborhoods, philosophy and engineering, which target the development of computer functions to simulate human intelligence" Eugene Charniak, Drew McDermott, (1986).

AI is technically defined as "a computer programmed machine that uses specific algorithms and procedures to perform a particular task or work, and this programmed device gets input automatically and applies the same according to the program" Margaret A. Boden, (2018).

The United Nations Commission on International Trade Law (UNCITRAL), on the legal aspects of smart contracts and artificial intelligence, had decided that there were several definitions of artificial intelligence, but none had received universal acceptance, and it considered that artificial intelligence in general It is the science of developing systems capable of solving problems and performing functions by simulating mental processes And AI can be taught how to solve a problem, but it can also study the problem and figure out how to solve it alone without human interference. and different systems can reach different levels of self-operation and can act independently, In this regard, it is not possible to predict the functioning or the results of those systems, since they act as "black boxes. Michelle, J. (2023).

According to the foregoing: AI is a science based on mathematical rules, hardware and software compiled in computers, which in turn carries out many tasks and processes that can be performed by mankind, but differs in speed and accuracy in finding solutions to complex problems.

Second: Characteristics of artificial intelligence**:**

1. It helps to solve many complex problems and also contributes to enabling machines to process information more closely to the human way in solving issues that offered to it, where artificial intelligence aims to develop systems that achieve a level of intelligence similar to or better than human intelligence. Belaleta, A. (2022).

2. Accuracy and high speed in receiving and addressing hypotheses, and the ability to solve each problem. The use of AI systems reduces the margin of error that may occur during the execution of tasks, as well as the ability to detect and rectify errors quickly.

3. The ability to process non-digital data of a symbolic nature.

4. Provide information for decision-making.

5. Autonomy and prediction, where AI systems have the ability to perform complex tasks independently and without any effective human intervention, in addition to their ability to predict the economic turmoil of the labour market.

6. The absence of fatigue and boredom, and less reliance on human energies, as AI software is characterized by the ability to continue to work and perform tasks continuously without feeling bored or fatigued as in the case of human beings performing the work and tasks of the. Shamri, M. (2023). This is because the AI automation system, i.e. self-automation without human intervention, provides better insights as well as improved productivity in all fields, due to the ability of AI to make decisions, analyze data, learn and acquire new experiences that help it make better decisions.

Third: defects of artificial intelligence:

Despite the advantages offered by AI systems, but it has some disadvantages:

1. High cost of implementation, so it is very difficult for developing countries to access AI services.

2. AI systems lack human ethics and values.

3. Lack of personal privacy, because a person has to provide devices with certain personal data in order to benefit from that technology.

4. AI systems do not improve with expertise, being machines that work by programming them to perform a specific task through specific algorithms, and therefore their ability to modify, change and deal with developments remain incomplete and underestimated.

5. AI systems lack creativity and are thus unable to compete with the human mind, which is capable of creativity and development.

6. Increasing the disparity between strata of society as a result of many workers losing their jobs.

7. Increase the problem of unemployment as the use of artificial intelligence systems results in some workers being laid off.

Second Requirement

Countries' position on the adoption of AI systems Intelligence.

AI is one of the most important outputs of the fourth industrial revolution in which they are used in all fields, which has opened the door to the emergence of previously unknown new innovations which would bring about a radical change in human life, Technology can contribute to making our world more equitable, peaceful and just, and through digitization can support sustainable development goals. Abd al-Hamid, p. (2021).

And so the majority of countries in our current time rely a lot on artificial intelligence and it has high hopes, as one of the most important indicators of transparency and disclosure. Given the importance of governance and its effective role in achieving transparency and justice, increasing confidence in the national economy and deepening the role of the financial market, the majority of States have been keen to use artificial intelligence, as will be explained below:

First: Arab Republic of Egypt:

Egyptian Cabinet Decision No. 2889 of 2019 established the National Council for Artificial Intelligence, which follows the Presidency of the Council of Ministers and is chaired by the Minister of Communications. information technology and membership of a number of ministers and heads of a number of stakeholders, in addition to three experienced persons selected by the President of the Council. The Council has a set of legislative and executive powers.

Legislative competencies of the National Artificial Intelligence Council. Kaylany. Hashim Kilani, M. & Majid. (2023). Fatha Ibrahim & Mohammed. (2022).

1. To develop, monitor and update the National Artificial Intelligence Strategy in line with international developments.

2. Develop mechanisms to follow up on the implementation of the National Artificial Intelligence Strategy.

3. Develop plans and programmes to develop the necessary human resources to implement the National Artificial Intelligence Strategy.

4. Develop policies and recommendations on technical, legal and economic frameworks for its applications.

5. Review all international protocols and agreements concluded by the state in the field of artificial intelligence.

Executive terms of reference of the National Council of Artificial Intelligence: Hashim Kilani, M. & Majid. (2023).

1. Oversee the implementation of the National Artificial Intelligence Strategy.

2. Coordination with ministries, government agencies and agencies internally, and all regional and international bodies and organizations.

3. Review and update national priorities in the field of artificial intelligence research.

4. Participation in national committees entrusted with artificial intelligence.

5. Holding seminars, conferences and awareness-raising programmes aimed at disseminating national awareness in the fields of artificial intelligence.

6. Report on the results of the work and recommendations for presentation to the Prime Minister and then the President of the Republic every six months.

It is worth mentioning that the Egyptian legislator has made significant efforts towards the adoption of artificial intelligence and its use for corporate governance. And the real motive was to reduce the losses that could be sustained by the national economy, As a result of the full reliance on the human component in all procedures related to the establishment and operation of companies and the following are some manifestations of the use of artificial intelligence (AI) in corporate weaving:

1. The General Authority for Investment and Free Zones has launched the Establishment of Companies and Enterprises Service via the Authority's portal (www.gafi.gov.eg). The investor can apply for the Foundation and pay all fees and signatures electronically at the Foundation Documents via the e-portal of the Authority and receive the directors from the investor services center.

2. The Egyptian legislator recognized the validity of electronic signature in civil and commercial transactions and Administration, under article 14 of Act No. 15 of 2004. However, "an electronic signature, within the scope of civil, commercial and administrative transactions, which are authoritative for signatures in the provisions of the Law of Proof in Civil and Commercial Articles, if its establishment and completion take into account the requirements set forth in this Law and the technical and technical controls established by the implementing regulations of this Law".

3. The company's commercial record may be obtained electronically, in exchange for payment of the service fee also electronically from the credit card registered during the use of the website of the Internal Trade Development Authority, in order to preserve the confidentiality of the electronic application information and not to use it in such a way as to harm non-Abdul Shafi, M. (2022).

Second: United Arab Emirates

To keep pace with the fourth industrial revolution and its accelerating changes, the UAE has launched the National Innovation Strategy, which includes economic sectors that stimulate innovation, as well as the supreme science, technology and innovation policy, and has taken from innovation and renewal a working culture and lifestyle, to build the desired knowledge society led by innovators with visions for the future, to strengthen its progress and consolidate its global standing. The State has restructured and organized its government to include ministers of artificial intelligence and advanced science the tendency to focus on the development of human capital through the development and development of education and scientific research was established as the need to pursue all future technological and scientific developments accelerating, the formation of the Dubai Future Foundation, the Science and Artificial Intelligence Complex, the Mohammed bin Rashid Future Research Center, as a future scientific system of the State Majid, A & Hashemi, n. (2018).

The adoption of artificial intelligence in corporate governance includes:

1. The UAE legislator acknowledged using computers and modern technical machinery in the organization of the dealer's activity and even considered its data as auxiliary business books.

2. The UAE legislator also recognized the authenticity of electronic signature and editions.

3. The Emirati legislator authorized the company to keep an electronic copy of the assets of any of the documents held and deposited with it in accordance with the controls issued by the decision of the Minister of Economy.

4. The Company is obliged to provide a copy of its founding contract and statute on the Company's website, together with any other documents or statements specified by the Securities and Commodities Authority (UAE Federal Law No. 32/2021). On commercial companies.

Third: Saudi Arabia

The Saudi Authority for Data and Artificial Intelligence was established by Royal Ordinance No. 471/a and the date of its 29/12/1440. It is directly linked to the Prime Minister and is regulated by the National Data Management Office, the National Artificial Intelligence Centre and the National Information Centre.

The Authority enjoys legal personality and administrative and financial independence, is based in Riyadh, it is the Kingdom's competent authority for data and artificial intelligence and has inherent competence in all matters relating to operation, research and innovation in the data and artificial intelligence sector. It aims to achieve the following objectives:

1. Data governance and artificial intelligence.

2. Providing data capabilities and forward-looking capabilities and enhancing them with continuous innovation.

3. Ensuring the Kingdom's leadership in data and AI-based economies.

The Data Management Office.

The National Data Management Office has endeavoured to establish controls and specifications for data management and governance. Obligation to undertake a preliminary assessment of data integration and that it should develop a data integration structure and plan, In addition, I commit the entity to undertake training on data sharing. s responsibility and the consequences of unauthorized disclosure or misuse of data. Michelle, J. (2023).

Fourth: Kuwait

Kuwait has taken an interest in the subject of artificial intelligence. However, according to the report of the Government's Readiness Index for Artificial Intelligence 2022, Kuwait has not achieved the target under the Third Development Plan in the Government's Readiness Index for Artificial Intelligence, its main pillars and most of its key dimensions for 2022 with the exception of data representation, recommendations for enhancing the Government's readiness for artificial intelligence in Kuwait were made by the General Secretariat of the Supreme Council for Planning and Development of Kuwait. (2022).:

1. Supporting the use of artificial intelligence techniques by all State institutions and bodies to develop institutional performance and improve service accessibility in order to enhance the knowledge economy.

2. Formulate policies to ensure the development of reliable, safe and inclusive artificial intelligence technology while ensuring sustainable utilization of its benefits.

3. Supporting research institutions specializing in data and artificial intelligence to lead innovation and raise community awareness of its importance.

4. Supporting private sector initiatives and increasing productivity in general, investing the capacities and exploiting the human and material resources and potential of the State in a creative and beneficial manner.

5. Encourage innovations in the development and support of artificial intelligence applications, and embrace and apply relevant ideas and projects on the ground.

6. Providing an attractive environment and high-quality infrastructure for the adoption, innovation and development of AI technologies and governance.

7. Building policymakers' capacities to enable them to integrate artificial intelligence into education policies and to include it in all educational institutions to ensure that the educational process is promoted as a prerequisite for keeping up with today's needs.

8. Identification of a proportion of the study programmes of outside-State students to study specializations related to artificial intelligence, in order to develop a broad base of qualified government personnel in this field.

9. Integrate artificial intelligence into medical and security services for identification and increase reliance on artificial intelligence for other functions and services.

10. Implementation of training programmes to build the capacity of State officials to use artificial intelligence technologies in various fields with a view to developing specialized technical personnel to ensure the delivery of the best services of the best quality. in addition to the foregoing, the report of the National Observatory for Sustainable Development and Future Outlook of the General Secretariat of the Supreme Council for Planning and Development stressed the need to implement the following recommendations for the development of e-government in Kuwait. (2022).

1. Supporting the use of information and communications technology by all different State entities to ensure that their institutional performance is developed, services are improved and accessible at the lowest cost, highest efficiency and fastest time.

2. Ensure the infrastructure necessary to connect all State institutions to a single information network to exchange information between different entities. 3. Providing advisory support in all different areas of digital transformation in order to serve and achieve the desired strategic objectives and improve performance.

4. Develop programmes and activities to empower individuals and eradicate information technology as a fundamental pillar of building a contemporary information society to create a knowledge environment.

5. Supporting the State's telecommunications companies and organizing and controlling their services to ensure greater effectiveness and productivity in order to optimize the performance of the communications sector and ensure transparency, equality and free competition.

6. Ensure the security of information and provide the necessary technical oversight in order to build the integrated electronic technical architecture.

7. Building on developed countries' successful experiences in implementing the e-government survey.

8. Training and qualification of human capacities to build capacity and develop skills to ensure the delivery of the best services at the highest level.

9. Encourage investment in communications infrastructure by various public and private stakeholders.

10. Create collaborative online platforms that achieve high efficiency and speed in the exchange of information and services and improve responsiveness to citizens' needs.

Fifth: Sultanate of Oman:

The National Programme for Artificial Intelligence and Advanced Technologies in 2020 is part of the structure of the Ministry of Transport, Communications and Information Technology. as an operational program of the National Digital Economy Program, which is the strategic orientation of artificial intelligence and advanced technologies in the Sultanate to encourage the adoption and localization of artificial intelligence and advanced technologies by measuring international experiences, coordinating meetings and workshops with public and private sector partners, academics and entrepreneurs, AI and advanced technology specialists. The program oversees the following:

1. Development of an integrated national programme for artificial intelligence and advanced technologies (policies, legislation, capacity-building, research, innovation, manufacturing, investment and start-up development)

2. Coordination and collaboration between public, private and academic stakeholders to share AI requirements and advanced technologies and integrate with existing projects and initiatives.

3. Communicate and coordinate with local authorities, developed countries, organizations and international bodies on related topics.

The programme is based on four themes:

First: Enhancing the productivity of sectors targeted for economic diversification. Second theme: Developing human capabilities in artificial intelligence.

Axis III: Adopt artificial intelligence in key sectors. Theme IV: AI governance with a human-centred vision.

The vision of this program is to build a competitive advantage for the Sultanate in AI and advanced technologies by carrying out the following tasks, including the vision and objectives of the National AI and Advanced Technologies Program of the Sultanate of Oman on the following linkage https://www.mtcit.gov.om/ITAPortal_AR/Pages/Page.aspx?NID=3162&PID=579879:PID =

1. Building partnerships and a system of cooperation and integration with public, private and academic institutions, entrepreneurs and civil society institutions to consolidate efforts in the field of artificial intelligence technologies and advanced technologies to build local capacities and competencies by linking them to the requirements of the labour market.

2. Encourage the use of artificial intelligence and advanced technologies in key sectors such as education, health, defense, security and social welfare and improve the quality of government services.

3. Contribute to stimulating productive and target sectors to diversify economically and improve their performance and make these sectors more attractive by integrating artificial intelligence and advanced technologies into these sectors.

4. Localizing industries based on the production of basic components used in artificial intelligence and advanced technologies by involving the private sector and SMEs working in this field in the implementation of initiatives and projects related to these technologies.

5. Support the modernization of the education system to cope with the basic technical requirements in the field of artificial intelligence and advanced technologies to enhance individuals' competitive capabilities and skills by encouraging scientific research and innovation.

6. Create a flexible regulatory and legislative environment in line with the requirements of artificial intelligence and advanced technologies by updating relevant systems, laws and strategies.

7. Identify and review benchmarks and indicators for the Sultanate's progress in adopting AI and advanced technologies compared to regional and global countries.

Second Axis

Adopting artificial intelligence as a business governance mechanism

Given the importance of artificial intelligence, it has entered the focus of attention of many countries of the world, Therefore, all relevant public entities have taken care of it and are in the process of applying the rules of corporate governance. All the companies' supervisory and administrative bodies have begun to use it to carry out many of its work and have high hopes for it. However, the main problem in this regard is the determination of liability for damages resulting from artificial intelligence in corporate governance. In the light of the foregoing, we will address this consideration in two requests, as follows:

First Requirement

Responsible for using artificial intelligence in corporate governance

Since AI is a modern mechanism for companies to apply governance principles and rules, in order to maximize transparency and efficiency in their management, in order to gain the confidence of current and future investors, they were used by all relevant stakeholders, including the Ministry of Commerce, the Capital Market Authority, the Board of Directors, the Auditor-General and the General Assembly.

The practical reality has shown that shareholders need to apply the principles of governance more than others, given the increase in their number of shareholders, which requires working towards mechanisms to protect their rights, including adherence to the rules of disclosure and transparency. In this sense, artificial intelligence can be used through the establishment of specialized websites and accounts to detect all information the company is legally obliged to disclose it, so that this information is available to all customers

of the company through publishing and automated circulars by AI. This supports that all sites designed based on AI technologies are highly capable of storing and retrieving all information about the company as soon as possible. In the light of the foregoing, we will address this requirement through two sections, as follows:

Section I: Ministry of Commerce and Industry and Paper Market.

First: Adoption of artificial intelligence by the Ministry of Commerce and Industry:

Since the Ministry of Commerce is responsible for supervising commercial companies in terms of its compliance with its statute, in addition to monitoring the validity of its application of the provisions of the law The Ministry has endeavoured to do its utmost and to exploit its potential to benefit from AI systems. From this point of view, it has provided some services electronically, for example:

1. An application may be made to obtain the Commercial Register electronically by creating an account on Egypt's digital platform.

2. Any interested person may consult the data kept by the Ministry of Commercial Companies and obtain a copy of it for a fee paid by.M. Al Obaidi. (2020).

Second: Adoption of artificial intelligence by the stock market:

Capital market governance is one of the latest developments that securities legislation is keen to adopt and constantly develop, in order to guarantee the rights of owners in the financial market, there is no doubt that the development of the financial market is an important pillar of economic reform efforts and the shift towards market mechanisms for mobilizing and allocating resources. Allow the private sector to play a greater role in economic activity s role in mobilizing savings and attracting foreign investment to more efficient and profitable productive enterprises.

The capital market collects, analyses and disseminates information about companies Shareholders whose securities are traded in the market in this regard, it is equated that those companies are listed or not on the stock market, Accordingly, there is a need to create an appropriate mechanism for linking financial markets in a way that allows exchange of information, consultations and expertise In doing so, we ensure that insights are as unified as possible on all the problems that impede the operation of the financial markets, Some balance must also be struck between the need for strict rules requiring clients to make statements and information, and their right to retain certain confidential data associated with their desire for legitimate commercial competition.A. Al Tamimi,. (2016).

Good disclosure, transparency and integrity in the collection and presentation of financial and non-financial information is one of the underlying factors in financial market governance s role in achieving disclosure and transparency, As it greatly reduces risk, transparency and disclosure are therefore an important source of activation for these markets as they provide information to investors, lenders and all clients in the financial market, ensuring the efficiency and effectiveness of business activity. The Organization for Development and Economic Cooperation (OECD) has therefore emphasized the importance of governance, particularly in terms of accurate and timely disclosure of all important matters related to economic units, with regard to its financial position, financial, operational and monetary performance and aspects

On the other hand, one of the studies carried out by Credit Leonet in 2002 confirmed that there is a strong correlation between governance levels in different countries on the one hand and the degree of growth and development of their financial markets and equity performance on the other. A. Al Tamimi. (2016).

The Exchange can adopt AI systems through a good digital communication system, connecting it with listed companies on the stock market, thus enabling the Exchange's management to see the financial position of traders, especially if the system is available to investors. In order to adopt AI systems by the stock market, some services are provided electronically, but companies, investors and stakeholders must be made aware of the governance system and encouraged to apply it continuously. Small companies in the financial markets must be protected against large companies. Abdel Hay, R. (2016).

In this regard, the robot can be used as an AI app to act as a broker on the stock exchange, where these robots operate with AI, and therefore have the ability to act under algorithm equations, and this type of

trading is called "Algorithmic trading" is the most rapid type of trading algorithm, and the idea of algorithmic trading is based on the execution of orders to sell and buy on exchanges on several operations and at standard times with little error, this is because such robots have been programmed to study the market and carry out trades. From this point of view, companies that rely as an exchange broker can use these robots, thereby increasing the effectiveness of the exchange itself. H, Qusay. (2020).

In addition to the foregoing, investors may use the smart electronic agent, as it contributes to the task of the investor who wishes to buy shares in a particular company, and it is also characterized by accuracy in determining the data and shares on trade in the exchange, the ability to negotiate, conclude deals without any human interference. Synthetic neural networks can also be used to process and disaggregate data and information, thus analyzing market data and highlighting companies' financial expectations, thereby helping investors to make their decisions correctly in their own interest.

Section II: Organs for company management and oversight

First: The adoption of artificial intelligence by the company's board of directors:

The Governing Council must follow sound governance principles, as this has a significant role to play in combating corruption and mismanagement, while promoting transparency. Companies must therefore take the initiative to adopt good governance through governance and do not wait until the State imposes certain standards of corporate governance on them.

The Board of Directors means a group of persons selected by shareholders, with the aim of developing the company's management policies and making decisions on its own important matters, within the framework of effective and strict oversight regulated by internal and external oversight mechanisms. M, Al-Hajri. (2016).

 He is the decision maker in most of the company's subjects, and he is the most important guarantor of minority rights and interests in the company, where the board of directors, as a broker between shareholders and managers, plays a very important role in corporate governance, especially in terms of protecting the shareholder minority. AI plays a major role in corporate governance, depending largely on the board's conviction that it is useful to manage the company, regardless of the type of AI used.

The Board of Directors can therefore use expert systems and neural networks as one of the most appropriate AI applications for the Board's governance assistance to the decision-making process in an accurate and expeditious manner, Especially in crisis management, because artificial intelligence has superior knowledge capabilities, It contributes to the analysis of large amounts of data in a much shorter time than the time taken by human managers hence, using artificial intelligence, can minimize the risks and costs of decisions. Michelle, J. (2023).

The shareholder's right to vote is the primary means of interfering in the life of the company, and electronic voting is one of the forms of using artificial intelligence, through which the shareholder can participate effectively in the company and make all decisions about it. Al-Shammari, M. (2023).

To ensure the effectiveness of adopting AI systems in supporting corporate governance, the board must support the participation and effective participation of workers involved in the data entry order; Consult with them on mechanisms to improve their functioning and make proposals positive implications for the application of corporate governance principles, Especially because good corporate governance helps attract investments both foreign and domestic as well as helping to reduce capital flight, The fight against corruption, which everyone is now aware of, is hampering growth. Abdel Hay, R. (2016).

Governance is not limited to good corporate governance in the interests of the company, partners and consumers, but also to the interests of workers, employees, creditors, dealers, the national economy and management in its general sense, namely the State and its most prominent public treasury. Touma, J. (2016).

Corporate governance is a key pillar and an effective tool, to raise awareness of responsibility, to enshrine a culture of commitment to professional ethics, to achieve a high level of transparency and disclosure, and to provide credible and clear statements. Murad, S. (2016). Therefore, the governance of the board using artificial intelligence does not limit its powers, but enables it to make appropriate decisions that affect the company's life in a timely manner, and increases the transparency of information, thereby making the

board's decisions more efficient and effective. Abdul Shafi, M. (2022). Accordingly, artificial intelligence can be used and all related to the company can be displayed on its website in such a way that the Board of Directors

See all developments in the company from facts and decisions, quickly, accurately and conveniently. This is naturally done by linking this site - via artificial intelligence systems to the sites of the competent official authorities: The Registration Department (Registrar of Companies), the Ministry concerned or the judiciary. Through this linkage, maximum effectiveness and speed of decision-making can be achieved. This linkage also ensures prompt and prompt access to official entities on all developments within the company, for appropriate and expeditious legal action. Michelle, J. (2023).

Second: Adoption of artificial intelligence by the General Assembly:

The Regular General Assembly shall be responsible for all matters relating to the Company, except those falling within the extraordinary competence of the General Assembly. The General Assembly may have the most important competence to approve the Company's budget, calculate profits and losses, discharge the members of the Board of Directors and the Controller, appoint and remove the auditors and appoint and remove the members of the Board of Directors. Abdul Hamid, R&Bahanasawy, s. (1998).

In fact, all the above procedures can be digitized and displayed via the company's website in such a way as to enable the General Assembly to easily and readily familiarize itself with all matters relating to the life of the Company, This is achieved by linking the company's website via AI systems to the sites of the competent official entities s Republic of Korea ", such as the Registration Department and the Ministry of Commerce and the Judiciary, and in that spirit the General Assembly could make the right and timely decision. Al-Obaidi, M. (2020).

and undoubtedly, the application of governance principles Adherence to them not only has a positive impact on the companies that apply it, but also has an impact on the nation's overall investment climate. Murad, S. (2016).

Based on the foregoing: Modern technical means may be used to convene meetings of shareholders' public associations, participate in their deliberations and vote on their decisions.

Third: Adoption of artificial intelligence by the comptroller:

It is worth mentioning that the shareholding company has one or more comptrollers who meet the requirements of the Law practising the accounting and auditing profession, and is appointed and assessed in accordance with a General Assembly resolution; In the event of multiple observers, they shall be jointly responsible, except for the foregoing, the first auditor shall be appointed by the company's founders, The first comptroller of the company assumes his task until the first general assembly and the observer appointed by the General Assembly shall proceed from the date of his appointment to the date of the following Assembly and shall control the accounts of the financial year to which he is assigned.

The control of the company's accounts through the controller is one of the most important assurances of the company's compliance with the governance rules, since it aims to assess the means and procedures of managing the risk in the company, verify the compliance of the company's bodies and employees with the laws, regulations and instructions governing its work, as well as to audit and evaluate all financial statements periodically submitted to the General Assembly of the company. Al-Obaidi, M. (2020).

There is no doubt that the use of artificial intelligence in controlling the company's accounts s audits and audits in a more prompt, effective and accurate manner, In addition to reducing the volume of costs, this is done by having a connection between the website of the Registration Department and the corporate websites, This allows the government to review immediately or periodically any changes made to the company's operations or decisions. Thus companies can provide their financial information electronically at specific intervals to the relevant public institutions, the auditors' portal must be established to promptly audit the electronic documents of companies in relation to their accounts, strictly and fairly, while complying with all international standards and ensuring that this service is performed at a reasonable financial cost. Michelle, J. (2023). The adoption of AI systems to exercise the controller's oversight role increases the effectiveness and accuracy of his role, and this is done through a series of steps: Al-Obaidi, M. (2020).

1. There should be a direct electronic link between the website of the Corporate Registration Department and the corporate website, so that government departments have direct and immediate access to all new positions and decisions in the company.

2. Obliging companies to submit their financial reports electronically, periodically and on time to the competent public authorities, in particular the registration of companies.

3. Centralization as a method of auditing the company's accounts, through a website connected to electronic records corporate ", in order to allow the auditor to audit such records in record time at little material cost, while at the same time being efficient, high quality and in accordance with international standards.

4. Adoption of artificial intelligence by stakeholders:

Stakeholders in the Company are persons with financial interests, in which they have an active role, namely shareholders in money companies, shareholders in companies of persons, creditors, banks, customers and employees of the Company, who have the right to access on everything in the company. Workers should be involved in the decision to use AI in the company's management, especially since the adoption of AI systems will inevitably in the long run result in the demise of the workers' class and thus increase in poverty. Abdul Shafi, M. (2022). The United Nations High Commissioner for Human Rights therefore stressed that there was an urgent need to stop the sale and use of artificial intelligence systems that posed a serious threat to human rights, and that appropriate safeguards must be adopted, it also called for the prohibition of artificial intelligence applications that could not be used in line with international human rights law. Michelle, J. (2023). Abdul Shafi, M. (2022).

2186. Workers' representation on the company's board of directors should also be ensured, so that they can participate in decision-making.

Linking AI systems to corporate websites, creating protected shareholder accounts, enables stakeholders to immediately see all the company's new decisions, thus, they can take the necessary measures to protect their rights, and shareholders can use the smart electronic agent to attend the company's general assembly meetings and vote instead of the shareholder.

Second Requirement

Implications of AI for business governance.

The company is adopting artificial intelligence as a governance mechanism for the company. The first is to use a company specializing in artificial intelligence, which supervises the company's artificial intelligence department, and makes all the decisions necessary for the governance of the company using artificial intelligence, and the second is to appoint a specialist in its artificial intelligence systems. In the light of the foregoing, we will address this requirement in two sections, as follows:

Section I: AI applications suitable for business governance

Artificial intelligence has several applications. However, neural networks, expert systems, robots and smart electronic agents are among the most appropriate applications of artificial intelligence for commercial corporate governance, and we will explain the following:

1. Synthetic neural networks: a data processing system consisting of several synthetic neurons associated with each other The larger the network, the deeper it is simulated and similar to the way human neural networks operate, are computational techniques designed to simulate the way the human brain performs a specific task, as scientists have almost discovered the way the human brain works in terms of learning, reminiscence and ability to distinguish Abu Raghda, N. (2019). Electronic commerce in the age of artificial intelligence contracts concluded by smart electronic customers. Dar Hama Algeria. And work with this networks It suits big companies because it helps them protect their data and choose the perfect solution from among the options available.

2. Expert systems are a computer system that simulates human expertise and knowledge in a given field. Expert systems in artificial intelligence are based on a set of knowledge rules that define the relationships between concepts and ideas associated with an area and are characterized by their ability to analyze

information about the problem, identify available and appropriate options for a solution, and recommend the best possible solutions, Expert systems can therefore be used as a business governance mechanism.

3. Robot (Robot): It is a mobile machine equipped with a computer that helps it to perform previously programmed work.

4. Smart Electronic Agent: It is a program entity capable of working independently to accomplish a number of tasks that require some intelligence in the name of its user and for its benefit, so that it is a program that absorbs its environment with sensors and operates with its engines Abu Raghda, N. (2019).

AI is an effective way to apply business governance rules Through it, you can contribute to the management of the company and predict all matters related to the company or the stock market. and to find solutions to all the problems facing the Board of Directors, which is reflected positively in the protection of the national economy In addition to attracting more national and foreign investment, most legislation and international organizations have addressed the issue of artificial intelligence, beginning with the promulgation of Parliament "The European Set of Rules of the Civil Code of Insolvency of 2017, calling on the European Council to develop legal rules that would frame the work of robots and artificial intelligence in the process of civil industrial exploitation; With a view to ensuring the highest professional standards, these rules have included addressing many ethical, economic and legal aspects of artificial intelligence in European society, Among them is the determination of the legal status of these robots, the reality of their legal personality, as well as the decision to establish Legal mechanisms regulating the legal liability rules of AI robots in the event of harm to human beings including access to liability determination among the various actors in the work of this robot, Al-Khatib, M. (2018).

Section II: Legal liability for harms of AI in corporate governance

The adoption of AI systems to support business governance may result in errors that cause harm to either shareholders or others, which raises a very important question: who is responsible for this error and is therefore obliged to bear its consequences? On this question, we should emphasize that legal liability for the harms of using AI in corporate governance depends on the type of AI adopted by the company in its application of governance principles. In terms of its capabilities, AI is divided into several types: limited-scale AI, general or strong Superintelligence, which we will explain as follows:

1. AI is limited in scope: This type carries out certain duties and in a specific range, such as self-driving vehicle, drones, and its applications are one of the most widespread types of AI.

2. General or powerful artificial intelligence: This type has capabilities that mimic human abilities, such as thinking, perception, decision-making ability, such as neural networks.

3. Superior AI: This type is characterized by having capabilities that exceed human capabilities, and it does work better than specialized human beings. The applications of this type are still being thought out by experts, but the near future will see a revolution in the application of this type.

In addition, the use of artificial intelligence to support corporate business governance requires the sharing of the company's management between the company manager and the person responsible for managing the company's artificial intelligence. And no one can deny the head of the company's artificial intelligence division will be the director of the company in practice especially if the company manager does not have the ability to know about AI systems and how to use them in corporate governance, In this sense, the strategic decisions of the company will be the head of the AI department and not the director of the company. s responsibility for the error ", which made it more complicated to determine who was responsible for the error.

According to the researchers, the person responsible for the error cannot be limited to one person or entity. and, of course, owing to the person responsible for the error, the Governing Council may be and verify this in the event that the error is caused by the Board's indifference or subordination in its decisions and also if the company does not have the capabilities to adopt AI systems. The responsibility of the company responsible for the technical follow-up of the company's artificial intelligence may be complicated, and this is achieved if the error has occurred. as a result of a technical failure or weak information provided. All stakeholders in the company that adopted the AI system in the company's governance may be held responsible as the decision-makers who sought to adopt AI systems in the company's governance. The

researchers hope: The Egyptian legislator should intervene and explicitly identify who is responsible for the error in the event of the adoption of AI systems to support the governance of commercial companies, to use AI experts, to avoid any legal gaps that might occur when drafting these texts, So that these texts are more realistic, and provide more safeguards for the maintenance of rights whether for the company that will adopt AI or the company that will be used for the company's governance through AI or others that deal with both companies, In doing so, the legislature ensures greater effectiveness in corporate governance and ensures that more foreign direct investment is injected into the national economy. on the basis of the foregoing, this liability may be contractual arising from the existence of a contract, it may be tort arising from a breach of a legal obligation originating from the law, and contractual liability requires that the company use artificial intelligence under a valid contract, and that there be a breach of a contractor's contract obligation. It is recognized that contractual liability is based on three: error, damage and causation. It should be noted that the Egyptian legislature has not developed special provisions regulating contractual liability for damages.

arising from the use of artificial intelligence, but contractual liability may be contracted on the basis of the provisions contained therein (Act No. 181 of 2018). Article 27 states: "The product shall be liable for any damage ' It is caused or caused by the product due to the way it is used wrongly if it is established that the damage is caused by the supplier's failure to take sufficient care to prevent the damage from occurring or to alert it. The distributor or seller is liable for any damage caused or caused by the product if it is established that the damage was caused by a defect due to the way it is prepared for consumption, preserved, packaged, traded or offered.

In addition to the foregoing, article 20 of this Act provides that "The supplier shall ensure the quality and safety of the contracted product throughout the warranty period, as well as the availability of the specifications upon which it is contracted." Furthermore, the default responsibility of AI is based on a breach of a legal obligation, which can therefore be established on the basis of responsibility for doing things, Artificial intelligence can be regarded as something at the user's disposal, and liability can be based on the responsibility of the follower for the actions of its followers. ELmaadwi, M. (2021).

Conclusion

AI currently plays a significant role in various areas of life, including corporate governance. On this basis, the role of AI in corporate governance has to be demonstrated. Through this study, it has reached a series of findings:

Results

Governance is one of the most important mechanisms for improving companies' performance and ensuring the integrity and transparency of their transactions.

One of the most important features of good governance is the adoption of AI systems in corporate governance.

Legal liability for damages caused by the adoption of AI systems in corporate governance varies according to the type of AI adopted by the company.

The contract for contractual liability for artificial intelligence requires the company to have engaged artificial intelligence under a valid contract, there should be a breach by a contractor of a contractual obligation.

This liability is based on three elements: error, damage and causation. Egyptian law does not contain special provisions regulating contractual liability for damages arising from the use of artificial intelligence, but this liability may be established on the basis of the two articles. (20, 27) of the Egyptian Consumer Protection Law No. 181 of 2018.

The default responsibility of AI is based on a breach of a legal obligation and can therefore be established on the basis of responsibility for doing things, and can also be founded on the responsibility of the follower for the acts of his subordinates.

Recommendations

We hope that the Egyptian legislator will single out special legislation for artificial intelligence and address the subject of the adoption of artificial intelligence systems in support of corporate governance and liability.

We recommend that the Egyptian legislature establish courts specializing in AI cases, and that judges be qualified and trained in these types of cases through training courses and workshops.

We hope that the Egyptian legislator will adopt the standard of the keen person and not the standard of the usual person, with regard to the default liability for damages arising from the applications of artificial intelligence.

We recommend the need to hold more conferences and seminars on the legal aspects of artificial intelligence in the faculties of law, the judiciary and the Bar Association, to discuss all legal problems related to artificial intelligence, with a view to reaching effective recommendations to resolve these problems, so that the legislature can benefit from them and translate them into legal texts.

We appeal to the Egyptian legislator to stipulate that a guarantee fund for compensation for damages arising from AI applications should be established, and that insurance for these AI applications should be mandatory rather than optional.

References

Abu Raghda, N. (2019). Electronic commerce under artificial intelligence contracts concluded by smart electronic customers. Dar Hama Algeria.

Al-Baali, p. (2016). Profitability Index and its role in the governance of Islamic financial institutions (Islamic banks). Journal of Kuwait Law College World, 1 (1), 71-113.

Alhassan, s. (2016). Governance in Islamic financial and banking institutions principles, applications and standards. Journal of Kuwait Law College World, 15 (2), 207-254.

Al Tamimi. (2016). Promoting transparency and integrity as a principle of governance in the Kuwaiti stock market (study on derivatives contracts). Journal of Kuwait Law College World, 1 (1), 345-404.

Al-Obaidi, M. (2020). Legal regulation of the adoption of AI systems in corporate governance in accordance with Bahraini law. Law Journal, 2 (17), 134-162.

Al-Hajri, M. (2016). The governance of the aerospace sector between entity and possible (a case study of Kuwait Airways' transformation from enterprise to company). Journal of the Faculty of Law College World، 15،335-413.

Al-Shammari, M. (2023). The reflection of artificial intelligence technologies on corporate governance in the Saudi regime. Andalusia Journal of Humanities and Social Sciences, 73 (10), 228-262.

Alamgir, M. (2007). Corporate Governance: A Risk Perspective, paper presented to: Coorporate Governance and Reform: Paving the Way to Financial Stability and Development, a conference organized by the Egyptian Banking Institute, Cairo, May 7 – 8.

Abdul Hamid, R&B, P. (1998). Saudi Commercial System Part I Business and Trader - Commercial Companies,. (p. 1). Egypt: Technical Institution for Printing and Publishing.

Abd al-Hamid, p. (2021). Legal and legislative framework for digital and artificial intelligence. International Journal of Artificial Intelligence in Education and Training, 1 (1), 17-36.

Abdul Shafi, M. (2022). Business governance via AI technology. Law Journal Faculty of Law Cairo University Khartoum Branch, 7 (11), 2148-2186.

Abdel Hay, R. (2016). Governance in M&A rules and procedures. Journal of Kuwait Law College World, 1 (1), 467-499.

Blilita, a. (2022). Legal and organizational enshrinement of artificial intelligence in Algeria. International Journal of Artificial Intelligence in Education and Training, 1 (2), 16-29.

ELmaadwi, M. (2021). Civil liability for AI robots "comparative study." Law Journal Cairo University Faculty of Law Khartoum Branch, 2 (9), 283-392.

Eugene Charniak, Drew McDermott, (1986). Introduction to Artificial Intelligence. Addison-Wesley Publishing Company, Canada.

Egypt Act No. 15 of 2004 concerning electronic signature.

Egypt Act Act No. 181 of 2018 concerning consumer protection.

Egyptian Directory of Corporate Governance. (2016). Issued by the Egyptian Directors' Centre in the General Authority for Financial Control, 3rd Edition.

Fiancé, M. (2018). The legal status of "personality and responsibility". Journal of Kuwait International Law College, 24, 97-136.

Fatha Ibrahim & Mohammed. (2022). Legislative regulation of AI applications. Journal of Legal and Economic Research (Mansoura), (4) 12, 1017-1131.

Gill Journal of In-depth Legal Research Gel Center for Scientific Research, 41 (5), 11-38.

General Secretariat of the Supreme Council for Planning and Development Kuwait. (2022). www.scpd.gov.kw/Default5 _ news.aspx

H, Qusay. (2020). AI-based algorithmic trading robot errors a forward-looking study into the prospects of civil liability on the stock exchange.

Hashim Kilani, M&M, Majid. (2023). National Council of Artificial Intelligence in Egypt (critical analytical study). Journal of Law and Social Studies, 2 (2), 283-269.

Khan, H. (2011, December). A literature review of corporate governance. In International Conference on E-business, management and Economics (Vol. 25, pp. 1-5). Singapore: IACSIT.

Majid, A & Hashemi, N. (2018). Artificial Intelligence Report in the UAE. Issued by the Department of Economic Studies and Policies.

Murad, p. (2016). Corporate governance mechanisms contribute to improving the efficiency of financial markets. Journal of Kuwait International Law College, 15 (2), 497-535.

Michelle, J. (2023). The role of artificial intelligence in corporate governance. International Journal of Jurisprudence, Judiciary and Legislation (2 4), 397-423.

Margaret A. Boden,(2018). Artificial Intelligence: A Very Short Introduction. Oxford University Press, UK.

Padhi U. AI in banks: risks and opportunities. Fintech News. Accessed, School Forum on Corporate Governance, Tuesday, on 14 February 2020.

Touma, J. (2016). Offences against governance rules (a monetary study comparing Kuwait and Lebanon). Journal of Kuwait Law College World, 1 (1), 529-574.

UAE Federal Law No. 32/2021). On commercial companies.

UAE Act No. 1 of 2006 on Electronic Transactions and Commerce.

Vision and Objectives of the National Program of Artificial Intelligence and Advanced Technologies of the Sultanate of Oman.linke https://www.mtcit.gov.om/ITAPortal_AR/Pages/Page.aspx?NID=3162&PID=579879

." Weshahi.A. (2008). The process of securitization between theory and practice is a study of the provisions of Egyptian law and comparative laws. (p. 1). Egypt: Arab Renaissance House.