The Integral Role of Artificial Intelligence in Shaping Corporate Governance in Iraq

Hussein Jalal Mohammed Alkinani[1] and Sajjad Raad Khalaf Aljabry[2]

Abstract

History is full of examples of technological transformations changing how people do business. The Internet can be considered the latest example of how businesses have had to adapt to survive and thrive in the market. While the term artificial intelligence (AI) has been around since the 1950s, its relevance in corporate governance has been mostly ignored. While it is true that the current wave of development is not the first one, and it will certainly not be the last, there is no industry left untouched by AI. Be it healthcare, education, manufacturing, or e-governance, AI is making its impact felt across the globe.Existing research has shown that digital transformation is a difficult exercise for any business. The shift from old ways of doing things to technology-based solutions often faces a direct behavioural challenge from a company's employees. Adopting AI into corporate governance can be considered one such digital transformation initiative. The literature review in this paper covers how digital transformation can take place in an organization's corporate governance function and various factors that need to be considered. Qualitative research methodology has been used to conduct research for this paper.The data collection method used is semi-structured interviews. A set of questions was prepared in advance so that the discussion did not deviate from the main theme. A total of twenty interviews were conducted for twenty participants. For data analysis, these participants were divided into three groups: AI experts who are currently working in the private sector, corporate professionals who are currently in senior managerial positions, and public servants employed by the government handling IT-related projects.The responses of the participants have been analysed and presented in this paper. This analysis reveals that there is cautious optimism shown by the participants with regard to integrating AI into corporate governance processes. They acknowledge benefits such as transparency, accountability, and fast and unbiased decision-making and, at the same time, point out concerns like a lack of regulations, misuse, ethical considerations, and unavailability of skilled workforce.

Keywords: *Artificial Intelligence, Corporate Governance, Iraq, Digital Transformation.*

INTRODUCTION

Industry 4.0, or the Fourth Industrial Revolution, is set to instigate digital transformation in every sector, leading to rapid technological advancements in the first few decades of the twenty-first century. The history of technological progress and its impact on everyday business is a testament to the inevitability of these advancements, which have the potential to reshape how businesses operate entirely [1].

Artificial Intelligence (AI) and other allied automation technologies have made significant strides in recent years, sparking a global revolution. This revolution is not confined to a few countries; it is a worldwide phenomenon. Technological advancements and new-age applications are currently reshaping how traditional businesses operate, a trend that will only continue with further technological developments [2]. Thanks to AI, businesses have integrated and streamlined processes and procedures, contributing to this global wave of transformation.

For example, medical professionals are better equipped to diagnose and prescribe treatments for patients with the help of AI-based solutions. In the finance industry, AI predicts market trends while offering personalised investment advice based on the parameters given by the user. When AI is adopted in the manufacturing sector, it predicts machine maintenance requirements and increases overall productivity. Retail and e-commerce platforms are using AI to offer personalised recommendations to their customers and smartly manage their inventories to meet customer needs. Other industry sectors, such as security, education, and energy, also benefit from AI applications, eventually contributing to a future where efficiency and innovation play pivotal roles in business operations.

[1] Lecturer, Al-Bayan University Baghdad, Email: H.alkinani@albayan.edu.iq

[2] Assistant lecturer, Al-Bayan University Baghdad, Email: sajjad.r@albayan.edu.iq

The transformative power of AI is not limited to businesses' external operations. It has also found applications in internal operations, such as corporate governance. With the help of AI, decision-makers gain access to transformative tools, technologies, and available data, empowering them to make informed decisions, fulfil compliance obligations under relevant laws and regulations, and adopt a comprehensive approach to risk management [3]. With AI algorithms now capable of processing large amounts of data in a fraction of a second, AI aids in the strategic planning of a business by uncovering patterns, insights, and trends in vast datasets, paving the way for a more efficient and innovative future of business operations [4].

With real-time monitoring in place, AI can help decision-makers by continuously analysing key performance indicators, scenario planning, and predictive analysis. This will help them smoothly navigate the complex challenges faced by modern businesses. AI can be further helpful to governing bodies in organisations as it provides recommendations based on data, supporting swift decisions in critical or complicated situations [5]. While it is accepted that AI has not yet reached saturation, it will continue to evolve further, and its impact on corporate governance will also extend in the future. However, one must be cautious about the boardroom dynamics on the issue of AI safety. The recent incident at OpenAI [6] underlines the need for a well-defined, efficient, and robust framework to exploit AI's true potential while upholding legal, ethical, and moral values.

In Iraq, digital transformation has gained momentum recently through collaboration between international bodies, government organisations, and private service providers. This collaborative approach has been focused on modernising government services to enable and facilitate e-governance, increase the efficiency of processes and procedures, and contribute to the country's economic development. For example, Iraq's government has collaborated with the United Nations Development Programme (UNDP) to implement, improve, and strengthen public digital services. This collaboration seeks to modernise existing government processes, improve citizens' access to government services, and boost the country's digital economy [7]. As a result, this will introduce accountability, efficiency, and transparency in the system.

Digital transformation in Iraq is also evident because the country had over 33.72 million internet users in 2023, with an approximate penetration rate of 75%. Around this time, over 23.50 million residents were active social media users, representing 56% of the total population [8]. While the challenges related to IT infrastructure and digital literacy continue, these numbers indicate a growing digital footprint in the country.

Businesses in Iraq are also embracing digital transformation in this ongoing digital wave. The COVID-19 pandemic boosted Iraqi businesses' adoption of digital technology, with businesses shifting towards online communication and remote work [9]. Specifically in the telecom sector, the role of companies like Asiacell has been crucial, as it boasts a user base of 17 million users and offers high-speed 4G internet services in the country [10]. Businesses in Iraq have already started to introduce intelligence into their routine processes.

In this context, this research analyses how AI can streamline corporate governance in Iraqi organisations. A total of 20 participants consented to participate in this study, which involved a questionnaire-based interview. This questionnaire had six open-ended questions, allowing the participants to express their thoughts and opinions freely. Out of these 20 individuals, five are currently working as AI experts in private organisations, nine are corporate professionals overseeing or monitoring the implementation of an AI-related project within their organisation, and six are public servants currently handling a portfolio of IT-related government projects.

LITERATURE REVIEW

As discussed earlier, history is full of examples of technological developments impacting enterprises. The same is the case with digitalisation and its impact on corporate governance [4]. When digital initiatives are adopted within an organisation, their impact is not only limited to the business's internal operations. It extends and influences all stakeholders of the business, including shareholders, vendors or suppliers, and management hierarchy spread across one or multiple levels [11]. Modern-day businesses are now leveraging information and communication technologies (ICTs) to focus on long-term objectives instead of short-term goals. This also shows that the mindset of decision-makers is shifting towards sustainability and added value instead of solely adopting a profit-centric approach [12].

Existing research identifies that the accounting function of businesses has been a critical aspect of digital transformation. Considering the backbone of corporate governance, digital initiatives help a business maintain the accuracy, timeliness, and transparency of information for all stakeholders [13]. As technology grows, the amount of data collected and subsequently available for decision-making also increases. With extensive data being available, the reporting, whether financial or non-financial, is richer in terms of context and quality [14].

In the recent past, key technologies pushing for digital transformation have been big data, blockchain, and artificial intelligence. Big data can be understood as vast amounts of data with increasing variety and volume coming from multiple sources. There are three "Vs" of big data: volume, velocity, and variety. Volume relates to the amount of data, velocity is the rate at which the data is being received, and variety refers to the many types of data available [15]. On the other hand, blockchain technology refers to an immutable shared ledger that can be implemented in the form of a business network to facilitate recording transactions, track and trade assets, and cut costs for all stakeholders. A blockchain network is decentralised in nature, minimising the chances for extensive misuse or exploitation of power by a centralised decision-making authority [16]. The remaining technology is artificial intelligence, which is the main focus of this paper.

Moreover, from an organisational perspective, four factors are considered to affect digital transformation in corporate governance. These factors include neo-institutional theory, IT governance, stakeholder expectations, and long-term perspectives [17]. The neo-institutional theory argues that the survival of an organisation is entirely dependent on its internal environment and how it deals with external organisational pressures. With competitors adopting digital technologies, most businesses have to shift from traditional modes of operations to ICT-based solutions imperatively. Otherwise, they succumb to market pressures and lag behind in the competition, which directly hurts their business growth and profit initiatives [18]. With most job roles becoming heavily reliant on information technology to achieve their specific key result areas (KRAs), IT oversight becomes an essential function of modern-day corporate governance [19].

The third factor, stakeholder expectations, is a multi-faceted paradigm. Internally, on the one hand, the investors and shareholders would expect stable and increasing financial returns while adopting a responsible risk management approach. On the other hand, employees expect their employer to provide job security, stable and healthy work environment, and fair treatment. Externally, customers expect a business to provide quality products and services, ethically source raw materials or source products, and be conscious of the environment and the climate. By balancing these expectations of stakeholders across the spectrum, an effective corporate governance programme can build trust, improve the market reputation, and achieve a sustainable business [20]. The fourth factor, long-term perspectives, has emerged as a very crucial component of corporate governance. This factor requires decision-makers to prioritise the organisation's success over a long-term timeframe instead of short-term gains. This commitment requires them to invest in employee retention, investments in research and development, and fulfilment of corporate social responsibilities. Creating a corporate culture with employees' wellbeing as the main focus is also necessary [21].

While AI has emerged as one of the most important agendas for many business leaders, the same has not always been the case. While the term "artificial intelligence" has existed since the 1950s, its importance for corporate governance was previously ignored altogether [22]. Even when the expert systems became popular, there was not a lot of traction for using AI in corporate governance. For instance, a 1967 article goes on to state that computer-based systems do not take decisions; they only execute commands, and hence, they are a total moron [23]. However, the times have changed since then, and AI has emerged as a general purpose technology and general solution technology; that is, it can provide solutions to any given commercial, business, operational, managerial, or societal problem [24].

Researchers like Libert et al. consider that decision-makers are still not ready to comprehend the impact of AI on a corporate body and its governance [25]. However, it has been seven years since the publication of their research, and AI-related solutions have seen a tremendous increase in demand worldwide. Hilb has suggested that the adoption of AI in corporate governance should be looked at from three realms: desirability, feasibility, and responsibility [26]. The realm of desirability is based on three possible roles of the board of directors: supervisor, co-creator, and supporter, as defined by researchers Cossin and Metayer [27]. Further, to explain

the anatomy of board decisions and how AI can be adopted, Hilb identifies four types of decisions based on the level of certainty and agreement: common decisions, complicated decisions, complex decisions, and chaotic decisions [26].

It is pertinent to note that Hilb's third realm, i.e. responsibility, is a blend of neo-institutionalism with strong ethics practice. Neo-institutionalism has been identified as one of the factors by Yaqoob et al. for digital transformation in corporate governance [17].

Hilb's realm of feasibility deals with the technological perspective to understand how AI can contribute to the decision-making process at the board level [26]. The author agrees with Armour & Eidenmueller's statement that AI is currently a technology in the making, and these developments will continue. Moreover, the current wave of development is not the first one, and it will certainly not be the last [28]. The third realm of responsibility looks at the adoption of AI in corporate governance from a societal perspective. The author recognises the role of ongoing regulatory discussions and public discourse on technology policy regulation and how the outcome of these discussions will impact the adoption of this emerging technology. At the same time, the author recognises that technological developments and their adoption are often faster than the final regulations [26]. In this context, it is worthwhile to mention the ethical considerations such as bias in AI and bias by AI, data distribution, intelligence monopolisation, values, and free will [29].

The model proposed by Baghai et al. to understand the horizon of innovation can be adapted for AI-driven corporate governance across three horizons: improving a company's existing business model, extending the business model to new customers or markets, and creating new businesses to take advantage of future disruptive applications [30]. In their paper published in 2021, Cihon et al. state that their paper is the first survey on the topic of corporate governance and AI. One of the primary themes in their paper focuses on how actor-specific opportunities can enhance AI corporate governance. They identified a total of nine actors, three of whom are internal to the business, while the rest are external. Internal actors include investors, employees, and managers. External actors include business partners, industry associations, non-profit organisations, media, government and regulatory bodies, and the media [31]. This approach is similar to an extent to the work of Yaqoob et al. [17], where they identify internal and external stakeholders. However, the work of Cihon et al. appears to be more extensive and detailed.

A 2018 paper by Alkhaffaf et al. provides an overview of Iraqi businesses' readiness for IT competencies in the context of the prevailing civil conflict environment. The study is limited regarding possible job roles as it only covers accounting professionals. However, their research finds a positive relationship between technology readiness and the participants' IT competencies. The study identifies three important factors for the participants' readiness: their motivation, willingness, and enthusiasm. Further, it establishes a direct proportional relationship between IT readiness and the competencies of Iraqi accountants [32]. During the research, it was found that there is an existing research gap on the subject of using AI in corporate governance in AI.

While there is a shortage of research on using AI in corporate governance and how this transformation will take place, there is not much work done in academic literature to discuss this in the Iraqi context. There is a report by Channel 8, a Singapore-based news outlet, published January 2024, that discusses adopting AI in Iraq. It states that the country's GDP relies heavily on its oil sector, with 92% of government revenue coming from it. While this has raised a debate in the recent past, the country must address its economic crisis to revamp and further develop the industry sector. This report argued that AI and allied products and services could prove to be an efficient development scheme, provided it receives proactive support from the country's government [33]. A CNAS (Centre for a New American Security) article notes that industrial sectors in AI are barely reliant on using technology. Therefore, there is an urgent need to bridge the skill gap and enhance the availability of resources so that this provides the foundation for the adoption of AI [34].

In light of these developments, the adoption and advancement of AI in the country would depend on its ability to create the underlying infrastructure, which would consist of human resources, algorithms, computer hardware, and required datasets. Scharre states that the country should give as much importance to the AI domain as it gives to oil. The government should prioritise integrating data, research, algorithm development,

and human resource development [33]. The current situation is such that a PwC report on the potential impact of artificial intelligence in the Middle East does not mention Iraq. As for other countries, AI contributes 7.7% to Egypt's economy, 12.5% to Saudi Arabia's economy, 13.6% to the UAE's economy, and an average of 8.4% in the GCC4 countries (Bahrain, Kuwait, Oman, and Qatar) [35].

As a result, the country should consider developing AI-based systems as a valuable resource for its future. The country has yet to tap the potential of these systems effectively. However, if it invests in making substantial investments in terms of financial and human resources, it stands to benefit in the future. While there is no denying that shifting away from extensive reliance on the oil industry will take its due time, it is about time for the country to start the process instead of falling behind quickly in the technological world in which the global community is currently living.

In light of these findings, there is a clear gap in the existing literature discussing the adoption of AI in corporate governance in Iraqi businesses. To contribute to the existing literature, the participants will be interviewed and asked questions on the following themes:

Role of AI in shaping corporate governance in Iraq

Adoption of AI in the decision-making process

Key challenges in the integration of AI into corporate governance

Potential benefits and risks in relying on AI for corporate governance

Future trends and possibilities of AI in shaping corporate governance

Role of AI in risk management and compliance in Iraqi industry

METHODOLOGY

As discussed earlier, history is full of examples of technological developments impacting enterprises. The same is the case with digitalisation and its impact on corporate governanc Qualitative research is the methodology adopted to conduct this research, collect data, and analyse it. Qualitative research aims to understand the reason or "why" behind a particular issue, problem, concern, behaviour, thought, existing practice, or social reality. Unlike quantitative research, which relies exclusively on numerical calculations and statistics, qualitative research focuses on non-numerical or descriptive data. The goal behind qualitative research is to gain an in-depth understanding of a particular subject matter [36].

Qualitative research is believed to be useful when the subject matter explored in a research initiative is not well defined or is a new subject matter. Qualitative research provides a researcher with the freedom to collect context-rich information and develop fresh perspectives on the research problem [37]. Data collection methods in qualitative research include interviews (structured, unstructured, or semi-structured), focus groups, observations, surveys with open-ended questions, case studies, text analysis, and audio/video recordings [38].

In this research, qualitative research has been used to explore the existing research to understand how technological developments have transformed enterprises over the years, challenges faced by organisations in corporate governance, the intersection of digital transformation and corporate governance, challenges pertaining to digital infrastructure in Iraq, along with the potential to adopt AI in the country's infrastructure, industries, and corporate organisations.

The other component of this research involves semi-structured interviews with participants. Semi-interviews take a mixed approach, implementing the best characteristics of structured and unstructured interviews. In semi-structured interviews, a researcher, i.e., the interviewer, and a participant, i.e., the interviewee, have the opportunity to discuss in detail and go beyond the list of prepared and scripted questions [39]. The initial list of questions prepared for the interviews is as follows:

Can you explain the role of artificial intelligence in shaping corporate governance in Iraq?

How has the adoption of AI impacted decision-making processes within corporate governance in Iraq?

What are the key challenges in integrating AI technologies into corporate governance practices in Iraq?

What are the potential benefits and risks associated with relying on AI for corporate governance in AI?

What do you see as AI's future trends and possibilities in shaping corporate governance within the Iraqi business landscape?

How can AI assist in risk management and compliance within an Iraqi business corporation?

For these interviews, the researcher reached out to a total of 47 individuals. A total of 20 individuals accepted the invitation to participate in this study. They were briefed on the context of this research and the potential research outcomes their participation would provide to the existing literature and research community. These individuals can primarily be divided into three categories: first, AI experts who are currently working in the private sector; second, corporate professionals who are currently in a senior managerial position or a part of the Board of Directors in a private sector company, and they are monitoring the implementation of an AI-related project; and third, public servants employed by the government who are currently handling responsibilities with respect to one or more IT-related government projects.

After scheduling virtual interviews with participants, the researcher proofread their responses to the previously listed questions. After that, the researcher tried identifying patterns and themes within the participants' responses and determining whether the results are generalisable. The results of this exercise are detailed in the next section.

Data Analysis

As identified in the last section, the first set of participants are identified as A1, A2 … AI5, the second set of participants are identified as C1, C2, … C9 and the third set of participants are identified as G1, G2, … G6. To discuss the findings here in a structured manner, this discussion contains the following six sections corresponding to six questions, as listed in the last section.

Can you explain the role of artificial intelligence in shaping corporate governance in Iraq?

Upon reviewing participants' responses across three sets, a common theme is present. The participants believe that adopting AI in corporate governance will increase transparency and efficiency in the system. Participants like A2 and C4 pointed out the ability of AI-based systems to analyse large volumes of data, detect inconsistencies or incorrect data, or improvise resource allocation. G3 stated that AI will simplify the compliance and administrative processes and decrease the chances of human error.

Specifically focusing on the first set of participants, they provided in-depth opinions on the question. In general, they elaborated on the benefits of using AI for corporate governance, while A3 was concerned about Iraq's lack of regulations and data protection laws. A5, on the other hand, stressed the need for mandatory human oversight in AI systems.

The second set of participants was more concerned with the practical challenges of adopting AI. For example, C7 and C8 were adamant about lacking technical infrastructure to support AI-based applications. C5 said that it is very difficult to explain to the Board that investments in AI can have decent returns on investment. C6 is concerned that Iraq also lacks a skilled workforce to ensure that the benefits of AI systems are thoroughly exploited.

The responses by the third set of participants were the least optimistic. There is general acknowledgement that technological adoption will improve e-governance and the delivery of public services in the country. G4 and G5 explicitly talked about the limitations of legacy IT systems in government bodies. G1 stated that the government needs efficient IT systems to set up a base for adopting AI systems.

How has the adoption of AI impacted decision-making processes within corporate governance in Iraq?

The participants' submissions recognise the potential impact of AI on decision-making processes within corporate governance in Iraq. Participants like G2 and C3 acknowledged that their organisations have used or

are using an AI-based tool to manage risk, analyse market trends, and understand customer behaviour. As for A4 and A5, they use automation in routine tasks to have more time for high-level decision-making.

The first set of participants elaborated on various ways AI impacts decision-making processes within corporate governance. A2 suggested using data analysis techniques and predictive analytics algorithms. A3 mentioned how AI has streamlined their organisation's risk assessment and compliance monitoring. A5 did not specify a particular area; however, they responded that AI can help make faster decisions so that overall corporate governance practices can improve in Iraqi businesses.

The second set of participants also mentioned practical challenges they faced while integrating AI into their decision-making processes. For example, C1 and C4 faced issues in training their employees to use AI efficiently. Participants C4 and C8 noted that if clear guidelines and operating procedures are developed, the users can derive positive outcomes from their systems. C6 feared that investments in AI systems would not yield the required results for decision-making processes due to a lack of trained employees in a company's workforce.

Participants from the third set believe AI can simplify government decision-making, such as policy-making and resource allocation. Participant G5 said that the lack of data sets available for the public sector will hinder the adoption of AI in decision-making processes. G2 and G3 responded that public service involves a lot of citizens' personal data. Hence, adopting AI in the decision-making process should be accompanied by the need for accountability and transparency.

What are the key challenges in integrating AI technologies into corporate governance practices in Iraq?

An analysis of the responses given by the three sets of participants indicates a key theme. The participants, specifically A1, C3, and G4, are concerned that Iraq lacks the regulatory framework for adopting AI into corporate governance. Given the country's unstable political situation and lack of transparency requirements, they are also worried about potential data misuse. G5, along with C7 and C9, believe that this integration is not feasible because most organisations have outdated IT systems.

The first set, consisting of domain experts, discussed challenges unique to AI systems. For example, A1 and A4 mentioned that bias in AI systems will continue to follow inequalities if such bias is present. These systems, trained on biased data, might worsen the situation even more. A5 supported the integration of AI technologies into corporate governance, but they believe that this will be affected due to a lack of qualified and skilled professionals to develop, train, manage, and maintain AI systems over time. This is one of the concerns the participants of the other two sets have not talked about explicitly in their responses to this question.

The second set, comprising senior managers, mainly emphasised the challenges specific to their project portfolio and required job roles. For example, C5 and C9 discussed that an AI system can be directly purchased from a service provider or developed in-house. In either case, each step of the integration and development process requires individuals with different skill sets and experience. C3, C7, and C9 offered a slightly positive response regarding the challenges. They acknowledged that while there is a lack of qualified human resources, there is always an opportunity to train existing employees and improve their skill sets to operate AI systems properly.

The third set, consisting of public servants, elaborated on the challenges of the government's provision of public services to citizens. G2 offered a fascinating insight; they stated that integrating AI into corporate governance is another digital transformation project. Since the government bodies face a wide array of issues in implementing projects that are considered basic and entry-level in most countries, Iraq has a long way to go. G3 and G4 responded that capacity building should not be limited to private companies; it is also needed in public sector organisations so that they can use AI technologies effectively.

What are the potential benefits and risks associated with relying on AI for corporate governance in Iraq?

The participants' responses to this question were more detailed than those to the first three questions. The researcher was able to derive multiple themes from their responses. For instance, the participants highlighted numerous potential benefits of relying on AI for corporate governance. For example, C2 and G4 mentioned

how AI will bring accountability and transparency to everyday systems. Participants A3 and G1 talked about how AI systems will end inconsistencies in the human decision-making process. These systems will rely on extensive data available to derive possible options for strategic decisions. A4 and C5 mentioned using AI to automate routine and mundane tasks. This will give decision-makers more time to make high-level corporate governance decisions.

On the other hand, participants also mentioned risks associated with reliance on AI systems. A1 and A4 elaborated more on their response to the last question, discussing perpetuating inequalities due to dataset bias. C1 argued that, on the one hand, AI is supposed to bring transparency, but the prevalence of black box models directly contradicts this notion and makes it difficult for decision-makers to understand how a particular AI system is making decisions. G3's response was somewhat similar, as they mentioned that the black-box nature of some AI systems they encountered did not appear trustworthy.

Generally, domain experts from the first set of participants discussed mitigating risks in developing AI-based systems for the Iraqi environment. A1 bluntly stated that there are so many inequalities and injustices that exist in society. This also impacts the biasness of developers who work on the datasets for training an AI-based system. AI hopes to address this issue right at the stage of datasets so that these injustices and inequalities do not perpetuate. A2 stated that the current technological environment in the country is not mature enough to have AI systems without any human oversight. As for A4, they want the government and regulators to work on defining a legal framework for AI systems, as many other countries have done in the past few years.

The second set of participants' responses on potential risks discuss managerial considerations in implementing AI in corporate governance. For instance, C2 and C9 believe that a lack of employee training or inadequate training will prevent their businesses from fully realising the returns on their investments. C7 specified the need for developing well-defined internal policies and procedures when AI systems are integrated into the decision-making process for corporate governance. C3 also expressed a similar concern.

The third set of participants' responses are guided by the fact that the government and administrative bodies do not have a reliable track record for accountability and transparency. They do not want this trend to continue if the public sector decides to integrate AI into the decision-making process. G1 contends that the government should clearly communicate how they will use AI in their decision-making process. At the same time, G3 and G6 hope that government bodies will not deny liability for AI-driven decisions.

What do you see as AI's future trends and possibilities in shaping corporate governance within Iraqi business landscape?

The participants' responses to this question identify multiple trends, just like the previous question. These trends are increasing the level of automation, better risk management, and using predictive analysis. For example, A1 and C3 believe that technological developments will push for increased automation of processes in the corporate governance framework. This will include the entire risk management process and one or multiple parts of compliance audits. On these lines, C5 submitted AI will help seamlessly conduct complicated risk assessments, while G2 said AI would help identify potential issues before they escalate. G5 also identified a similar trend where predictive analysis can help anticipate future trends.

Another central theme emerging from the participants' responses to this question is the potential for human-machine partnership in the future. Participants A1, C5, and G4 suggest that future applications of AI must be developed under a well-defined regulatory framework so that biasness and ethical considerations are thoroughly addressed. Moreover, A1 and G4 also suggest having a regulatory authority to check the transparency in algorithms.

Having a skilled workforce with relevant knowledge and expertise is another suggestion reflected in all three sets of participants. C8 and G6 submitted that organisations should take the initiative to develop in-house capacity and train their existing workforce. Meanwhile, A2 recommended that individuals seeking employment should also shoulder this responsibility to a certain extent to possess the necessary skill set to meet the industry demands.

Public servants, participants from the third set, appeared a little hesitant when asked whether current Iraqi government and administration practices are not transparent enough and how they would expect this situation to change if AI is adopted. G1 stated that AI would certainly help the government better provide public services, while G3 stressed the need for clear communication; they chose not to respond to a follow-up question on whether this would be implemented in practice in Iraq.

How can AI assist in risk management and compliance within Iraqi business corporations?

As earlier responses have found, AI can assist businesses in risk management and compliance. Participants have acknowledged AI's role in risk management due to its ability to analyse voluminous data and derive insights. Participants A2, C6, and G2 voiced a similar opinion, as they consider AI-driven systems an efficient way to identify and assess potential risks. Moreover, G2 and G3 also suggested that AI can help identify fraudulent activities.

According to A5 and C7, the ability of AI to conduct predictive analysis is crucial to AI-assisted risk management and compliance programmes. Instead of taking reactive measures after a particular risk has been realised, AI-driven systems will enable businesses to take proactive measures when a risk occurs, essentially helping them stay ahead of emerging issues and, simultaneously, their competitors. Participants A1 and C8 suggested that these systems can minimise the manual labour required to collect and report data. Further, in the compliance process, it will reduce the probability of decisions taken due to human biases. This will help businesses to streamline their compliance processes.

C1 hopes that upcoming AI systems will also be helpful in due diligence exercises. Their company needs to manually go through a plethora of documents shared by a potential vendor. With the help of AI, a business can find out how reliable a particular vendor is. G6 makes a cautious remark in their submission on the accuracy of results. They state that accurate results are only possible if an AI system is trained on high-quality data and can understand the context in which the results are sought.

RESULTS AND SUGGESTIONS

An analysis of the responses to the first question conveys that the participants are cautiously optimistic about adopting AI in corporate governance. They have recognised the potential of AI in corporate governance and the concerns concerning ethics, data protection, data set availability, and technical and human resources. To address these concerns, more research is needed on developing appropriate laws and regulations, preparing and conducting capacity-building programmes and training events, and exploring how responsible development of AI systems can bring a positive change in corporate governance.

The responses to the second question suggest that AI's full-fledged impact on corporate governance's decision-making processes has yet to be realised. For the better part, it is still evolving and will continue to grow. The participants' responses convey their understanding that the decision-making will be improvised in multiple ways, such as data analysis, automation, and predictive analytics. Bias is another concern that must be addressed, as algorithms often tend to follow the bias of their creators.

The participants' responses to the third question provide insights into the challenges of integrating AI technologies into corporate governance practices. As identified above, the impact is yet to be realised because a complex landscape of challenges prevents the successful integration of AI technologies. At the same time, the subject-matter experts and senior managers from the industry have expressed their concerns concerning regulations, continued bias from data set to practice, and lack of qualified employees, while the challenges identified by public servants highlight the need for public bodies to invest in IT infrastructure and capacity building programmes.

The participants' responses to the fourth question demonstrate a dire need to balance the potential benefits and risks of adopting AI in corporate governance. While the benefits revolve around accountability, transparency, automation, and consistency in decision-making, the risks, such as biasedness, lack of regulatory frameworks, and lack of qualified personnel, require serious consideration. To the power of AI across all sectors in Iraq, the responsible parties must come together to bring positive change in the society.

The future of AI in Iraq will be equally filled with complex challenges and disruptive opportunities. Potential future trends, as identified by the participants, include automation, predictive analysis, and risk management, apart from accountability and transparency benefits already determined earlier. However, the challenges exist, and their existence cannot be denied. These challenges revolve around biasedness, lack of regulatory frameworks, and qualified personnel. Once they are addressed, AI can potentially improve the country's corporate governance practices.

Specifically in the context of risk management and compliance, AI presents an invaluable opportunity for businesses in Iraq. However, any company that seeks to include AI in their corporate governance function must ensure necessary investments in people, process, and technology, along with ensuring that the AI-based system they have chosen has been trained on high-quality data, does not have biases, and includes predictive analysis to derive potential outcomes for previously unknown situations.

CONCLUSION

Technological evolutions have the potential to change how most industries and governments work. In the past few decades, the Internet has been an example. While AI has existed as an area of research and development since the 1950s, its adoption in corporate governance has been ignored for a long time. In recent years, this intersection of two domains has gained significant traction worldwide to the extent that every business already uses or intends to use AI in one form or another. The shift from traditional modes of operations at a workplace has already proven to be a challenging initiative for businesses as it involves a behaviour shift among employees. As one of the participants stated, adopting AI in corporate governance is an example of another digital transformation project.

The literature review conducted as part of this research highlighted a research gap in adopting AI in corporate governance in Iraq. While three-fourths of the country's population uses the Internet, the IT infrastructure continues to remain outdated and, at times, inefficient. With the unstable political environment in the recent past, businesses often fear making new investments due to the nature of conflicts in the country.

The analysis of participants' responses reveals that AI can be a fruitful investment for the country and its businesses. It has the potential to bring transparency and accountability to the system while automating most mundane and routine tasks. Considering that an AI system will make decisions based on available data, it will help reduce instances where human biases take over a person's logical thinking. However, these are concerns and risks that must be addressed by researchers in the future.

For instance, the availability of high-quality data free from any biases will be a challenge. How will the stakeholders arrange for such resources? This is one of the questions that can be potentially explored further in the future. Other concerns identified in this research are the lack of regulatory framework, unavailability of skilled human resources, concerns concerning return on investments, and the support provided by the government. These concerns individually can become potential areas for conducting in-depth research and proposing a solution.

REFERENCES

H. Pfohl, B. Yahsi and T. Kurnaz, "The impact of Industry 4.0 on the supply chain," in Innovations and Strategies for Logistics and Supply Chains: Technologies, Business Models and Risk Management, Berlin, epubli GmbH, 2015, pp. 31-58.

S. Loureiro, J. Guerreiro and I. Tussyadiah, "Artificial intelligence in business: State of the art and future research agenda," Journal of Business Research, vol. 129, pp. 911-926, 2021.

M. Tokmakov, "Artificial intelligence in corporate governance," in Digital Economy and the New Labor Market: Jobs, Competences and Innovative HR Technologies, Springer International Publishing, 2021, pp. 667-674.

W. Spangler, "The role of artificial intelligence in understanding the strategic decision-making process," IEEE Transactions on Knowledge and Data Engineering, vol. 3, no. 2, pp. 149-159, 1991.

M. Kumar, "Artificial Intelligence in Business Decision Making," Department of Management, MUIT, Lucknow, 2021.

S. Nover, "OpenAI's Altman incident under investigation," GZero Media, 05 March 2024. [Online]. Available: https://www.gzeromedia.com/gzero-ai/openais-altman-incident-under-investigation. [Accessed 11 April 2024].

UNDP Iraq, "UNDP in Iraq at a Glance," UNDP, 2024. [Online]. Available: https://www.undp.org/iraq/about-us/at-a-glance. [Accessed 13 April 2024].

J. Lee, "New Report on Digital Trends in Iraq," Iraq-Business News, 18 February 2023. [Online]. Available: https://www.iraq-businessnews.com/2023/02/18/new-report-on-digital-trends-in-iraq. [Accessed 13 April 2024].

N. Ismael, S. Sorguli, H. Aziz, B. Sabir, P. Hamza, B. Gardi and F. Al-Kake, "The impact of COVID-19 on small and medium-sized enterprises in Iraq," Annals of RSCB, pp. 1583-1628, 2021.

EIN PressWire, "LigaData Selected by Asiacell to Implement New Data Governance Program," ABC27 News, 22 January 2023. [Online]. Available: https://www.abc27.com/business/press-releases/ein-presswire/612701210/ligadata-selected-by-asiacell-to-implement-new-data-governance-program/. [Accessed 13 April 2024].

K. Schwetner, "Digital transformation of business," Trakia Journal of Sciences, vol. 15, no. 1, pp. 388-393, 2017.

W. Hiwali, A. Manouar and M. Idrissi, "Reaching sustainability during a digital transformation: a PLS approach," International Journal of Innovation Science, vol. 12, no. 1, pp. 52-79, 2020.

B. Berikol and M. Killi, "The effects of digital transformation process on accounting profession and accounting education," Ethics and Sustainability in Accounting and Finance, vol. II, pp. 219-231, 2021.

G. Aguiar and L. Gouveia, "The digital transformation in academic accounting research," Journal of Organizational Knowledge Management, pp. 1-9, 2020.

R. Kitchin and G. McArdle, "What makes Big Data, Big data? Exploring the ontological characteristics of 26 datasets," Big Data & Society, vol. 3, no. 1, 2016.

M. D. Pierro, "What is the blockchain?," Computing in Science & Engineering, vol. 19, no. 5, pp. 92-95, 2017.

M. Yaqoob, A. Alromaihi and Z. Sanad, "Corporate Governance in the Digital Era," in Artificial Intelligence and Transforming Digital Marketing, Cham, Springer, 2023, pp. 453-460.

C. Ntim and T. Soobaroyen, "Corporate governance and performance in socially responsible corporations: New empirical insights from a Neo‑Institutional framework," Corporate Governance: An International Review, vol. 21, no. 5, pp. 468-494, 2013.

S. Posthumusa and R. V. Solms, "IT oversight: an important function of corporate governance," Computer Fraud & Security, vol. 2005, no. 6, pp. 11-17, 2005.

A. Almagtome, M. Khagaany and S. Once, "Corporate governance quality, stakeholders' pressure, and sustainable development: An integrated approach," International Journal of Mathematical Engineering and Management Sciences, vol. 5, no. 6, 2020.

M. Maclean, "Corporate governance in France and the UK: Long-term perspectives on contemporary institutional arrangements," Business History, vol. 41, no. 1, pp. 88-116, 1999.

T. Davenport and R. Ronanki, "HBR: Artificial intelligence for the real world," Boston Business Journal, 09 January 2018. [Online]. Available: https://www.bizjournals.com/boston/news/2018/01/09/hbr-artificial-intelligence-for-the-real-world.html. [Accessed 16 April 2024].

P. Drucker, "The manager and the moron," McKinsey Quarterly, vol. 3, no. 4, pp. 42-52, 1967.

J. Mantas, "Intelligence approaches to AI," Directorship, pp. 40-45, 2019.

B. Libert, M. Beck and M. Boncheck, "AI in the boardroom: the next realm of corporate governance," MIT Sloan Management Review Blog, 19 October 2017. [Online]. Available: https://sloanreview.mit.edu/article/ai-in-the-boardroom-the-next-realm-of-corporate-governance/. [Accessed 13 April 2024].

M. Hilb, "Toward artificial intelligence? The role of artificial intelligence in shaping the future of corporate governance," Journal of Management and Governance, vol. 24, pp. 851-870, 2020.

D. Cossin and E. Metayer, How strategic is your board?, Cambridge: MIT Sloan Business Review, 2014.

J. Armour and H. Eidenmueller, "Self-Driving Corporations?," Harvard Business Law Review, vol. Law Working Paper 475/2019, 2020.

T. Simonite, "Tech Firms Move to Put Ethical Guard Rails Around AI," Wired, 16 May 2018. [Online]. Available: https://www.wired.com/story/tech-firms-move-to-put-ethical-guard-rails-around-ai/. [Accessed 14 April 2024].

M. Baghai, S. Coley, D. White and S. Coley, The alchemy of growth: practical insights for building the enduring enterprise, New York: Basic Books, 2000.

P. Cihon, J. Schuett and S. Baum, "Corporate Governance of Artificial Intelligence in the Public Interest," Information, vol. 12, no. 1, pp. 275-280, 2021.

H. Alkhaffaf, K. Idris, A. Abdullah and A. Al-Aidaros, "The Influence of Technology Readiness on Information Technology Competencies and Civil Conflict Environment," Indian-Pacific Journal of Accounting and Finance, vol. 2, no. 2, pp. 51-64, 2018.

Innov8, "Adopting AI in Iraq," Channel 8, 18 January 2024. [Online]. Available: https://innov8.channel8.com/530. [Accessed 13 April 2024].

P. Scharre, "Four Battlegrounds: Power in the Age of Artificial Intelligence," CNAS, 28 February 2023. [Online]. Available: https://cnas.org/publications/book/four-battlegrounds-power-in-the-age-of-artificial-intelligence. [Accessed 13 April 2024].

PwC, "US $320 million by 2030? The potential impact of Artificial Intelligence in the Middle East," PwC, 2023. [Online]. Available: https://www.pwc.com/m1/en/publications/potential-impact-artificial-intelligence-middle-east.html. [Accessed 13 April 2024].

E. Fossey, C. Harvey, F. McDermott and L. Davidson, "Understanding and evaluating qualitative research," Australian & New Zealand Journal of Psychiatry, vol. 36, no. 6, pp. 717-732, 2002.

M. Tavallaei and M. Talib, "A general perspective on role of theory in qualitative research," Journal of International Social Research, vol. 3, no. 11, pp. 1-8, 2010.

J. Sutton and Z. Austin, "Data collection, analysis, and management," The Canadian Journal of Hospital Pharmacy, vol. 68, no. 3, pp. 226-232, 2015.

J. Horton, R. Macve and G. Struyven, "Qualitative research experiences in using semi-structured interviews," in The Real Life Guide to Accounting Research, Elsevier, 2004, pp. 339-357.

C. Iacovou, I. Benbasat and A. Dexter, "Electronic data interchange and small organizations: Adoption and impact of technology," MIS Quarterly, pp. 465-485, 1995.