International Journal of Strategic Management and Economic Studies (IJSMES)
ISSN: 2791-299X

Artificial Intelligence and Corporate Governance: A Review of Recent Literature

Brahim Ouabouch[1], Taoufiq Yahyaoui[2]

[1] PhD student in Management Sciences, Research in Economics and Management of Organizations Laboratory (LAREMO), Béni Mellal National School of Business and Management.

[2] Professor, Research in Economics and Management of Organizations Laboratory (LAREMO), Béni Mellal National School of Business and Management.

Abstract: This literature review examines the impact of AI on corporate governance through analysis of 28 peer-reviewed articles published between 2020 and 2024, identified via Google Scholar, Web of Science and Scopus. Four dimensions structure the analysis: the transformation of governance processes through AI-driven automation; the evolution of governance structures and the redefinition of roles between human decision-makers and autonomous systems; the ethical challenges associated with algorithmic bias and data privacy; and the regulatory implications of increasingly autonomous corporate AI.

The findings reveal a dual dynamic. AI demonstrably enhances decision-making quality, audit effectiveness, financial transparency and organizational resilience, while simultaneously introducing significant risks, including the perpetuation of systemic biases, the erosion of legal accountability and the inadequacy of existing regulatory frameworks originally designed for human actors. Persistent gaps in the literature are also identified, notably the scarcity of longitudinal studies and the under-representation of developing economies.

This review concludes that navigating the AI transition in corporate governance requires a balanced approach integrating technological innovation with robust ethical principles and adaptive regulatory frameworks, ensuring that efficiency gains do not come at the expense of fairness, transparency and accountability.

Keywords: Digitalization, Artificial Intelligence, Corporate Governance, Ethics, Regulation.

Digital Object Identifier (DOI): 10.5281/zenodo.21244584

Published in: Volume 4 Issue 1

This work is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License.

1. Introduction

Corporate governance is undergoing an unprecedented period of transformation driven by digitalization and, more specifically, by the rise of artificial intelligence (AI). Long defined as the set of mechanisms by which companies are directed and controlled (Cadbury, 1992), and broadened by the OECD (2015) to encompass a system of relationships structuring organizational objectives, their means of achievement and their monitoring, corporate governance now faces transformations that reconfigure its very foundations. AI is no longer a prospective horizon: it has established itself as an operational actor in decision-making processes, audit functions, information management and internal control within contemporary organizations.

This integration has produced documented and significant effects. In terms of decision-making efficiency, Zhao (2022) demonstrates that AI enables boards of directors to process massive volumes of complex data, improving both the quality and the perceived legitimacy of strategic decisions. Albalawee and Al Fahoum (2024) confirm, in the Jordanian context, that AI reduces accounting errors and strengthens financial transparency, thereby meeting the growing demands of stakeholders. At the operational level, Solaimani et al. (2020) establish that AI-driven automation substantially improves the effectiveness of financial and operational audits, while Volosova and Matiukhina (2020) highlight its capacity to enhance organizational resilience in the face of uncertainty. These contributions are real and constitute a primary justification for the growing scholarly interest in the relationship between AI and governance.

Yet this transformation does not unfold without deep tensions. On the legal front, Mertens (2023) underlines that the emergence of AI in the corporate sphere raises complex questions of company law, given that existing legal frameworks were designed for human decision-makers. Petrin (2024) extends this analysis by showing that AI is already capable of handling more than 50% of the tasks traditionally performed by executives and approximately 20% of those falling within the remit of boards of directors, making a redefinition of responsibilities unavoidable. On the ethical front, Camilleri (2024) stresses that responsible AI governance requires minimizing risks such as privacy violations, misuse of personal data and algorithmic discrimination. Kaya (2022) identifies these biases as one of the most serious threats to the integration of AI in corporate governance, insofar as algorithms trained on biased datasets risk reproducing and amplifying systemic inequalities. Hickman and Petrin (2021) further argue that the European Union's ethical guidelines for AI, grounded in principles of fairness, explicability and respect for human autonomy, remain too general to provide operational answers to the specific realities faced by boards of directors.

It is precisely within this space of tension, between the opportunities offered by AI and the risks it poses to governance structures, that the present literature review is situated. Drawing on a corpus of 28 articles published between 2020 and 2024, selected from Google Scholar, Web of Science and Scopus through a rigorous inclusion and exclusion procedure, this review pursues a twofold objective. It seeks first to synthesize the current state of knowledge around four structuring axes: the transformation of governance processes and the efficiency gains it generates; the evolution of governance structures and the redefinition of roles between

humans and machines; the ethical, algorithmic and security challenges associated with AI; and finally the regulatory and legislative implications, with the imperative of proactive AI governance as advocated by Dignam (2020) and Cihon et al. (2021). It seeks second to identify persistent gaps in the literature, notably the under-representation of developing economies, the scarcity of longitudinal studies and the still fragmented treatment of cultural and sectoral implications, with a view to opening avenues for future research.

Through this approach, our contribution aims to go beyond a simple inventory of existing work. The goal is to offer an analytical and critical reading of a rapidly developing field whose theoretical and practical stakes concern scholars in management sciences, practitioners, legislators and regulators alike, all called upon to frame one of the most profound organizational transitions of our time.

2. Methodology

2.1 Data Collection

The identification of relevant literature was conducted through a systematic search across three major academic databases: Google Scholar, Web of Science, and Scopus. These platforms were selected for their complementarity and their broad coverage of peer-reviewed publications in management sciences, law, information systems and organizational studies. The search was deliberately restricted to the 2020–2024 period, a choice motivated by the rapid pace of development in the field of AI and its governance implications: findings published before 2020 are increasingly insufficient to capture the technological, regulatory and organizational realities that characterize the current landscape.

The search queries combined several keyword clusters drawn from the core themes of this review, including "artificial intelligence," "corporate governance," "board of directors," "algorithmic decision-making," "AI ethics," "digital transformation" and "regulatory frameworks." These terms were used both independently and in combination, in English and in French, to maximize the breadth of coverage across different scholarly traditions. It should be acknowledged, however, that this approach carries inherent limitations: certain specialized databases in law or computer science were not systematically consulted, and publication bias toward English-language outlets may have led to the under-representation of research produced in other linguistic and regional contexts. These limitations are taken into account in the interpretation of findings throughout this review.

2.2 Selection Process

The selection of articles followed a structured, multi-stage procedure designed to ensure both the relevance and the scientific quality of the final corpus. In a first stage, titles and abstracts were screened to identify articles addressing the intersection of AI and corporate governance in a substantive way, excluding contributions in which one of these two dimensions was only incidental. A second stage involved the systematic elimination of duplicates arising from overlapping coverage across the three databases. In a third stage, the full texts of pre-selected articles were read in depth to assess their theoretical contributions, methodological rigor and empirical grounding. Finally, a set of explicit inclusion and exclusion criteria was applied: articles were retained if they addressed AI or related digital technologies in direct relation to

governance mechanisms, board functioning, regulatory frameworks or organizational accountability, and excluded if they dealt with AI in purely technical terms without organizational or governance implications.

This process resulted in the retention of 28 articles for final analysis. The corpus covers a diverse range of geographical contexts, disciplinary perspectives and methodological approaches, combining theoretical contributions, empirical studies, legal analyses and comparative reviews. This diversity is an asset: it enables a multi-dimensional reading of the impact of AI on corporate governance, avoiding the reductive conclusions that a narrower or more homogeneous corpus might produce. The full list of retained articles, along with their bibliographic references, is provided at the end of this review.

3. Results and discussion

3.1 Transformation of governance processes

3.1.1 Enhanced efficiency and decision-making

Digital transformation, marked by the growing integration of AI, is redefining governance processes within companies, bringing considerable benefits in terms of efficiency and decision-making rigor. AI is positioning itself as a strategic tool that impacts several key dimensions of business management, optimizing the use of data, automating critical processes, and promoting more informed, faster decision-making.

One of the first benefits of AI concerns financial transparency and the reduction of accounting errors. Albalawee and Al Fahoum (2024) show that AI makes accounting processes safer by limiting human bias and errors, while increasing the reliability of financial data. Automating repetitive accounting tasks not only helps reduce costs, but also ensures that companies meet the transparency standards demanded by stakeholders. In this way, AI plays an active part in creating more rigorous governance, where the accuracy of financial information becomes a central pillar.

AI also plays a key role in supporting strategic decision-making. According to Zhao (2022), AI enables boards to process and analyze massive volumes of complex data, offering valuable insights and detailed analyses that support strategic decisions. The use of AI is not limited to providing options, but can also improve the diligence and transparency of decision-making processes by reporting on the alternatives explored by executives. This ability to systematize and streamline decision-making illustrates AI's potential to radically transform corporate governance.

Another important aspect of this transformation is the optimization of auditing processes. Solaimani et al (2020) reveal that AI significantly improves the efficiency of financial and operational audits. By automating certain tasks, such as data collection and analysis, AI increases auditor productivity while reducing the risk of human error. This enhances audit quality, ensuring that companies maintain high standards of compliance and transparency, essential for stakeholder and investor confidence.

In addition, the integration of AI into information management facilitates real-time decision-making, particularly in dynamic and uncertain environments. Turluev and Hadjieva (2021) show that AI can process not only raw data, but also metadata and contextual information.

This multi-dimensional approach gives managers a more complete view of strategic issues, enabling them to make more informed decisions tailored to the company's specific needs. Information management thus becomes a vector for strategic value creation.

In a context of growing uncertainty, AI plays a key role in improving organizational responsiveness. Volosova and Matiukhina (2020) point out that AI's cognitive capabilities increase corporate resilience by enabling them to better anticipate and react to unforeseen scenarios. By integrating intuitive and psychological components into data analysis, AI helps decision-makers to manage uncertainties with greater finesse, enhancing companies' flexibility in the face of crises and rapid changes in the economic environment.

Another area where AI has a significant impact is in reducing information asymmetry between stakeholders. Cui et al (2022) show that AI facilitates equitable access to reliable and up-to-date information, enabling different stakeholders to make more informed decisions. This reduction in information asymmetry diminishes power imbalances within corporate governance, promoting more inclusive and balanced decision-making. AI thus becomes a powerful lever for more democratic and participative governance.

Basically, integrating AI into governance processes profoundly transforms the way companies make decisions and ensure their compliance and transparency. It improves efficiency, audit quality and information management, and reduces information asymmetries, while enhancing responsiveness in the face of uncertainty. However, as Hickman and Petrin (2021) remind us, these technological advances need to be framed by appropriate ethical rules and regulations. To ensure that the adoption of AI is in the interests of all stakeholders, it is crucial to develop legislative and ethical frameworks that protect against the abuses and risks associated with excessive automation.

The future of corporate governance in the AI era lies in organizations' ability to balance technology and human responsibility, ensuring effective, transparent and ethical management.

3.1.2 Cost reduction and process optimization

Integrating AI into business processes not only improves decision-making, it also plays a fundamental role in reducing costs and optimizing operations. Thanks to its automation and advanced analytics capabilities, AI enables organizations to streamline their processes, increase efficiency and, consequently, reduce operational expenses.

According to the work of Solaimani et al. (2020), the adoption of AI enables a significant improvement in business productivity. By automating repetitive and time-consuming tasks, AI enables employees to focus on higher value-added activities, while ensuring faster and more accurate execution of automated tasks. This increase in productivity translates directly into lower costs, as optimized processes require fewer resources, both human and material.

Process optimization is not limited to internal operations alone, but also affects critical functions such as auditing. Solaimani et al (2020) point out that integrating AI into auditing processes leads to significant improvements in effectiveness and efficiency. AI makes it possible to analyze large quantities of accounting and financial data more quickly, while reducing human error. This automation of audits not only ensures greater reliability of results, but also reduces the costs associated with manual auditing processes, which are often lengthy and costly.

In addition, AI offers opportunities for continuous process improvement, by identifying bottlenecks or inefficiencies that would go unnoticed in traditional management. This enables companies to readjust their operations in real time, boosting their agility while keeping costs down.

AI is thus proving to be a strategic lever not only for decision-making, but also for cost reduction and overall optimization of operational processes. By enabling tasks to be carried out faster and more accurately, and optimizing critical functions such as auditing, AI offers companies opportunities to cut costs while boosting their competitiveness.

3.2 Changes in governance structures

3.2.1 Redefining roles and responsibilities

The integration of AI into corporate governance represents a veritable revolution, redefining traditional roles and responsibilities. Such a transformation, while promising to increase efficiency and productivity, also introduces major legal and ethical challenges. With AI playing an increasingly important role in decision-making processes, governance structures are being profoundly altered. This calls for a revision of legal frameworks and a thorough examination of issues relating to responsibility in decisions made by automated systems.

According to Mertens (2023), the evolution of AI can be classified into several levels of autonomy, each with a direct impact on the transfer of decision-making rights from humans to machines. He distinguishes three types of intelligence: assisted, augmented and autonomous. Each of these levels represents a stage in the delegation of decisions to AI, and it becomes essential to redefine the role of managers in this context. Mertens explains that “the level of autonomy of the AI system serves as a reference for the allocation of decision-making rights”, highlighting the need for legal frameworks to be adapted to meet this new reality. Companies must therefore adapt to these changes to ensure that the delegation of power to autonomous systems is carried out safely and ethically.

The growing autonomy of AI also raises important legal issues. Current frameworks, designed to govern the actions of human decision-makers, are no longer sufficient to frame decision-making by intelligent machines. Mertens (2023) points out that “the emergence of AI in the corporate domain raises complex questions of corporate law”. The challenge is how to assign liability in situations where decisions are made by automated systems. This gap in current regulatory frameworks accentuates the urgency of rethinking corporate laws to incorporate appropriate regulatory mechanisms for AI, ensuring ethical and responsible governance.

In parallel, (Kaya, 2022) explores how AI could influence boards of directors. He imagines several scenarios, ranging from support for human decisions to a future where “AI systems could make decisions in conjunction with humans, or even replace board members entirely”. Such a development would have far-reaching implications for the structure of governing bodies and the distribution of responsibilities. If AI proves its ability to manage complex decisions with speed and precision, it could overturn the traditional organization of boards and require new approaches to governance.

However, integrating AI into these processes is not without risks. (Kaya, 2022) warns of the dangers of algorithmic bias, which can produce discriminatory decisions. He warns that “biased decisions are one of the major threats to AI in corporate governance”. This risk

underlines the importance of a rigorous ethical framework to frame the use of AI in decision-making processes. In the absence of appropriate measures, AI systems run the risk of reproducing and amplifying the human biases present in the data that feeds them. It is therefore crucial to ensure the transparency of algorithms and to put in place control mechanisms to avoid such abuses.

The impact of AI on jobs and skills is another important aspect of this redefinition of roles. Petrin (2024) points out that AI has already begun to take over a significant proportion of managerial tasks, estimating that it could handle more than 50% of executives' tasks and around 20% of those of boards of directors. This gradual replacement of humans by intelligent systems calls into question the relevance of traditional governance structures, and prompts companies to reassess the skills required of their executives. In the future, skills in data management, understanding AI systems and managing ethical issues will be essential for business leaders.

Finally, the integration of AI into governance is profoundly redefining roles and responsibilities within companies. This transformation presents considerable opportunities in terms of efficiency and productivity, but it also raises significant ethical and legal challenges. Companies need to rethink their decision-making structures and put in place regulatory frameworks adapted to this new reality. The challenge is to reconcile the benefits of AI with responsible, transparent and fair governance, while ensuring that humans retain a central role in decision-making.

3.2.2 Emergence of new forms of governance

The integration of AI and advanced technologies, such as distributed ledger technologies (DLT), heralds a profound transformation of corporate governance structures. While these technological innovations aim to improve the efficiency of decision-making and operational processes, they also generate complex repercussions on power structures, creating new dynamics that redefine roles within organizations while posing legal and ethical challenges.

The impact of AI and DLT on existing corporate power structures has been the subject of extensive scientific scrutiny. Chiu and Lim (2021) postulate that these technologies do not radically disrupt governance hierarchies, but are primarily used to increase the efficiency of traditional processes. Their research suggests that “existing power structures, such as shareholders and directors, tend to integrate these technologies so as to preserve their positions” (Chiu & Lim, p. 39). This conclusion implies that emerging technologies are often assimilated by dominant corporate players, thus maintaining existing power balances.

Contrary to the idea that AI and DLT will cause radical upheavals in governance structures, Chiu and Lim further assert that “technological revolutions will reinforce existing powerful structures rather than render them obsolete” (p. 40). This analysis suggests that these technological innovations could, in fact, consolidate the power of dominant players, such as majority shareholders and executive directors, by reinforcing their control over decision-making processes. So, far from overturning the established order, these technologies seem to be more in line with a logic of continuity, offering additional tools to maintain and reinforce positions of power.

A more disruptive innovation is emerging with the emergence of autonomous algorithmic entities (AEs), as discussed by Petrin (2024). These entities, which operate without direct

human intervention, present both legal and ethical challenges. Petrin argues that "the creation of AEs is already feasible today" (p. 96), raising questions about responsibility in autonomous decision-making. The existence of such entities raises crucial questions about their legal status, regulation and governance, as traditional corporate structures are ill-equipped to manage independent entities operating without human supervision.

At the same time, Petrin introduces the concept of corporate "boundary perforation", where the use of external AI services leads to a sharing of authority between the company and technology providers. This phenomenon complicates the definition of organizational boundaries, creating increasing interdependence between companies and external technology players. This sharing of authority blurs traditional lines of responsibility and poses new governance challenges, requiring governance models to be reconfigured to take account of this fragmentation of decision-making powers.

At the same time, AI and DLT are facilitating greater shareholder involvement in decision-making processes. Picciau (2021) points out that AI, notably through the use of smart contracts and blockchain, reduces the costs associated with collective decision-making and facilitates access to information, enabling more active shareholder participation. This change partly redistributes corporate authority, paving the way for more participative governance mechanisms, where shareholders, thanks to technology, can play a more direct role in strategic decision-making.

However, despite these technological transformations, Picciau insists that human skills will remain indispensable in corporate governance. He asserts that "competence and skills will continue to significantly characterize the role of corporate directors and managers, even in the new technological era" (Picciau, 2021). Indeed, supervision, strategic management and the ability to interpret complex data in a context of uncertainty remain functions that cannot be fully automated. So, while AI and emerging technologies are transforming certain operational and decision-making dimensions, they are no substitute for human expertise in strategic leadership roles.

In conclusion, the emergence of new forms of governance under the influence of AI and related technologies reveals a complex process, blending both incremental changes and potentially disruptive dynamics. While these technologies can improve efficiency, transparency and participation in governance processes, they also pose significant challenges in terms of regulation, ethics and accountability. The challenge for companies and regulators will be to carefully navigate this changing landscape, ensuring that the benefits offered by these innovations are maximized while potential risks are mitigated, in order to guarantee responsible and equitable governance in this new technological era.

3.3 AI challenges and risks

The integration of AI into corporate governance poses complex ethical challenges that require a rigorous approach to ensure responsible and fair use of these technologies. As Camilleri (2024) points out, responsible AI governance is essential to minimize risks such as privacy violation, misuse of personal information, as well as bias and discrimination. In this context, he stresses the importance of establishing a robust and transparent framework, not only to protect stakeholders, but also to strengthen public trust in these emerging technologies. It is paramount, as he states, that AI practitioners are "reliable, diligent and responsible in the

management of their intellectual capital and other resources" (Camilleri, 2024). This underlines the need for a rigorous ethical approach, not only in the development, but also in the use of these technologies for commercial purposes.

However, the practical implementation of ethical principles in AI governance faces considerable challenges. Hickman and Petrin (2021), in their analysis of the European Union's ethical guidelines on AI, note that these guidelines are based on pillars such as respect for human autonomy, harm avoidance, fairness and explicability. However, they point out that the general nature of these principles leaves many questions unanswered, particularly with regard to their practical application in the context of corporate boards. As they point out, "it is clear that their general nature leaves many questions and concerns unanswered" (Hickman & Petrin, 2021). This demonstrates how difficult it is to operationalize these principles in specific contexts, thus requiring careful thought and contextual adaptation.

Liability in AI-based autonomous decision-making is another major area of concern. Mertens (2023) draws attention to the fact that the introduction of AI into corporate decision-making processes raises important questions for corporate law, due to the fact that current legal frameworks are primarily designed for human decision-makers. He states that "the emergence of AI in the corporate realm raises many questions of corporate law, which is tailored to human decision-makers" (Mertens, 2023). This underlines the urgent need for a revision of laws and regulatory frameworks to take account of the growing role of AI in decision-making processes, particularly within boards of directors, where the responsibilities of machines need to be clearly defined.

Finally, proactive AI regulation must also include increased stakeholder participation. Cihon et al. (2021) stress the importance of close collaboration between internal and external stakeholders to positively influence AI governance. They note that "progress often depends on coordination and collaboration between different types of actors" (Cihon et al., 2021). This collaborative approach is essential to ensure that ethical issues are addressed not just from a corporate perspective, but also from the point of view of society as a whole. At the same time, Dignam (2020) argues that AI must be seen as a social construct, shaped by human decisions in the technology sector, and that proactive regulation is needed to safeguard the public interest against private interests.

3.3.1 Algorithmic biases and discrimination

Algorithmic biases pose a major challenge to the integration of AI into corporate governance, with potentially serious repercussions for fairness and non-discrimination. (Kaya, 2022) warns that biased decisions made by algorithms represent "one of the most vital threats for AI in corporate governance" (Kaya, 2022). These biases can not only undermine the legitimacy of the decisions made, but also generate discriminatory consequences on a large scale, compromising the effectiveness of corporate governance. Furthermore, Eroğlu and Karatepe Kaya (2022) highlight the fact that AI, when trained on biased datasets, is likely to "reproduce existing biases" and, in so doing, perpetuate systemic inequalities in decision-making processes. This dynamic is of particular concern in governance environments where equity and justice should be guiding principles.

The integration of AI into boards of directors also raises specific concerns about diversity and inclusion. Eroğlu and Karatepe Kaya (2022) insist that the use of AI must not compromise

efforts to promote diversity, particularly gender diversity, which is "essential to ensure equitable representation". This demonstrates that, despite the potential benefits of AI to improve decision-making efficiency, these technologies must be implemented with careful attention to the human dynamics they influence. Dignam adds that algorithmic biases do not necessarily stem from the technology itself, but rather from human errors and biases in the design and implementation of these systems, asserting that "technology is not the root of problematic outcomes... but rather flawed human design and implementation" (Dignam, 2020). This observation underlines the need for ongoing vigilance and rigorous monitoring to ensure that AI systems do not replicate underlying human errors.

3.3.2 Data security and confidentiality

Corporate governance AI, while bringing undeniable benefits in terms of efficiency and transparency, poses considerable challenges in terms of data security and confidentiality. Indeed, cybersecurity threats represent a major hurdle for companies adopting digital technologies. Ziniuk et al (2022) point out that the risk of cybercrime and digital blackmail has "become a serious threat" for businesses, making it necessary to develop a clear legal framework to frame digital governance. The absence of such regulations exposes companies to increased vulnerabilities, and the complexity of modern digital environments makes it even more difficult to protect against sophisticated attacks.

In addition to security, data confidentiality issues also represent a critical challenge. According to GARAWIT and EL GNAOUI (2023), around 65% of respondents to their survey consider data confidentiality concerns to be a major obstacle to the adoption of digital technologies in corporate governance. Faced with growing volumes of sensitive data, companies not only need to ensure that this data is protected from leakage, but also that its handling complies with legal and ethical requirements. Managing confidentiality in a context of increased AI therefore requires rigorous control mechanisms to prevent abuse and avoid negative consequences, both in terms of reputation and regulatory compliance.

Faced with these risks, several experts are calling for appropriate regulatory frameworks to accompany the digital transformation of companies. Naili and Purwono (2024) highlight the need to develop specific regulations and create regulatory bodies capable of overseeing the use of AI in corporate governance. They believe that these regulations must not only guarantee effective data protection, but also frame the ethical and responsible use of digital technologies. This approach is crucial if the quest for innovation is not to lead to excesses in terms of personal data protection and system security.

Finally, the balance between technological innovation and data protection must be carefully maintained. Fahlevi et al (2023) point out that emerging technologies such as blockchain, while offering significant advantages in terms of transparency and security, also pose privacy challenges. They stress that it is essential to strike a balance between exploiting technological innovations and preserving privacy rights. Locke and Bird add that effective management of data security and confidentiality is a key factor in maintaining stakeholder confidence in an increasingly complex digital environment. As a result, they advocate the establishment of an organizational culture focused on compliance and ethics, ensuring the protection of sensitive data and the sustainability of governance practices.

Overall, the challenges posed by data security and confidentiality call for a multidimensional response, combining technical, ethical and regulatory measures. Today, companies must not only adopt advanced technological solutions, but also develop robust governance frameworks capable of proactively managing these risks.

3.4 Implications for regulations and legislation

The increasing integration of AI into corporate governance requires a profound adaptation of the existing legal framework. As AI takes center stage in board decision-making, corporate laws, historically designed for human decision-makers, must be reformed to reflect this new reality. Mertens (2023) highlights this need, asserting that "the emergence of AI in the corporate domain raises many questions of corporate law, which is tailored to human decision-makers" (Mertens, 2023). This indicates that the current legal framework, while still fundamental to traditional governance, is becoming obsolete in the face of the growing autonomy of AI systems, which now intervene in critical decisions.

The question of legal liability is another major issue linked to this transformation. Petrin (2024) points out that AI is already capable of handling a significant proportion of the tasks traditionally carried out by managers and board members, up to 50% for the former and 20% for the latter (Petrin, 2024). This development calls for a clarification of responsibilities: who is held liable in the event of error or harm caused by an automated or algorithmic decision? The current legal framework does not yet answer these complex questions, which means that governance rules will have to be thoroughly revised to incorporate this dimension.

In addition, the increasing autonomy of AI systems raises broader questions about their legal framework. Hickman and Petrin (2021) note that the European Union's ethical guidelines, while useful, still leave many questions unresolved regarding the governance of AI in companies. They point out that "the general nature" of these guidelines "leaves many questions and concerns unanswered" (Hickman & Petrin, 2021). This observation highlights the need for more specific regulation, capable of addressing the complex realities of AI use in the context of corporate governance.

The emergence of autonomous algorithmic entities (AEs) is another area requiring particular legal attention. Petrin (2024) points out that the creation of such entities, which operate without human intervention, is already a technological reality. He asserts that "the creation of AEs is already feasible today" (Petrin, 2024), which raises fundamental questions about the liability and regulation of these new forms of organization. These entities, autonomous in their operations and decision-making, challenge traditional governance structures and require new legal frameworks to ensure their legal and ethical compliance.

Finally, the proactive regulation of AI, advocated by Dignam, appears as a solution to anticipate these challenges. It calls for ethical and social considerations to be integrated right from the AI design phase, in order to regulate it "in the public, not the private interest" (Dignam). This proactive approach, combined with appropriate legislative reform, could provide a robust framework for framing the use of AI in corporate governance, while protecting the rights and interests of stakeholders.

3.5 Towards proactive AI governance

Integrating AI into corporate governance calls for proactive governance, based on rigorous standards and close coordination between key players. Camilleri (2024) highlights the importance of concerted action between governments and organizations to establish governance frameworks adapted to the challenges posed by AI. He stresses that governments must "plan, organize, design and implement regulatory instruments that ensure that individuals and entities are safe when using AI systems" (Camilleri, 2024). Such a coordinated approach would reduce risks while boosting confidence in the use of AI within companies.

The integration of ethical and social dimensions into AI governance is also crucial. Cihon et al (2021) emphasize the need for stakeholder engagement, noting that "often, progress depends on coordination and collaboration between different types of actors". This collaborative approach is essential for tackling AI-related ethical issues such as transparency, fairness and preventing discrimination. Naili and Purwono (2024) go further, calling for the development of specific regulatory frameworks and the creation of regulatory bodies to oversee the use of AI in corporate governance. They argue that while AI can transform governance, it also raises "risks such as privacy violations and legal challenges" (Naili & Purwono, 2024, p. 109), underscoring the importance of a clear and appropriate regulatory framework.

Striking a balance between innovation and data protection represents another key issue in proactive AI governance. Fahlevi et al (2023) note that, despite the benefits offered by technologies such as blockchain in terms of transparency and security, these innovations also pose privacy challenges. They stress the need to maintain the right balance between the desire to innovate and the responsibility to protect sensitive data. This balance is crucial to ensure that companies can take advantage of technological advances while protecting the rights of stakeholders.

Alongside these technical and regulatory challenges, adapting organizational skills and cultures is essential for successful AI integration. GARAWIT and EL GNAOUI (2023) stress that AI is not intended to replace professionals, but rather to "streamline the audit and internal control process". This highlights the need to train professionals in new technologies and adapt organizational culture to effectively integrate AI into governance practices.

Proactive AI governance requires a holistic approach, combining legislative adaptations, specific regulations and a transformation of organizational skills and practices. This integrated approach will enable companies to maximize the benefits of AI while minimizing its risks, ensuring ethical and responsible use of emerging technologies.

4. Conclusion

The digitalization of corporate governance, particularly via the integration of AI, represents a profound transformation that is redefining traditional practices. This literature review highlights the impact of AI on board effectiveness and decision-making, offering an enhanced ability to analyze massive volumes of data for more informed decisions. However, despite these undeniable benefits, governance structures need to adapt to meet new realities, particularly in terms of the division of responsibilities and roles between human and machine.

The move towards more autonomous decision-making systems, while improving efficiency, raises complex questions about legal liability and control.

At the same time, this digital transformation brings with it major ethical challenges. One of the most pressing risks is the perpetuation of algorithmic biases, which could alter the neutrality of decision-making within companies. Data confidentiality, cybersecurity and the protection of sensitive information are also becoming critical issues in an increasingly connected environment. These challenges underline the need for appropriate regulatory frameworks, capable of ensuring that the benefits of AI are maximized while minimizing potential risks. Legislative reforms are imperative to frame the autonomy of AI systems and ensure ethical and secure governance.

The implications of this technological revolution also touch on diversity and inclusion on boards of directors. Studies reveal that AI, if poorly designed, risks reproducing or amplifying existing social and organizational biases. In this context, it is crucial to maintain a balance between human skills and technological tools, ensuring that AI serves to reinforce, not replace, diversity and human representation. In addition, managers need to develop specific skills to navigate this new era, where AI technologies are constantly evolving.

Internationally, perspectives vary according to cultural and economic contexts. Comparative studies show that the adoption of AI in corporate governance is shaped by local realities, with notable differences between developed and developing economies. Future research should further explore these regional and sectoral differences to develop governance models that meet the specific needs of companies on a global scale, while ensuring that standards of regulation and accountability are universal.

In conclusion, this review highlights the importance of a balanced approach that integrates technological innovation, an appropriate regulatory framework and sound ethical principles. Future research should focus on longitudinal studies to assess the long-term impact of AI on corporate governance performance, while ensuring that executives and boards are prepared to face the challenges of this digital age. This transition to digitized governance will require a combination of informed human judgment and advanced technological tools, to ensure corporate stability, efficiency and accountability in an ever-changing world.

- **Gaps identified:**

The literature review reveals several important gaps that require further research. Firstly, a significant lack of longitudinal empirical studies limits the ability to assess the long-term impact of digitalization and AI on corporate governance. Moreover, most research is focused on developed economies, neglecting the specific contexts of developing countries and varied sectors. Furthermore, although ethical implications are mentioned, they are not explored in depth, especially in different cultural and legal frameworks. Finally, critical aspects such as cybersecurity, the impact on small and medium-sized enterprises, and the specific skills required for effective governance in the digital age are insufficiently addressed.

- **Recommendations:**

To fill these gaps, we recommend empirical longitudinal studies that track the impact of AI over several years and cover various geographical and sectoral contexts. Comparative research on best practices in AI integration in different regions and industries would be beneficial. In addition, it is necessary to develop a detailed ethical framework, adapted to

cultural and regulatory diversity, while deepening analysis of the legal implications of AI in corporate governance. Finally, specific studies should be carried out on cybersecurity in governance, the impact on SMEs, and the skills required to navigate this era of digital transformation.

Bibliography

Scientific articles

[1] Albalawee, N., & Fahoum, A. A. (2024). A novel legal analysis of Jordanian corporate governance legislation in the age of artificial intelligence. Cogent Business & Management, 11(1), 2297465.

[2] Baburaj, A. (2021). Artificial intelligence vs. intuitive decision making: How far can it transform corporate governance? GNLU Law Review, 8, 233.

[3] Camilleri, M. A. (2024). Artificial intelligence governance: Ethical considerations and implications for social responsibility. Expert Systems, 41(7), e13406. https://doi.org/10.1111/exsy.13406

[4] Chiu, I. H. Y., & Lim, E. W. (2021). Technology vs. ideology: How far will artificial intelligence and distributed ledger technology transform corporate governance and business? Berkeley Business Law Journal, 18, 1.

[5] Cihon, P., Schuett, J., & Baum, S. D. (2021). Corporate governance of artificial intelligence in the public interest. Information, 12(7), 275.

[6] Cui, X., Xu, B., & Razzaq, A. (2022). Can the application of artificial intelligence in enterprises promote corporate governance? Frontiers in Environmental Science, 10, 944467.

[7] Dignam, A. (2020). Artificial intelligence, tech corporate governance and the public interest regulatory response. Cambridge Journal of Regions, Economy and Society, 13(1), 37–54.

[8] Di Vito, J., & Trottier, K. (2022). A literature review on corporate governance mechanisms: Past, present, and future. Accounting Perspectives, 21(2), 207–235.

[9] Eroğlu, M., & Karatepe Kaya, M. (2022). Impact of artificial intelligence on corporate board diversity policies and regulations. European Business Organization Law Review, 23(3), 541–572.

[10] Fahlevi, M., Moeljadi, M., Aisjah, S., & Djazuli, A. (2023). Corporate governance in the digital age: A comprehensive review of blockchain, AI, and big data impacts, opportunities, and challenges. In E3S Web of Conferences (Vol. 448, p. 02056). EDP Sciences.

[11] Garawit, S., & El Gnaoui, L. (2023). L'impact de la nouvelle technologie sur les mécanismes de gouvernance de l'entreprise face à la qualité de l'information financière: Étude exploratoire dans le contexte marocain. International Journal of Economic Studies and Management (IJESM, 3)(4), 1049–1062.

[12] Hickman, E., & Petrin, M. (2021). Trustworthy AI and corporate governance: The EU's ethics guidelines for trustworthy artificial intelligence from a company law perspective. European Business Organization Law Review, 22, 593–625.

[13] Hilb, M. (2020). Toward artificial governance? The role of artificial intelligence in shaping the future of corporate governance. Journal of Management and Governance, 24(4), 851–870.

[14] Kaya, B. C. (2022). The role of artificial intelligence in corporate governance. Available at SSRN 4143846.

[15] Locke, N., & Bird, H. (2020). Perspectives on the current and imagined role of artificial intelligence and technology in corporate governance practice and regulation. Australian Journal of Corporate Law.
[16] Mertens, F. (2023). The use of artificial intelligence in corporate decision-making at board level: A preliminary legal analysis.
[17] Naili, Y. T., & Purwono, P. (2024). Corporate governance in the age of generative AI: A legal perspective. Jurnal Pamator: Jurnal Ilmiah Universitas Trunojoyo, 17(1).
[18] Nguefack, P. J., Atabonfack, P. L. T., & Nyasseu, E. J. (2021). Nouvelles technologies: Un levier d'amélioration de gouvernance d'entreprises en contexte Camerounais. International Journal of Economic Studies and Management (IJESM, 1)(3), 295–311.
[19] Petrin, M. (2024). The impact of AI and new technologies on corporate governance and regulation. Singapore Journal of Legal Studies, 90–106.
[20] Picciau, C. (2021). The (un)predictable impact of technology on corporate governance. Hastings Business Law Journal, 17, 67.
[21] Rane, N., Choudhary, S., & Rane, J. (2024). Artificial intelligence-driven corporate finance: Enhancing efficiency and decision-making through machine learning, natural language processing, and robotic process automation in corporate governance and sustainability. Natural Language Processing and Robotic Process Automation in Corporate Governance and Sustainability (February 8, 2024).
[22] Solaimani, R., Mohammed, S., Rashed, F., & Elkelish, W. (2020). The impact of artificial intelligence on corporate control. Corporate Ownership & Control, 17(3), 171–178.
[23] Svanberg, J., Ardeshiri, T., Samsten, I., Öhman, P., Neidermeyer, P. E., Rana, T., & Danielson, M. (2022). Corporate governance performance ratings with machine learning. Intelligent Systems in Accounting, Finance and Management, 29(1), 50–68.
[24] Turluev, R., & Hadjieva, L. (2021). Artificial intelligence in corporate governance systems. In SHS Web of Conferences (Vol. 93, p. 03015). EDP Sciences.
[25] Volosova, A., & Matiukhina, E. (2020). Using artificial intelligence for effective decision-making in corporate governance under conditions of deep uncertainty. In SHS Web of Conferences (Vol. 89, p. 03008). EDP Sciences.
[26] Yankovskiy, R. M. (2023). Introduction of information technologies and artificial intelligence in corporate governance practices in Russia: A quantitative study. Available at SSRN 4652653.
[27] Zhao, J. (2022). Artificial intelligence and corporate decisions: Fantasy, reality or destiny. Catholic University Law Review, 71, 663.
[28] Зінюк, М., Дєєва, Н., Богатирьова, К., Мельниченко, С., Файвішенко, Д., & Шевчун, М. (2022). Digital transformation of corporate governance. Financial and Credit Activity: Problems of Theory and Practice, 5(46), 300–310.

Official reports and documents

[1] Cadbury, A. (1992). Report of the Committee on the Financial Aspects of Corporate Governance (Cadbury Report). London: Gee Publishing.
[2] OECD (2015). G20/OECD Principles of Corporate Governance. Organisation for Economic Co-operation and Development.