INTEGRATION OF ARTIFICIAL INTELLIGENCE IN GLOBAL CORPORATIONS AND ITS IMPACT ON INNOVATION MANAGEMENT

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Abstract

The integration of artificial intelligence (AI) in global corporations has evolved from an optional technological upgrade into a strategic necessity driven by accelerated digital transformation, heightened competitive pressure, and expanding regulatory requirements. This paper examines how AI influences innovation management, with particular attention to its role in due diligence processes where speed, accuracy, transparency, and risk identification are critical for corporate decision-making. Building on the premise that AI is not merely an automation tool but a capability that changes how organizations generate knowledge and coordinate action, the study evaluates both measurable performance effects and organizational implications.

The research objective is to assess the adoption of AI in multinational corporations and to determine its impact on (i) innovation efficiency and outcomes, and (ii) due diligence performance and risk management. A mixed-methods design was applied. Quantitative analysis draws on operational indicators from 25 multinational corporations (technology, finance, manufacturing), including processing time for due diligence reports, frequency of human errors in compliance procedures, R&D productivity expressed through prototype development, and financial indicators linked to AI-enabled innovation projects. Qualitative insights were collected through 30 semi-structured interviews with managers and employees involved in innovation management, compliance, and digital transformation initiatives.

Findings indicate that AI adoption is associated with substantial reductions in processing time and error rates, supporting more reliable and faster decisions in compliance and due diligence activities. Simultaneously, AI contributes to innovation management by enabling advanced analytics, shortening development cycles, and supporting cross-border collaboration through shared data and project platforms. However, the study also identifies persistent barriers that shape implementation outcomes: ethical concerns related to privacy and bias, integration constraints with legacy systems, and ongoing demands for training and reskilling.

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The paper concludes that the strategic value of AI depends on governance choices and organizational readiness. Corporations that combine technological investment with human capital development and clear ethical frameworks are more likely to realise AI's benefits while limiting risks. The contribution of the study lies in consolidating evidence on AI's dual role—enhancing innovation performance and strengthening due diligence—while highlighting the organizational conditions that enable sustainable, trustworthy, and scalable adoption.

Keywords
Artificial intelligence, innovation management, global corporations, due diligence, organizational transformation; Digitalization

JEL Classification
O32; M15; O33

Introduction

In recent years, the global economy has been profoundly reshaped by rapid advances in digital technologies. Among these, artificial intelligence stands out as a critical driver of transformation in multinational corporations. Its impact extends beyond automation to strategic decision-making, innovation processes, and governance frameworks. The widespread adoption of AI is no longer a matter of competitive advantage alone but a strategic necessity that redefines how organizations manage knowledge, assess risks, and foster innovation.

Multinational corporations operate in environments characterized by cross-border competition, regulatory diversity, geopolitical risk, and fast-evolving consumer preferences. In such contexts, traditional approaches to innovation management face limits related to speed, adaptability, and the ability to extract actionable insights from large, heterogeneous datasets. AI addresses these constraints by enabling predictive analytics, machine learning, natural language processing, and automated pattern recognition across both structured and unstructured data. These capabilities allow decision-makers to identify emerging trends, anticipate customer needs, optimize global value chains, and reduce uncertainty in investment decisions by transforming information into faster and more consistent judgment support.

Importantly, AI's integration is not restricted to operational improvements. It influences the distribution of responsibilities, the design of workflows, leadership models, and the relationship between human expertise and algorithmic systems. As AI becomes embedded in corporate routines, organizations must reconsider governance and accountability mechanisms, because algorithmic decision support raises questions of transparency, responsibility, and fairness. The ethical dimension has become increasingly relevant due to corporate social responsibility expectations and the rise of global regulatory standards targeting data privacy and algorithmic bias.

The literature suggests that innovation management cannot remain detached from this technological wave. Firms that fail to adopt AI risk losing competitiveness and missing opportunities for data-driven creativity and long-term growth. At the same time, rapid technological change raises concern about workforce displacement, skill gaps, and the

challenge of integrating AI with legacy infrastructures—issues that influence not only performance outcomes but also trust and acceptance inside organizations.

Against this background, the study addresses the following research question: How does the integration of AI influence innovation management and due diligence in global corporations? By combining theoretical insights with empirical evidence, the paper explores AI's dual role as an enabler of efficiency and as a source of organizational challenges. The objective is to provide a coherent understanding of AI's transformative impact and to formulate strategic directions for corporations seeking to balance technological adoption with sustainable innovation, ethical governance, and human development.

1. Review of the scientific literature

The academic literature on artificial intelligence has evolved rapidly over the last decade. Brynjolfsson and McAfee (2017) highlighted how the interplay between platforms, machines, and crowds reshapes the foundations of digital economies. Their perspective situates AI as part of a broader digital ecosystem where corporations leverage multiple sources of value creation.

A central theme in the literature is the relationship between AI and human trust. Glikson and Woolley (2020) emphasize that organizational adoption of AI depends not only on technical efficiency but also on the degree to which employees and managers trust AI-driven outputs. Trust, therefore, is a precondition for organizational transformation, shaping how innovation is perceived and implemented.

Another perspective comes from Davenport and Ronanki (2018), who examined the practical applications of AI in corporations, identifying three key categories: process automation, cognitive insight, and cognitive engagement. These categories illustrate how AI permeates multiple levels of corporate activity, from back-office operations to strategic decision-making.

Smith and Brown (2022) explored innovation management in the digital era, noting that AI not only improves operational efficiency but also generates entirely new models of collaboration and creativity. Similarly, Cockburn, Henderson, and Stern (2018) demonstrated empirically that AI enhances the productivity of research and development (R&D) activities, particularly in identifying new technological opportunities.

Kaplan and Haenlein (2019) broadened the debate by clarifying definitions and interpretations of AI, underlining its social and ethical implications. More recently, Popescu (2023) analyzed AI as a driver of business transformation, highlighting its capacity to reshape organizational structures and corporate culture.

Overall, the literature converges on several conclusions: AI is a catalyst for innovation, it reduces uncertainty in decision-making, and it generates both opportunities and challenges for corporate governance.

2. Research methodology

The research design of this paper follows a mixed-methods approach, selected because the integration of artificial intelligence in multinational corporations is simultaneously a measurable operational phenomenon and a complex organizational transformation.

Quantitative evidence is required to capture performance effects such as time reduction, error reduction, and productivity gains, while qualitative evidence is needed to understand how managers and employees interpret AI systems, how trust is built, and what barriers shape implementation outcomes. In this sense, the methodology was designed to connect observable indicators with the organizational mechanisms that explain them.

To meet the study's objectives, the quantitative component relied on operational reports from 25 multinational corporations operating in the technology, finance, and manufacturing sectors. The selection of corporations followed three criteria: an active presence in at least three international markets, documented implementation of AI solutions in either innovation management or due diligence, and the availability of operational data for the period 2020–2023. The indicators extracted from these operational sources captured the efficiency and reliability of corporate processes, including the average processing time required for due diligence reports, the frequency of human errors within compliance procedures, and R&D productivity measured through the number of prototypes and pilot projects launched. In addition, the analysis considered financial performance measures connected to AI-driven innovation initiatives, aiming to reflect the business relevance of AI adoption beyond purely technical metrics.

The qualitative component consisted of 30 semi-structured interviews conducted with managers and employees directly involved in innovation management, compliance, risk management, and digital transformation programs. The interview protocol used open-ended questions to explore participants' experiences with AI tools, perceived benefits, integration difficulties, ethical concerns, and training needs. The sample included 12 managers responsible for innovation and compliance functions and 18 employees working in R&D, IT, or risk-related roles, allowing the study to reflect both strategic and operational perspectives. To strengthen contextual understanding and triangulation, secondary sources such as corporate sustainability reports, press releases, and professional case studies were also consulted, supporting a more robust interpretation of organizational choices and industry context.

Data analysis combined descriptive statistics and comparative assessment across industries with thematic coding of interview transcripts. Quantitative analysis focused on identifying relative changes associated with AI adoption—particularly reductions in time and error rates and productivity increases—while qualitative analysis aimed to identify recurring themes such as trust in AI outputs, resistance to change, ethical dilemmas, system integration constraints, and the need for reskilling. The two streams of evidence were then interpreted together to highlight convergences and divergences, ensuring that performance outcomes were discussed alongside the organizational conditions that enable or constrain them.

To ensure methodological quality, interview coding was performed by multiple reviewers, resulting in inter-coder agreement above 85%. Validity was strengthened through triangulation between quantitative indicators, qualitative interview data, and secondary sources, reducing reliance on a single perspective. Nonetheless, the research design has limitations: the sample of 25 corporations cannot fully represent the diversity of global industries; interview responses may carry subjective bias; and the timeframe

(2020–2023) coincides with rapid technological change, meaning that adoption dynamics and outcomes may evolve as AI systems mature. Despite these limitations, the mixed-methods approach provides a balanced basis for analyzing both the performance impact of AI and the organizational transformation processes surrounding its implementation.

3. Results and discussion

The findings of the study show that the integration of artificial intelligence in global corporations produces significant operational gains while simultaneously introducing governance, integration, and human-capital challenges that shape long-term outcomes. Across the corporations analyzed, the most consistent measurable effects were related to efficiency and accuracy, particularly in due diligence and compliance contexts where speed and reliability directly influence strategic decision-making. Quantitative data indicate that the average processing time for due diligence reports decreased by approximately 37%, with some organizations reporting reductions above 50% in cases where AI was deeply embedded in the workflow. In parallel, the frequency of human errors in compliance procedures declined by roughly 45%, suggesting that AI-supported validation and screening can improve the dependability of decisions under regulatory and risk pressure. These results reinforce the practical view that AI contributes to organizational performance not only through automation of routine tasks but also through improved control and monitoring in high-stakes corporate processes, consistent with the categories of AI use described by Davenport and Ronanki (2018).

The qualitative evidence provides important nuance to these quantitative results. In financial services, interviewees described how AI-based compliance tools enabled the screening of large volumes of transactions and documentation in shorter cycles than manual checks, supporting earlier identification of potential irregularities and reducing exposure to compliance risk. Participants emphasized that speed alone was not the only benefit; rather, AI created a stronger sense of procedural transparency when systems produced structured outputs that could be reviewed, audited, and compared across units. In manufacturing, AI-driven predictive maintenance was highlighted as an indirect but meaningful contributor to risk reduction: by anticipating failures and reducing downtime, AI stabilized production planning and lowered costs, demonstrating that operational reliability and risk management are often interconnected within global value chains.

Beyond due diligence and compliance, the study shows that AI contributes to innovation management by expanding analytic capacity, enabling faster experimentation, and supporting cross-border coordination of innovation activities. Quantitative indicators reveal a 20–25% increase in the number of prototypes and pilot projects developed annually by corporations that integrated AI into innovation processes. Interviewees explained that AI tools reduce the time spent on repetitive data analysis and reporting, allowing professionals to redirect attention toward concept development, creative exploration, and iterative testing. In technology-oriented organizations, participants described machine learning models used to identify hidden patterns in user behaviour and to forecast preferences, which contributed to shorter development cycles and quicker product launches. This aligns with Cockburn,

Henderson, and Stern (2018), whose work suggests that AI can expand the innovation frontier by augmenting human capabilities rather than simply substituting labour.

At the organizational level, the study indicates that AI adoption triggers changes in leadership, governance, and corporate culture, often shifting decision-making toward more data-driven practices. Executives noted that dashboards, predictive models, and AI-enabled reporting increased the perceived transparency of decisions and reduced reliance on intuition or hierarchy in certain strategic contexts. From a governance perspective, AI was associated with stronger monitoring mechanisms, especially in highly regulated sectors such as finance and pharmaceuticals, where the ability to align quickly with evolving regulatory requirements is essential. However, organizational transformation was not uniform across corporations, and several obstacles were consistently identified as limiting factors.

Ethical concerns emerged as a central theme in interviews, particularly relating to data privacy, algorithmic bias, and opaque decision-making. Employees expressed uncertainty about how personal and consumer data are processed, while managers emphasized reputational risks and the need for accountability mechanisms. These concerns illustrate that successful AI adoption depends not only on performance outcomes but also on trust, which, as Glikson and Woolley (2020) argue, shapes whether employees and managers accept AI outputs as legitimate inputs into decision-making. Technical constraints also remained significant: many corporations reported difficulties integrating AI tools with legacy IT infrastructures. In some cases, implementation timelines expanded substantially because existing ERP systems were not designed to support AI-driven analytics, increasing costs and reducing adoption speed. Alongside these barriers, human capital limitations were repeatedly emphasized. Skill gaps and the fast pace of AI development created ongoing training needs, and interviewees often described reskilling programs as necessary but insufficient unless they were continuous and aligned with evolving tools and roles.

Finally, the results highlight that the pace and scope of AI integration vary across industries, reflecting differences in digital maturity, regulatory pressure, and infrastructure readiness. Technology firms were generally more advanced in embedding AI across both operational and strategic functions, while financial institutions prioritized compliance and risk management applications where benefits were immediate and measurable. Manufacturing organizations tended to apply AI to predictive maintenance and supply chain optimization but faced stronger integration constraints due to older infrastructures. These industry patterns suggest that AI adoption is a global trend, yet outcomes depend on sector-specific conditions and on the degree to which organizations align AI initiatives with strategic objectives rather than treating them as isolated projects. Overall, the results support the idea that AI is simultaneously a performance-enhancing capability and a catalyst for organizational change, with governance, infrastructure, and workforce readiness determining the sustainability of benefits.

Conclusions

The study demonstrates that artificial intelligence has become a strategic capability for global corporations because it reshapes how organizations reduce uncertainty, manage

risk, and generate innovation at scale. The evidence suggests that AI delivers value not simply by accelerating tasks, but by strengthening the reliability and responsiveness of corporate decision-making—especially in due diligence and compliance functions where speed, transparency, and early risk detection are decisive. At the same time, the organizational impact of AI extends into innovation management, where AI-enabled analytics and coordination mechanisms support faster experimentation and improved cross-border collaboration.

However, the strategic significance of AI depends less on the mere presence of advanced tools and more on the quality of implementation choices. Ethical safeguards, data governance, and accountability mechanisms are essential for maintaining trust and legitimacy, while integration capacity and workforce development determine whether adoption produces scalable, durable advantages or fragmented initiatives with limited impact. In this sense, AI adoption should be approached as an organizational transformation program—one that aligns technology investment with human capital development and clear governance principles—rather than as a sequence of disconnected technical projects.

By consolidating quantitative performance patterns with qualitative insights into organizational dynamics, the paper contributes to a clearer understanding of AI's dual role in global corporations: enhancing innovation performance while strengthening due diligence effectiveness. Future research should further examine how AI governance models evolve across regulatory regimes, how trust is built through explainability and oversight, and how corporations can design innovation systems that remain competitive while meeting ethical and social expectations in the digital era.

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