

December 2024

Exploring Organizational AI Governance Maturity: A Case Study with Six Multinational Companies

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Recommended Citation

Gengler, Eva and Schmalenbach, Kian, "Exploring Organizational AI Governance Maturity: A Case Study with Six Multinational Companies" (2024). *ICIS 2024 Proceedings*. 2.
https://aisel.aisnet.org/icis2024/gov_strategy/gov_strategy/2

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Completed Research Paper

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Abstract

This research investigates European-based multinational companies' adoption of organizational AI governance. Prior research has mainly focused on regulatory levels of AI governance, with only recent studies exploring organizational AI governance conceptually. Therefore, this study aims to discover to what extent multinational companies have adopted AI governance, and why. We conduct a multiple case study analyzing data from six multinational companies. Our investigation focuses on how the perception of responsible AI as a strategic resource and its alignment with corporate strategy impacts the maturity of organizational AI governance. Our results demonstrate that AI governance maturity varies significantly depending on whether responsible AI is viewed as a strategic resource and integrated with corporate governance. Ultimately, our research highlights the critical importance of aligning AI governance with corporate strategy, not only to achieve governance maturity but also to transform compliance, particularly with the EU AI Act, into a sustainable competitive advantage.

Keywords: AI Governance, organizational AI governance, governance maturity, Strategic Alignment Model

Introduction

The increasing number and scope of products and processes incorporating artificial intelligence (AI) has a growing impact on how we behave, consume, and think. Despite its potential business benefits, ethical and societal considerations have not been given sufficient attention, and the field of AI remains largely unregulated (Smuha 2021). Yet, the development and use of AI bear risks related to ethical values, biased and erroneous decision-making, privacy violations, and challenges to fulfill human rights (Asatiani et al. 2021; Asatiani et al. 2020; Martin 2019a). Governance has a long history of contributing to responsible business and political action and also presents promising measures to tackle both social and technical challenges of AI (Berente et al. 2021; Larsson 2020; Schneider et al. 2023; Seppälä et al. 2021). Thus, various actors, including intergovernmental, multi-stakeholder, and civil society institutions, have responded by drafting principles for responsible conduct with AI. In addition, governments have begun to regulate AI. The first legislation to explicitly regulate AI is the *EU AI Act*. With this instrument, the European Union (EU) aims at achieving two goals: First, it wants to become a strong innovator in the field of AI, and second, it wants to set high ethical standards for AI by building on its guidelines for responsible AI (Hickman and Petrin 2021). The Act classifies AI systems based on the level of risk they pose, ranging from minimal to unacceptable risk, and imposes stricter requirements for higher-risk applications, such as those used in critical infrastructure, education, or law enforcement.¹ In contrast to the EU, the United States takes a

¹The EU AI Act can be explored in detail using the *AI Act Explorer* provided by the Future of Life Institute. This tool offers an intuitive way to navigate the Act and understand its implications. It is accessible at: <https://artificialintelligenceact.eu/ai-act-explorer/>

decentralized and fragmented approach to AI governance, focusing on voluntary guidelines and targeted regulations, while emphasizing international cooperation and the development of comprehensive safety standards through initiatives like the AI Safety Institute (Dixon 2023). Conversely, China uses a centralized, state-driven model that balances innovation with security and extensive surveillance, ensuring that AI is aligned with state interests and social stability, while also advocating for global AI risk management (Dixon 2023). The Global South's approach to AI governance emphasizes digital sovereignty, challenges to infrastructural and regulatory monopolies, and the ethical implications of AI technologies' labor and material supply chains, and advocates a restructuring of the dominant Global North-led AI governance discourse to address these historically overlooked concerns (Png 2024).

Not only public institutions, but also private sector companies such as Google (2018), Microsoft (2018), and IBM (2019) have committed to developing and using AI responsibly, guided by internally developed ethical principles. However, these principles alone are not sufficient for effective AI governance; they must be systematically implemented (Koniakou 2022; Seppälä et al. 2021). Consequently, research shows that companies are increasingly adopting more formal organizational AI governance structures (Berente et al. 2021; Larsson 2020; Mäntymäki et al. 2022; Seppälä et al. 2021). Mäntymäki et al. (2022, p. 2) define organizational AI governance as “a system of rules, practices, processes, and technological tools that are employed to ensure an organization’s use of AI technologies aligns with the organization’s strategies, objectives, and values; fulfills legal requirements; and meets principles of ethical AI followed by the organization.”

Research on AI governance within organizations remains limited (Tallberg et al. 2023), with much of the existing work being largely conceptual. As a result, little is known about the extent to which organizations have progressed in adopting AI governance. Understanding what drives organizations to implement AI governance, how they go about it, and their AI governance maturity is particularly critical. With the upcoming EU regulation, examining the EU ecosystem provides valuable insights into the varying impacts on organizations (Porlezza 2023; Walter 2024). To investigate this ecosystem, we conducted a multiple case study involving six multinational companies with business units located and operating in the EU. This leads us to propose the following research question:

RQ: *How does the perception of responsible AI as a strategic resource and its strategic alignment impact the maturity of organizational AI governance, particularly in the context of the EU AI Strategy?*

Our research builds on existing information systems (IS) literature (Berente et al. 2021; Mäntymäki et al. 2022; Mikalef et al. 2022; Seppälä et al. 2021) and on research concerning responsible governance of AI on a societal and regulatory levels (Buiten 2019; Butcher and Beridze 2019; Hickman and Petrin 2021; Jobin et al. 2019). It extends the discussion through an empirical study at the organizational level to create an understanding of the maturity of organizational AI governance within multinational companies (Mikalef et al. 2022). In doing so, it provides key insights for aligning AI governance with corporate strategy, particularly in the EU. On a theoretical level, we first use the Resource-Based View (RBV) framework to identify organizational AI governance as a strategic resource that organizations can leverage to achieve a competitive advantage. We then extend the Strategic Alignment Model (SAM) to AI governance, emphasizing internal drivers such as strategic goals and executive support in fostering governance maturity and competitive advantage within the EU’s regulatory environment (Barney 1991; Erman and Furendal 2024). On a practical level, we emphasize the need for companies to integrate AI governance into their corporate strategy, thereby turning legal compliance, especially with the EU AI Act, into a competitive advantage (Goos and Savona 2024; Laux 2023). Overall, our study serves as a starting point to understand what remains to be done within companies to govern AI in a way that benefits both business and society.

Our paper is organized as follows: We first provide the theoretical background of our empirical study, discussing RBV, SAM, and governance maturity. Next, we describe our research methodology, including our multiple case study approach. The results section then presents the case findings in order of decreasing maturity, followed by a contrasting section in which we derive propositions about the antecedents that influence AI governance maturity. Finally, our discussion highlights the theoretical implications for AI governance using RBV and SAM, and considers practical implications for organizations and legislators.

Theoretical Background

AI is defined as a “machine-based system that can influence the environment by producing an output (predictions, recommendations or decisions) for a given set of objectives” using data and models, often with minimal human intervention (OECD 2019). Its transformative potential improves decision making, process automation and innovation, increases operational efficiency, and unlocks new business opportunities in solving complex problems (Baird and Maruping 2021). However, AI’s autonomy, continuous learning, and opaque decision-making present profound ethical challenges, often referred to as the “dark side” of AI (Giermindl et al. 2021; Mikalef et al. 2022). Unlike traditional IT systems, AI operates autonomously, learns from large data sets, and can make unexpected, opaque decisions, raising concerns about reduced transparency, privacy, and autonomy (Giermindl et al. 2021; Köchling et al. 2021; Kordzadeh and Ghasemaghaei 2022; Rinta-Kahila et al. 2021). In particular, the “black box” nature of many AI models complicates efforts to understand, explain, and justify AI-driven decisions, complicating the issue of accountability and necessitating stricter requirements for its oversight (Gunning et al. 2019; Martin 2019b; Pasquale 2015; Veale and Binns 2017) compared to traditional IT governance (Batool et al. 2023; Laato et al. 2022; Tiwana 2013; Weill and Ross 2005). To address these concerns, organizations must therefore implement comprehensive AI governance—including rules, practices, processes, and technology tools—to ensure that AI aligns with strategic objectives, legal obligations, and ethical standards (Mäntymäki et al. 2022; Papagiannidis et al. 2023; Schneider et al. 2023; van Giffen and Ludwig 2023; Wirtz et al. 2022).

A Resource-Based View on Strategic AI Governance

The theoretical framework of the *Resource-Based View* (RBV) emphasizes the importance of resources and capabilities in achieving a sustainable competitive advantage (Barney 1991). According to RBV, a firm’s success is primarily determined by its distinctive resources, which must be *valuable*, *rare*, *inimitable*, and *non-substitutable* (VRIN) (Barney 1991; Peteraf 1993). These resources are often deeply rooted in the firm’s historical, cultural, and organizational context, making them difficult for competitors to replicate (Dierickx and Cool 1989; Lippman and Rumelt 1982). In what follows, we argue that successful AI governance practices represent an organizational resource that satisfies these VRIN criteria: First, effective AI governance ensures that AI contributes to value creation while maintaining ethical standards, making it a *valuable* resource for competitive positioning (Roberts et al. 2023). Second, because AI governance theory and best practices are still emerging, achieving a high level of maturity in this area is *rare*, especially in markets with little regulation (Tallberg et al. 2023; Walter 2024). Third, replicating AI governance without significant changes in strategy, values, and operations is challenging, making it *inimitable*, especially given the rapid pace of AI development (Triguero et al. 2024). Finally, as AI becomes more powerful and as legislation and customer expectations evolve, robust AI governance will eventually become essential and therefore *non-substitutable* for organizations using AI (Francisco and Linnér 2023; Novelli et al. 2024).

While the RBV generally posits that organizations leverage distinctive assets at the organizational level to maintain competitive advantage, it can be argued that achieving such advantage through responsible AI may require a broader strategic approach beyond individual firms. This argument stems from two key aspects of AI as a transformative technology. First, the complexity, rapid evolution, and unpredictability of AI systems make the implementation of comprehensive AI governance a resource-intensive undertaking for any single firm, potentially placing it at a competitive disadvantage (Tallberg et al. 2023). Second, the extent to which AI should have decision-making power over societal issues cannot and should not be determined solely by competition between companies, but must be consistent with the societal values and norms of the market in which companies operate (Triguero et al. 2024). Thus, while some companies may voluntarily regulate their use of AI to gain a competitive advantage, sustainable advantage through strong AI governance is likely to require consistent rules across a market. Recognizing this, the EU is pursuing a unique strategy to create a competitive advantage for its AI-related market by legally mandating strong, human-centered regulation (Mikalef and Gupta 2021; Roberts et al. 2023). However, the success of this approach will ultimately depend on organizations within the EU’s jurisdiction recognizing AI governance as a strategic asset and aligning their strategies and operations with the EU’s regulatory framework (Koniakou 2022; Porlezza 2023). Therefore, one goal of this study is to assess whether EU-based organizations perceive AI governance as a strategic asset or merely as a means of complying with regulatory requirements.

Strategic Alignment of Organizational AI Governance

Having established the need for effective AI governance to ensure the strategic success of a strategy based on the principles of responsible AI, the question arises as to where the responsibility for its implementation lies within an organization. In this vein, Mäntymäki et al. (2022) define AI governance as an essential component of an organization's broader governance structure. Specifically, they consider AI governance a subset of corporate and IT governance, partially overlapping with data governance. This integration ensures that AI governance not only aligns with the organization's strategic goals and ethical values, but also effectively addresses the unique challenges posed by AI systems through established governance frameworks (Cihon et al. 2021; Mäntymäki et al. 2022). While the cited definition of organizational AI governance is relatively new and lacks profound empirical backing at this stage, the matter of integrating IT governance practices into the corporate strategy has been consistently covered in IS-related literature under the term *strategic alignment* (Henderson and Venkatraman 1990; Keding 2021).

Specifically, the *Strategic Alignment Model (SAM)* is designed to align business and information technology (IT) at both strategic and operational levels (Henderson and Venkatraman 1990). It emphasizes the importance of *strategic fit* between business strategy and IT strategy, as well as *functional integration*, which ensures that IT infrastructure and processes are aligned with the operational needs of the business (Venkatraman and Camillus 1984). Notably, governance plays a critical role within SAM, ensuring that both IT and business strategies are aligned to support overall organizational goals. Business governance sets the strategic direction, while IT governance focuses on the management of IT resources, including decision rights, accountability, and operational governance mechanisms. These governance structures are critical for leveraging IT capabilities to create competitive advantage and for ensuring that IT investments are aligned with the strategic goals of the enterprise (Barrett and Konsynski 1982; Henderson 1990).

While the original considerations of SAM focus on IT governance, the issue of strategic alignment of AI has recently been introduced into the IS literature as well (Borges et al. 2021; Engel et al. 2022). Therefore, we subsequently adopt the insights from SAM to empirically analyze the interplay between corporate strategy regarding responsible AI and AI governance in this study. Using SAM in this way helps to examine the relationship between a company's strategic intention regarding responsible AI and its strategic and operational approach to AI governance. In line with SAM and the definition of AI governance adopted from Mäntymäki et al. (2022), we would expect organizations with effective AI governance mechanisms to exhibit a good strategic fit between their AI-related strategy and their AI governance mechanisms, and to show a strong functional integration of AI governance into overall corporate governance.

Maturity of Organizational AI Governance Adoption

Although the academic literature suggests standardization in the motivational, structural, and operational aspects of organizational AI governance, there is a lack of evidence on the extent to which companies that build, procure, or use AI have established formalized governance structures (Birkstedt et al. 2023; Mäntymäki et al. 2022). However, previous studies in the related field of IT governance have shown that corporate IT governance develops at increasing levels of maturity, where these levels reflect the organization's ability to structure, process, and communicate IT decisions comprehensively, and the levels reached by different companies can differ significantly (Symons 2005). We therefore apply the IT governance maturity model to AI governance, which correlates with the fourth sector of SAM, organizational infrastructure and processes. This model, as outlined by Symons (2005), consists of four levels of maturity:

The first level, *ad hoc*, describes governance practices without formal processes or mechanisms, typically found in highly decentralized organizations where IT investments are made on an ad hoc basis. The second level, *fragmented* governance, indicates some effort to formalize IT governance practices that remain fragmented across the enterprise, often optimized at the business unit level rather than across the organization. At the third level, *consistent* governance describes the establishment of formal governance processes and practices consistently applied across the organization, ensuring an enterprise-wide view of IT investments. Finally, at the highest level, *best practices*, IT governance processes are fully developed and optimized across the enterprise, with strong IT portfolio management and active participation by the CEO and executive team, ensuring that IT strategy is integral to the overall corporate strategy (Symons 2005).

Considering Mäntymäki et al.'s (2022) definition of organizational AI governance, we expect that the level of AI governance maturity is likely to vary across companies, not only in terms of overall maturity, but also in terms of the strategic motivation behind adopting organizational AI governance, as well as its position in the corporate structure. Previous research highlights the different approaches taken by different regions and sectors in adopting AI governance frameworks, reflecting differences in strategic priorities and governance structures (Porlezza 2023; Roberts et al. 2023; Walter 2024). Therefore, in the following, we will adopt the maturity levels as defined by Symons (2005) to capture the extent to which large European multinationals have established formal organizational AI governance.

Method

Motivated by the limited empirical evidence of corporate-level adoption practices for AI governance, our research aims to develop a theoretical framework that describes the relationships between motivation, structure, and maturity of organizational AI governance. To accomplish that, we employ a multiple case study method as outlined by Yin (2018, p. 2). Case studies provide exploratory insights into contemporary phenomena and help develop precise, insightful queries (Yin 2018) and are especially appropriate in new topic areas (Eisenhardt 1989) such as AI governance adoption within companies. Using multiple cases enhances the exploration of variations and similarities across different companies and enables generalization. Through inductive reasoning, we construct novel, testable, and empirical propositions and theories (Eisenhardt 1989) by collecting and analyzing data (Wiesche et al. 2017).

	General information	Main AI use cases	AI ethics principles	Interviewees
Case 1: Technology	Subsidiary of US tech company operating in IT and consulting	Variety of use cases internally and at the customer sites	yes	1. Trustworthy AI lead 2. AI project lead 3. Data scientist and trustworthy AI lead
Case 2: Telecommunication	Telecommunication company	Customer experience, process automation	yes	1. AI compliance lead 2. Data security expert
Case 3: Pharma	International pharmaceutical company	Strategic decision making in all major business activities	yes	1. Director digital ethics 2. Digital ethics expert
Case 4: Automotive	Multinational automotive company	Production lines, automotive usage	yes	1. AI project lead 2. AI developer and AI ethics expert 3. AI compliance expert 4. AI product lead
Case 5: Engineering	Multinational engineering and manufacturing company	Process automation, production, engineering plants	no	1. Trustworthy AI lead 2. AI project lead 3. AI-focused work council 4. AI-focused work council 5. AI expert
Case 6: Textile	Multinational textile company	Product design, customer experience	no	1. AI developer 2. Digital creation director

Table 1. Overview of the six cases and their interviewees.

For our study, we used a two-stage approach to select multiple cases. First, following Mäntymäki et al. (2022), we identified three key inclusion criteria for selecting our cases: (i) firms must *build or use* AI. (ii) Companies had to be located in highly developed European countries with similar regulatory and societal contexts, which is essential given the upcoming EU AI Act. (iii) Companies had to be large, international companies where effective AI governance is critical due to their significant customer base, large number of employees, and broad stakeholder impact. In the second phase, we confirmed whether the companies had established and published ethical AI principles that formed the basis for replication.

Six multinational companies based in Europe were selected, with names changed to ensure anonymity. The first case, *Technology*, is a European subsidiary of a US-based technology company with extensive experience in designing, building, implementing, and running AI. The second, *Telecommunication*, is a European telecommunications company using AI to improve customer experience, automate processes, and optimize utilization, with one of the earliest ethical AI policies. The third, *Pharma*, is a European pharmaceutical company using AI for strategic decision-making across key business activities, with defined ethical guidelines. The fourth, *Automotive*, is a European automotive company experienced in designing, building, implementing, and operating AI in production lines and automotive applications. The fifth, *Engineering*, is a European engineering and manufacturing company focused on automation and digitalization, with experience in AI for process automation, production, and consulting for customer AI development. The last case, *Textile*, is a European textile company focused on digitalization and virtual customer experience, with some AI experience but without defined ethical principles.

Identifying key informants was critical to assessing organizational AI governance. We therefore conducted desk research through LinkedIn and company websites, contacting approximately 50 individuals. Contacts were made primarily through public relations managers and prominent AI experts, who facilitated our access and guided our selection of interviewees, with the exact number of experts varying between the organizations. During the interviews, we requested additional contacts and materials to validate our selections and verified our findings with the documents provided. For *Pharma* and *Textile*, no additional experts or materials were available. For *Technology* and *Engineering*, further interviews were unnecessary as consistent data did not suggest new insights (Yin 2018). Overall, the number of interviewees per organization reflected the maturity level of AI governance within the respective organization. The interviewees included trusted AI leaders, project managers, ethics developers, data scientists, and employees involved in AI governance from a works council perspective. We first checked whether companies had defined ethical AI policies, using this as a leading indicator of AI governance.

The interviews were conducted using semi-structured guidelines with open-ended questions on topics like the motivation for AI governance, its role within the governance structure, and its maturity. Questions were tailored to job roles. In total, 16 semi-structured interviews with 18 interviewees were conducted by the first and second authors, with two sessions including two informants. These interviews took place between August 2022 and April 2023, ranging from 25 to 62 minutes, with most around 33 minutes. All interviews were conducted virtually via Zoom or Microsoft Teams. Table 1 provides a detailed overview of the cases, including company and interviewee information.

In order to analyze our data, we recorded and transcribed all of the interviews except one, where recording was not allowed. For this interview, we took notes and compiled them into a memory log, marking quotations as *from memory log* to indicate possible variations in wording. Our data set consists of 36,410 words across 56 pages. We used MAXQDA to code, structure, and analyze the data. Coding categories were developed based on our familiarity with the interview data and its connection to existing literature. Key aspects included reasons for adopting organizational AI governance, coded as *motivation*, and its placement within the company's structures, coded as *structure*. Levels of AI governance *maturity* were categorized using IT governance maturity levels as defined by Symons (2005). We used thematic analysis to code and analyze the data (Braun and Clarke 2006; Braun and Clarke 2021). The coding process involved an initial joint coding of one interview by the authors to standardize the coding style, followed by separate coding of two interviews each. Disagreements were resolved through discussion and unresolved issues were noted. Inter-coder reliability was quantified using MAXQDA, resulting in an average agreement of 86.64 percent and a Krippendorff's alpha of $\alpha = .8298$, indicating high reliability (Krippendorff 2004, p. 241). Quotes in the results section have been edited for grammar and colloquialisms.

Results

In the following sections, we present the results of our multiple case study, organized according to the overall AI governance maturity level of each case. We focus on the motivational drivers behind organizational AI governance and its role within the broader governance structure. Our findings highlight the alignment between AI governance leaders and other companies, showing that as maturity increases, AI governance becomes more deeply integrated into the company's strategic framework. We then compare the results across cases. Table 2 provides an overview of the results for each case.

AI Governance Maturity Level: Best Practices

Strategic Motivation. Both *Technology* and *Telecommunication* were driven by strong organizational imperatives and ethical considerations to adopt comprehensive AI governance frameworks. *Technology* began its AI governance in 2016-2017, motivated by company-wide strategies emphasizing trustworthy AI and aiming to complement human efforts, focusing on team diversity and addressing data bias. Although regulation was not the primary driver, *Technology* actively contributed to the development of the EU AI Act, viewing it as a business opportunity: “Many customers will also have reporting obligations, where they may need help to fulfill these” (*Tech_AI* project lead). Similarly, *Telecommunication*, guided by top-level leadership, adopted ethical AI guidelines in 2018, motivated by corporate strategy and incidents like data leaks. They welcomed stringent EU regulations, with a *Tele_AI* compliance expert stating, “These are high requirements but from our point of view also very important ones,” highlighting their role in shaping these regulations.

Governance Structure. Both *Technology* and *Telecommunication* have deeply integrated AI governance within their organizational structures, reflecting their unique corporate environments. *Technology* embeds AI governance across all levels, from senior management to team level, with central decision-making by the *AI Ethics Board*. This integration extends existing governance structures like diversity officers to include AI considerations. As the *Tech_AI* project lead noted, “All *Technology* employees and also our customers, with whom we develop our solutions together, are jointly responsible for these solutions, and also for the values that are ultimately hard-wired into them.” Similarly, *Telecommunication* has established a robust AI governance structure supported by senior management, with a diverse task force managing AI governance and ensuring ethical requirements are integrated into corporate decisions and supplier partnerships. The *Tele_AI* compliance lead emphasized, “This is the basis of our entire partner relationships,” highlighting the central role of AI governance in their operations.

Governance Maturity. Both *Technology* and *Telecommunication* exhibit strong AI governance maturity, integrating best practices and consistent processes. *Technology* showcases a high level of maturity with comprehensive governance structures aligned with the overall enterprise strategy, including a dedicated AI ethics board that oversees compliance and integrates ethical considerations early in the development process. This approach positions *Technology* as a leader in AI governance, actively contributing to government initiatives and sharing best practices. Similarly, *Telecommunication* demonstrates a strong maturity level, driven by high management interest and a formal governance process, though it lacks a specific AI board. Despite this, *Telecommunication* harmonizes AI governance with corporate processes and emphasizes knowledge sharing, diversity, and risk management, contributing actively to legislation and ethical AI practices.

AI Governance Maturity Level: Consistent

Strategic Motivation. At *Pharma*, responsible entrepreneurship is central to their long-term strategy and has significantly driven their AI governance efforts. Motivated by the need to safeguard partners, customers, and guide employees in AI work, they developed a code of digital ethics due to the inadequacy of existing frameworks in the face of increasing digitization. This internal charter extends beyond AI, encompassing all data and algorithm-related activities, and although not initiated by senior management, the process has since gained substantial organizational importance, with key individuals now closely linked to senior leadership.

	Motivation	Structure	Maturity
Case 1: Technology	Internal factors: strategies, objectives, and values; ethical AI principles	Vital part of corporate governance; lead by senior management; board for AI ethics	Mainly: <i>best practices</i> (Chief AI Officer, contributor to EU AI Act, external knowledge sharing); aspects of: <i>consistent</i> (AI ethics board, detailed frameworks)
Case 2: Telecommunication	Internal factors: strategies, objectives, and values; ethical AI principles; external factors: scandals	Vital part of corporate governance; initiated by senior management; big interdisciplinary AI team	Mainly: <i>best practices</i> (external knowledge sharing, contributor to EU AI Act) and <i>consistent</i> (central AI guidelines, supplier code of conduct); aspects of: <i>fragmented</i> (no AI ethics board)
Case 3: Pharma	Internal factors: strategies, objectives, and values; ethical AI principles	Vital part of corporate governance; close link to senior management; small digital ethics team	Mainly: <i>best practices</i> (external knowledge sharing, academic contributions) and <i>consistent</i> (e.g., trainings, charter on digital ethics); aspects of: <i>fragmented</i> (no formal implementation of charter)
Case 4: Automotive	External factors: upcoming EU AI Act, feeling left behind the competition	Individually driven; few senior management attention; part of IT and overlap with data governance	Mainly: <i>fragmented</i> (initiatives in individual departments); aspects of: <i>best practices</i> (position paper on AI regulation) and <i>ad hoc</i> (no AI governance process)
Case 5: Engineering	External factors: upcoming EU AI Act	Individually driven; no senior management attention; part of IT and overlap with data governance	Mainly: <i>fragmented</i> (initiatives in individual departments, lack of communication between actors) and <i>ad hoc</i> (purchase of AI without ethical considerations, no formal guidelines); aspects of: <i>best practices</i> (external knowledge sharing)
Case 6: Textile	External factors: regulation such as GDPR	Individually driven; no senior management attention; part of IT and overlap with data governance	Mainly: <i>ad hoc</i> (no awareness of AI-related regulation, no AI governance standards or processes); aspects of: <i>fragmented</i> (initiatives in individual departments)

Table 2. Organizational AI governance characteristics of the six cases.

Governance Structure. While the top management at *Pharma* is not as directly involved in AI governance as *Technology* or *Telecommunication*, its responsible team is strategically positioned close to the board, ensuring they are well-informed about governance initiatives. They have a group function for digital ethics that promotes awareness across departments and has published an internal company charter, though there is no formal requirement to consult the digital ethics department due to its small size of 3 to 4 employees. As a result, they function more as a service unit within the company, with limited influence and enforcement capabilities. Nevertheless, AI governance is an integral part of *Pharma*'s corporate governance, closely overlapping with IT and data governance.

Governance Maturity. *Pharma* demonstrates a relatively developed AI governance maturity, leaning towards consistent governance with some elements of best practices and fragmented maturity. While their AI governance is well integrated into corporate governance and supported by a mandatory internal charter, the absence of formal enforcement mechanisms weakens its impact. The company is recognized as a leader in digital ethics, actively engaging with external actors and contributing to academic discourse. Despite providing comprehensive training and developing a binding code for digital ethics, the lack of a formal process requiring consultation with the digital ethics department highlights the fragmented aspects of their AI governance maturity, focusing more on awareness than strict compliance.

AI Governance Maturity Level: Fragmented

Strategic Motivation. The upcoming EU AI regulation is the primary driver behind recent developments in AI governance frameworks at both *Automotive* and *Engineering*. For *Automotive*, the AI Act has been a “very central impetus,” explains a *Auto_AI* compliance expert, prompting the company to define governance structures and conduct risk analyses for compliance. However, there is skepticism among AI ethics experts who fear the regulation could hinder innovation and European competitiveness. While *Automotive* has an existing AI code of ethics, its impact has been limited, and recent efforts are focused on better aligning AI ethics with corporate values. Similarly, *Engineering* is motivated by the need to comply with the AI Act, particularly for high-risk products, though progress has been slow due to the lack of explicitly existing legal requirements. The company is beginning to consider necessary roles and responsibilities, but ethical considerations in AI are not yet fully integrated into their operations.

Governance Structure. Both *Automotive* and *Engineering* have AI governance structures that are still in development and not yet fully integrated into their overall corporate strategies. At *Automotive*, AI governance efforts are primarily driven by IT, data governance, or the product department, but these initiatives lack full strategic alignment within the company. There is some overlap with data governance, yet AI governance remains a new and evolving focus area, with uncertainties about where it will ultimately be positioned. Similarly, *Engineering* embeds its AI governance within IT and data governance, but without a strategic role in the broader organizational framework. This results in AI being managed similarly to other processes, without a comprehensive governance approach, varying depending on whether AI tools are internally developed or externally sourced. Efforts to establish a consistent governance process are hindered by a lack of collaboration and adequate information sharing across departments. Existing data governance processes are insufficient to meet the specific needs of AI governance.

Governance Maturity. Both *Automotive* and *Engineering* display fragmented maturity in their AI governance, blending best practices with ad hoc measures while continuing efforts to formalize their approaches. *Automotive* is working to formalize AI governance structures but faces challenges, as highlighted by concerns from internal experts about the immaturity of their governance processes. An AI ethics group was established in 2022 to address these issues, yet the strategic positioning of AI governance within the company remains uncertain. Despite these hurdles, *Automotive* has published an ethical code for AI and maintains strong external connections. Similarly, *Engineering* exhibits fragmented AI governance practices, reacting primarily to external pressures such as the upcoming EU AI regulation. Although some processes include regulatory and ethical considerations, they are limited to specific use cases, and awareness among employees is low. Efforts by the work council and AI lab have initiated fragmented approaches, but comprehensive standards are lacking, aside from an educational campaign on AI risks and opportunities. The only aspect approaching best practice is *Engineering*'s networking with other organizations to share best practices.

AI Governance Maturity Level: Ad Hoc

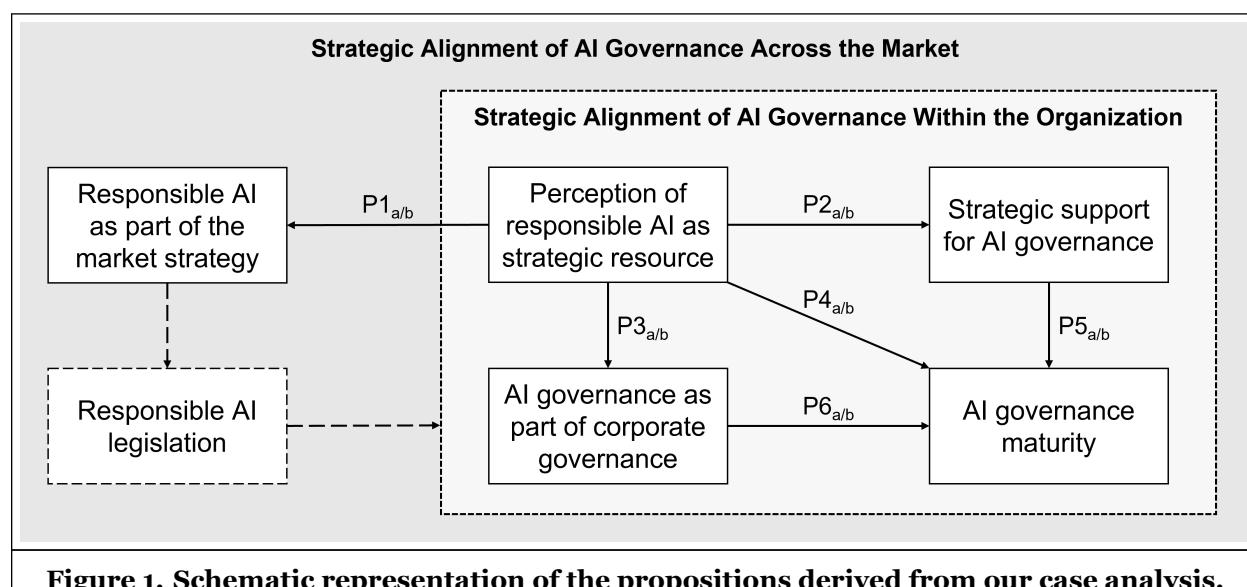
Strategic Motivation. *Textile*'s primary motivation for considering AI governance is to comply with existing regulations, particularly GDPR, ensuring sensitivity toward consumer and employee data. The data governance team is working on an initiative focused on legal compliance, although awareness of the upcoming EU AI regulation is lacking within the company: "Honestly, I really did not know that any of this was coming" (*Tex_Digital creation director*). In *Textile*, AI governance is closely tied to IT security, with ethical considerations driven mainly by concerns about potential damage to the company's image: "We do not want to have the experience that we only train with males and we discard females because that will be the first press release like, '*Textile* made an algorithm which is misogynistic'" (*Tex_AI developer*).

Governance Structure. AI governance at *Textile* is not strategically or managerially positioned within the company structure, indicating a lack of integration with corporate governance. However, data governance is more developed, with clearly defined processes and an overarching role within the organization. The connection between corporate governance and AI governance is minimal, with the only mentioned guideline being related to product design.

Governance Maturity. The maturity of *Textile* in AI governance is mostly nonexistent, with some developments toward fragmented maturity, primarily from a data governance perspective. Currently, there is no established AI governance, but as one *Tex_AI developer* noted, "we are starting slowly [...] yet, I foresee this role coming." However, there is no current guidance on responsible AI practices, and existing initiatives are fragmented due to split responsibilities between departments. This separation has led to a lack of coherence in AI developments, as different departments use different technologies without cross-departmental sharing, with one *Tex_Digital creation director* stating, "I do not think that there is any sort of governance or quality management [...] it merely stayed with certain teams as a kind of best-kept secret."

Contrasting the Case Findings

After analyzing the evidence from our six cases, several patterns emerge that suggest certain relationships between the motivation, structure, and maturity of AI governance. These findings were derived as part of our inductive case study research methodology and are presented graphically in Figure 1. To provide a comprehensive understanding, our analysis is structured in two stages. First, we examine the *market level* to understand the implications of perceiving AI governance as a strategic resource and how this perception shapes broader market strategy. We then contrast these findings with an examination at the *organizational level*, where we explore the strategic fit and functional alignment of AI governance within the organization.



Attitude Towards AI-Related Market Strategy. When examining strategic alignment at the market level, we found that organizations' attitudes toward legal regulation of responsible AI principles are closely linked to how they perceive responsible AI as a strategic resource. Companies like *Technology* and *Pharma*, which prioritize ethical principles, tend to support the integration of responsible AI into market strategies. These value-driven companies also push for stricter EU legislation to ensure that competitors adhere to responsible AI standards, thus leveling the playing field. While the effectiveness of this dynamic, shown by the dashed path in Figure 1, is not empirically analyzed in our study, it clearly highlights their strategic intentions. In contrast, companies such as *Engineering* and *Textile* see strict AI regulation as a barrier to innovation and growth, leading to skepticism or resistance. They not only resist legislation, but may actively work to undermine it, seeking to protect their competitive advantage by avoiding regulations they view as restrictive. This resistance is a calculated strategy to maintain their market position and avoid the constraints of responsible AI legislation. Based on these observations, we propose the following two propositions:

- P1_a:** *Organizations whose perception of responsible AI as a strategic resource is driven by internal factors such as strategy, goals, values, and ethical principles for AI are likely to support initiatives to make responsible AI part of the strategy of their market's strategy.*
- P1_b:** *Organizations whose perception of responsible AI as a strategic resource is driven by external factors such as new regulations, fear of image loss, or competitive disadvantage are likely to oppose initiatives to make responsible AI part of their market's strategy.*

Strategic Support for AI Governance. When considering the strategic alignment of AI governance within the organizations, our cases reveal significant differences in management support and involvement. Companies that view responsible AI as a strategic resource driven by internal factors such as strategy, goals, and values are more likely to have senior management actively involved in AI governance. For instance, *Technology* has a *Chief Artificial Intelligence Officer* at the top level, signaling that AI governance is a direct priority for top management. In contrast, companies that are driven by external factors are less likely to involve senior management in AI governance. At *Engineering*, for example, the works council has called for more structured AI governance, but management prioritizes delaying the impact of EU AI Act rather than proactive governance. Based on these findings, we propose the following:

- P2_a:** *If an organization's perception of responsible AI as a strategic resource is driven by internal factors such as strategy, goals, values, and ethical principles for AI, senior management is likely to provide strategic support for AI governance initiatives.*
- P2_b:** *If an organization's perception of responsible AI as a strategic resource is driven by external factors such as new regulations, fear of image loss, or competitive disadvantage, senior management is unlikely to provide strategic support for AI governance initiatives.*

Impact of Strategic Motivation on Structure of AI Governance. In line with different levels of senior management involvement, we also found that the perception of responsible AI as a strategic resource, whether driven by internal or external factors, influenced the placement of AI governance within a company's structure. Companies that prioritized internal factors such as strategy, goals, values, and ethical principles tended to place AI governance in a high-ranking position within their structure, often with close proximity to senior management and significant influence over corporate governance. Conversely, companies driven primarily by external factors tended to place AI governance within IT or data governance without much strategic consideration, often due to historical growth, resulting in minimal impact on the organization. Based on these findings, we propose the following:

- P3_a:** *A perception of responsible AI as a strategic resource that is driven by internal factors such as the company's strategy, goals, values, and internal ethical principles for AI, is consistent with positioning AI governance as part of corporate governance within the organization's structure.*

- P3b:** *A perception of responsible AI as a strategic resource that is driven by external factors such as new regulations, fear of image loss, or competitive disadvantage, is consistent with not positioning AI governance as part of corporate governance within the organization's structure.*

Impact of Strategic Motivation on Maturity of AI Governance. The cases also showed a strong relationship between an internally driven perception of responsible AI as a strategic resource and the level of AI governance maturity. Companies with high AI governance maturity attribute their adoption of AI governance to internal factors such as corporate strategy and ethical principles. Conversely, companies with low AI governance maturity attribute their adoption of AI governance to external factors such as pending AI regulation. Companies driven by internal reasons for perceiving AI as a strategic resource have initiated this process earlier and made it an essential part of their corporate goals and strategies, while companies driven by external factors have not attempted to integrate AI governance holistically. The former are actively shaping their organizations to build responsible AI and contribute positively to upcoming regulation, while the latter are reactive and fear being disadvantaged by regulation. Based on these observations, we suggest the following propositions:

- P4a:** *Organizations whose perception of responsible AI as a strategic resource is driven by internal factors such as strategy, goals, values, and ethical principles for AI are likely to achieve a high AI governance maturity level, characterized by consistent measures and best practices.*
- P4b:** *Organizations whose perception of responsible AI as a strategic resource is driven by external factors such as new regulations, fear of image loss, or competitive disadvantage are likely to achieve a low AI governance maturity level, characterized by fragmented and ad hoc measures.*

Impact of Strategic Support on Maturity of AI Governance. Our findings indicate that the maturity of AI governance within a company is closely related to the level of strategic support it receives from senior management. When senior management provides strong strategic support for AI governance, the company is more likely to develop a mature and comprehensive AI governance framework. This includes the establishment of clear policies, consistent practices, and well-defined roles and responsibilities throughout the organization. On the other hand, if AI governance lacks strategic support from senior management, it is more likely to remain at a low level of maturity, characterized by fragmented and ad hoc measures. We therefore make the following propositions:

- P5a:** *If senior management provides strategic support for AI governance, it is likely that the organization will achieve a high level of AI governance maturity, characterized by consistent measures and best practices.*
- P5b:** *If senior management does not provide strategic support for AI governance, it is likely that the organization will achieve a low level of AI governance maturity, characterized by fragmented and ad hoc measures.*

Impact of Structure on Maturity of AI Governance. Finally, the level of AI governance maturity turned out to be closely related to the functional integration of AI governance within corporate governance. If AI governance has a prominent position and a direct impact on the management of the company, senior management is likely to pay more attention to it. In such cases, there are committees or teams dedicated to AI governance, and binding AI policies, broken down into actionable frameworks, are known throughout the organization. Conversely, the absence of AI governance from key positions within the organizational structure leads to fragmented or ad hoc processes, knowledge silos, and a lack of collaboration between departments on AI governance issues. Consequently, we present our final pair of propositions:

- P6a:** *A strong functional alignment between AI governance and corporate governance within the organization's structure is strongly associated with a high AI governance maturity level, characterized by consistent measures and best practices.*

P6b: *A weak functional alignment between AI governance and corporate governance within the organization's structure is strongly associated with a low AI governance maturity level, characterized by fragmented and ad hoc measures.*

Discussion

By examining its alignment with corporate strategy in organizations with varying levels of AI governance maturity, this study provides an empirical examination of AI governance implementation, particularly in the context of the EU and its AI-related market regulation. Specifically, our analysis shows that an intrinsic perception of AI as a strategic resource is critical in achieving AI governance maturity. Organizations with high AI governance maturity closely align AI with corporate strategy, ethical principles, and managerial support, resulting in consistent and integrated governance across the entire organization. Such alignment not only drives competitive advantage, but also supports broader public values in markets such as the EU, where governance practices reflect societal expectations (Chen et al. 2023). Conversely, organizations driven primarily by external pressures, such as regulatory compliance, often have lower AI governance maturity, characterized by fragmented and ad hoc mechanisms.

From a RBV perspective, our findings suggest a strong relationship between AI governance maturity and internal recognition of AI as a strategic resource. Organizations that view AI as a VRIN resource embed it deeply into their overall corporate strategy with the clear goal of gaining a sustainable competitive advantage, especially in regulatory environments such as the EU (Barney 1991; Koniakou 2022). This internal focus integrates responsible AI practices into core strategies and reinforces AI as a strategic asset. Not only does this strategic integration enhance competitive positioning, it also aligns with the goals of sustainable development and ethical governance, as highlighted by recent research on the impact of AI on social and environmental sustainability (Francisco and Linnér 2023). In contrast, organizations driven by external pressures, such as compliance requirements, may not fully realize the strategic potential of AI. These organizations may view responsible AI practices as constraints, limiting their ability to leverage AI for competitive advantage as envisioned by RBV. Our findings suggest that firms with strong internal motivations for AI governance are better positioned to turn compliance into a competitive advantage by leveraging regulatory frameworks and technological infrastructure (Goos and Savona 2024; Lockett et al. 2009). This is particularly evident in the European context, where the EU's AI Act and similar regulatory frameworks are increasingly seen as opportunities to strengthen market positioning (Laux 2023).

When considering strategic alignment, our findings suggest that the SAM, originally developed for business strategy and IT alignment, provides a useful lens for understanding the integration of AI governance into corporate strategy. In organizations where AI is recognized as a strategic resource driven by internal factors, there is a strong alignment between AI governance and corporate governance. This alignment supports a high level of governance maturity, with senior management actively integrating AI initiatives with strategic goals. Extending the scope of strategic alignment to a market level, our findings also highlight the importance of considering AI governance as part of broader market positioning strategies, especially in regions such as the EU (Porlezza 2023). This is consistent with the understanding that AI represents a new wave of governance in the digital era and therefore requires different strategies than traditional IT governance due to its far-reaching societal implications (Dunleavy and Margetts 2023). Organizations with strong internal drivers for AI governance are better positioned to align corporate strategy with market-level requirements such as regulatory compliance, thereby improving market positioning and achieving a more sustainable competitive advantage (Goos and Savona 2024; Ulnicane 2022).

However, our findings also reveal challenges for organizations whose motivation for implementing AI governance is primarily driven by external factors such as regulatory compliance or competitive pressures. These organizations often have lower governance maturity due to a lack of senior management support and a fragmented approach to AI governance implementation. This misalignment between the strategic approach endorsed in the EU marketplace and the governance maturity of organizations can particularly undermine the effectiveness of strategic AI initiatives. As a result, organizations driven by external pressures are more prone to fragmented AI governance practices, resulting in both weaker market positioning and potential compliance challenges (Fjeld et al. 2020; Novelli et al. 2024).

Implications, Limitations, and Future Research Opportunities

Our research offers significant theoretical and practical implications for organizations seeking to align their AI governance with corporate strategy, particularly in the EU market. On a theoretical level, we extend the SAM to cover AI governance, and we demonstrate its utility in explaining high governance maturity. By framing AI as a strategic resource using the RBV framework, we emphasize the role of internal drivers, such as strategic goals, ethical values, and executive support, in deeply embedding AI governance within corporate and market strategies. This alignment not only facilitates governance maturity, but also positions firms to leverage AI for sustainable competitive advantage, especially in the strictly regulated environment of the EU (Barney 1991; Erman and Furendal 2024). On a practical level, our findings suggest that companies should integrate AI governance into their strategic framework and treat it as a core component of corporate strategy, rather than just as a compliance issue. This includes ensuring the active involvement of senior management as well as aligning AI governance with organizational structures and values. Specifically for European companies affected by regulatory frameworks such as the EU's AI Act, this strategic integration can turn compliance into a competitive advantage (Goos and Savona 2024; Laux 2023). Thus, companies that proactively align their AI governance with strategic objectives are more likely to achieve greater efficiency, innovation and competitive positioning in the evolving AI landscape.

Despite these relevant contributions, there are several limitations to our study. The small sample size of six companies and the geographic focus on Central Europe may limit the generalizability of our findings. In addition, while our interviews provided valuable empirical insights, they may have been influenced by positivity bias, with participants potentially overstating their actual AI governance maturity. The lack of detailed information on specific governance measures also limits the external validity of our conclusions. Looking ahead, future research could therefore explore the divergence between corporate practices and legal expectations in AI governance to identify strategies for bridging this gap. Moreover, expanding the scope of study beyond the EU to include a more diverse set of companies and legal frameworks would provide a broader understanding of AI governance globally. In addition, understanding how the general-purpose nature of AI affects governance strategies could refine models and approaches, particularly as AI systems become more central to diverse organizational functions (Triguero et al. 2024). Finally, increasing the number of cases and working across a broader range of industries would help validate our findings and offer specific interventions to improve governance practices. Pursuing these avenues of research is critical to refining our understanding of how AI governance can be effectively integrated into corporate strategy, particularly in regions facing stringent regulatory efforts regarding responsible AI development.

Conclusion

In this paper, we have examined the state of AI governance maturity in multinational companies within the EU, motivated by the significant impact of AI on business and society and the resulting need for responsible accountability measures by organizations. Our multiple case study has revealed that the strategic motivation behind AI governance strongly influences its maturity. Organizations with internally motivated AI governance, aligned with strategic goals and ethical principles, are significantly more likely to achieve higher governance maturity. In addition, senior management commitment and functional alignment with corporate governance turned out to be critical factors. Our research provides initial empirical insights into the implementation of organizational AI governance, the motivations for its adoption, and actionable steps companies can take to improve its maturity. By aligning AI governance with broader business objectives and the values and principles of the marketplace in which they operate, our we found that companies can, in fact, turn regulatory compliance into a strategic advantage. By collecting data from more organizations and other markets than the EU, future research could seek to further strengthen our theoretical extension of the SAM and to provide additional evidence as to whether highly mature AI governance does indeed prove to meet the VRIN criteria as proposed by the RBV framework.

Acknowledgements

This research was partially funded by the German Federal Ministry of Education and Research (BMBF) through grants 01IS17045 Software Campus 2.0 (FAU Erlangen-Nürnberg).

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