Managerial Cognition of AI Ethics and Corporate AI Strategy Implementation: An Integrated Ethical Governance Framework

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Abstract. This study examines how corporate managers' understanding of artificial intelligence (AI) ethics influences the formulation and implementation of AI strategies. As AI tools become deeply embedded in organizational decision-making, the ethical legitimacy of AI strategies has emerged as a critical issue in corporate governance. The study identifies managerial deficiencies in technical knowledge, limited ethical sensitivity, and the underestimation of risks such as data privacy breaches and algorithmic bias as key factors contributing to AI strategies that diverge from societal expectations. In addition, the absence of ethical governance structures—such as AI ethics committees, algorithm auditing mechanisms, and transparency systems—weakens a firm's capacity to recognize and respond to ethical risks. Delays in external regulation and insufficient public oversight further exacerbate this problem, making it easier for enterprises to overlook ethical responsibilities. To address these deficiencies, this study proposes three solutions: an AI Ethics Committee framework, a managerial AI ethics cognition measurement model, and an AI Ethical Impact Assessment Tool. Collectively, these mechanisms aim to enhance the ethical legitimacy of corporate AI strategies and strengthen responsible AI governance.

Keywords: Artificial Intelligence Ethics; Managerial Cognition; Corporate AI Governance; Ethical Risk Assessment; AI Strategy Implementation.

1 Introduction

The application of artificial intelligence (AI) has become increasingly prevalent in corporate decision processes. The powerful capabilities of AI enhance data analysis efficiency, reduce the complexity of managerial problems and provide effective solutions that sustain organizational innovation and competitive advantage [1]. To ensure that AI strategies are implemented ethically and responsibly, growing attention has been directed toward the corporate awareness of AI ethics. AI ethics refers to the moral principles governing how artificial intelligence interacts with humans and other AI systems in socially beneficial and ethically acceptable ways [2]. These principles encompass include fairness, accountability, transparency, privacy protection, data integrity and

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legality. However, ethical neglect in AI development has been illustrated by cases such as the generation of misinformation through algorithmic systems [3]. And GitHub use copyrighted materials without authorization [4]. On the past decade, public opinion surveys have revealed that a marked decline in trust and favorability toward AI technologies [5]. This study investigates how managerial cognition of AI ethics affects the implementation of corporate AI strategies, with particular attention to the ways in which ethical considerations influence executive decision [6]. Adopting an integrated analytical approach, the study explores whether managerial awareness of AI ethical risks shapes strategic deployment, how efficiency and moral legitimacy are balanced within AI initiatives and how external factors influence managerial acceptance of AI. According to the current scarcity of empirical research on how corporate AI ethics cognition impacts AI strategy implementation, this study seeks to fill a significant gap in the existing literature.

2 Analysis

This section will analysis the reasons of arising of research questions based on three main aspects.

2.1 Managerial Awareness of AI Ethical Risks and Strategic Misalignment

The awareness of management of AI ethical risks significantly influences the implementation and sustainability of AI strategies, which is a key determinant of whether AI strategies generate positive organizational outcomes. Most senior executives come from diverse professional backgrounds, which includes strategy, finance, and marketing, and tend to interpret ethical issues primarily through the lens of business morality. When AI ethics extend beyond conventional business ethics, the ethical awareness of managers must be further enhanced [7]. According to the limited technical knowledge of AI algorithms, the executives struggle to identify potential risks related to data security and AI ethics. The study show that insufficient understanding of artificial intelligence can weaken the ability to recognize AI risks [8]. When AI ethics are poorly defined and inadequately addressed, the development of AI driven products carries substantial risks, leading to misinformation or algorithmic bias. For example, the AI algorithms of Google have demonstrated gender associated bias and the attribute of AI decision tend to male [9]. And the AI recruitment system of Amazon revealed similar ethical risk regarding gender discrimination [10]. Because AI ethics are often difficult to identify and quantify, managerial attention tends to focus on efficiency gains and innovation outcomes and overlook potential ethical risks. The low sensitivity of ethical risks may cause managers to prioritize efficiency and cost considerations during the strategic planning stage of AI deployment. The ethical sensitivity of managers also directs resource allocation; corporations demonstrate low awareness of AI ethics and are less likely to invest in explainable algorithms and privacy protection. Data privacy and security remain key concerns among both AI practitioners and users. The study

indicates that privacy and data security are the most frequently discussed ethical challenges from the use of AI tools, which underscores the critical importance of AI ethics [11]. When privacy issues attract increasing public attention, corporate AI strategies continue to emphasize efficiency and cost reduction, which results underestimating ethical considerations and a misalignment diverging from main concerns of users.

2.2 Deficiencies in Internal AI Ethical Governance Structures

The absence of an AI ethics committee reflects a lack of ethical governance structure within the organization and deficiency in transparency mechanisms during the implementation of AI strategies. Insufficient oversight of AI strategies exerts a negative influence on the execution process. And technical teams are responsible not only for executing AI strategies but also for identifying algorithmic biases and overseeing ethical compliance, which cause that the operators are also the regulators. The study shows that managerial teams in software engineering seldom prioritize AI ethical considerations during product development, and there is a lack of clear ethical responsibilities to project teams [12]. In the case, the lack of effective oversight and critical review mechanisms within organizations makes AI strategies easier for algorithmic bias and privacy issues.

A comprehensive AI ethics governance framework can monitor the technical department of the implementation of AI strategies and ensure that senior leadership addresses ethical concerns seriously. A framework should include ethics committees, algorithm audit mechanisms and transparency disclosure systems. The ethical interventions in AI product development are often undervalued because the ethical issue may slow down development progress and consume additional time and resources [13]. Rapid product development and market release remain the core objectives for the technology companies and key performance indicators for both management and technical teams [14]. When ethical oversight is perceived as unrelated to these core objectives, AI ethics considerations are marginalized within the organizational process [15]. To prevent ethical negligence, the AI ethics governance structure should not only institutionalize ethical practices but also provide incentives for compliance, which included the imposition of financial penalties for violations [14].

2.3 External Regulatory Lag and Weak Public Oversight

External regulation and public opinion pressure play a moderating role in the implementation of AI strategies, which help to fill the governance gaps left by inadequate internal ethical oversight. Because the development of AI legislation often lags behind technological progress, most countries lack clear regulatory standards, and corporate compliance obligations concern algorithmic transparency, privacy protection and accountability remain weak, diminishing managerial attention to AI ethical risks [16]. When comprehensive AI regulatory frameworks and ethical standards are established, external compliance pressures encourage corporations to proactively strengthen the internal governance mechanisms. And ethical reviews and risk assessments are increasingly incorporated into the formulation of AI strategies [17].

Public opinion also serves as an important social constraint in the formulation of AI strategies. The awareness of the general public of AI ethics remains limited and media scrutiny tends to focus primarily on high profile incidents and extreme cases, which causes the lack of continuous public oversight and the weakness of societal accountability, it allows corporations to obscure and downplay ethical issues through information concealment and technological framing [18]. The weak public supervision and social accountability lead to that ethical governance can easily deteriorate. High exposure public controversies can compel corporate leaders to pay attention to e the ethical issues of the AI strategies, the organizational awareness of algorithmic bias, privacy protection and data misuse is increased, and the perceived legitimacy and trustworthiness of corporate AI strategies is enhanced [19].

3 Solutions

This section will provide solutions based on the issues that have been analyzed in previous section.

3.1 Establishing an AI Ethics Committee for Internal Ethical Governance

To ensure that ethical considerations are systematically integrated into corporate AI strategies, ethical risks must be translated into measurable indicators. Based on recent research, the overall ethical risk of an AI system can be represented as a weighted aggregation of multiple ethical dimensions [20]:

$$\mathrm{E}R = \sum_{i=1}^{n} w_i \cdot r_i, \sum_{i=1}^{n} w_i = 1 \tag{1}$$

where r_i denotes the normalized risk level associated with the i-th ethical dimension (e.g., data privacy, fairness, transparency, accountability), and w_i reflects the relative importance assigned by expert judgment. Given the inherent uncertainty in ethical evaluation, fuzzy membership functions are applied to classify ethical risk levels into linguistic categories such as low, medium, and high risk:

$$\mu_k(ER)\epsilon[0,1], k\epsilon\{low, medium, high\} \tag{2}$$

Based on predefined ethical thresholds, AI systems with excessive ethical risk are subject to governance intervention, which can be formalized as:

$$Decision = \begin{cases} Approve, ER \le \theta_1 \\ Revise, \theta_1 \le ER \le \theta_2 \\ Suspend, ER > \theta_2 \end{cases} \tag{3}$$

While such quantitative models lay the foundation for identifying ethical risks, effective governance requires institutional mechanisms to interpret the results and enforce accountability. Therefore, we have established an AI Ethics Committee to oversee the

results of ethical assessments and guide strategic decision-making during the implementation of AI.

Fig. 1. Organizational Structure of the AI Ethics Committee

To address ethical challenges with corporate AI strategies, the establishment of an AI Ethics Committee has been introduced, and it is a key mechanism for internal ethical governance. As shown Figure 1 above, the structural framework of the AI Ethics Committee is presented. The senior executive management, the highest governing body, provide top level oversight and formally authorizes the AI ethics committee to manage organizational AI ethics. The technical review team is responsible for assessing algorithmic transparency, model bias and data security, which can conduct evaluations of AI projects to identify ethical risks in the technical aspect. The legal review team monitors the developments of AI ethics and ensures that AI strategies remain compliant with applicable laws and policies. And the social ethical review team focuses on the external impacts of safeguarding user rights, identifying broader societal risks and clarifying ethical responsibilities in relation to social outcomes.

3.2 A Managerial AI Ethics Cognition Measurement Model

The overall managerial ethics cognition score is operationalized as a weighted aggregation of the three dimensions:

$$MEC = \sum_{d=1}^{3} \alpha_d \cdot S_d \tag{4}$$

S_d represents the average score of indicators within each dimension. Similar aggregation approaches have been widely adopted in studies on AI governance and ethical maturity assessment [21].

Table 1. Dimensions and Indicators of Managerial AI Ethics Cognition

COGNITION	JUDGMENT	INTENTION
UNDERSTANDING THE PRINCIPLES OF AI	Ethical sensitivity	Governance commitment
RISK PERCEPTION	Fairness and Responsibility Judgment	Willingness to Comply with Regulations
LEGAL KNOWLEDGE	Technical Trust Assessment	Ethical supervision support

There is a Table 1 above, the AI ethics cognition measurement model is constructed to evaluate the ethical awareness of AI for managers from three dimensions of cognitive, judgmental and behavioral intention. The cognitive dimension reflects the understanding of AI technological principles, potential risks and regulatory frameworks for managers. Based on the ethical cognition, managers are able to identify the ethical sensitivity of AI strategies and assess issues of responsibility allocation and technological trust within specific organizational contexts. The judgment dimension shows the managers use ethical principles to evaluate AI decisions and balance innovation benefits with moral considerations. In behavioral intention, managerial behavior is shaped by ethical cognition, which leads to that strategic tendencies may be transformed from the profit orientation toward the approach with responsibility, it encourages enterprises to support ethical governance mechanisms, implement compliance strategies and strengthen ethical supervision.

3.3 An AI Ethical Impact Assessment Tool for Strategic Implementation

To support systematic ethical oversight, this study proposes an AI ethical impact assessment tool that evaluates ethical risks across multiple dimensions. Each dimension including data sources, data bias, algorithm transparency, accountability, user rights, and legality are assessed on a five-point risk scale, enabling the calculation of an overall ethical impact score [22]:

$$EIS = \frac{1}{m}\sum_{j=1}^{m}(R_j) \tag{5}$$

Where EIS is Ethical impact score, R_j is ethical risk level of Dimension j, j is ethical dimension index and m is number of ethical dimensions. Based on predefined ethical risk thresholds, the assessment results trigger corresponding governance actions:

$$Governance = \begin{cases} Routine\ Monitoring, EIS \le \delta_1 \\ Risk\ Mitigation\ Required, \delta_1 \le EIS \le \delta_2 \\ Immediate\ Intervention, EIS > \delta_2 \end{cases} \tag{6}$$

Table 2 shown above, the AI ethical assessment tool is designed to systematically identify ethical risks and provide a governance framework for managing AI ethics throughout the implementation of AI strategies. The ethical evaluation of AI strategies focuses on six key dimensions, including data sources, data bias, algorithmic transparency, accountability, user rights and legitimacy. To describing specific circumstances

and the result in each dimension, managers can conduct a quantitative evaluation of potential ethical risks based on five level risk, ranging from 1 to 5, which shows structured and measurable oversight of AI ethical impacts.

Table 2. AI Ethical Impact Assessment Tool

EVALUATION DIRECTION	CORE CONTENT	SPECIFIC CIRCUMSTANCES AND RESULTS	LEVEL OF RISK
DATA SOURCES	Whether the data complies with privacy regulations.	Has unauthorized data been used?	Very Low Risk
DATA BIAS	Is there any bias in the data sample?	Do biases such as gender and religious beliefs affect the objectivity of data?	Low Risk
ALGORITHM TRANSPARENCY	Whether an algorithm is interpretable or not.	The acceptable level and traceability of algorithms	Medium Risk
ATTRIBUTION OF LIABILITY	Is the responsible party clearly identified?	Is there a clear definition of responsibility for decision-making biases?	High Risk
USER RIGHTS AND INTERESTS	Does AI affect users' rights and interests?	Whether AI models have gained the trust of the public	High Risk
LEGALITY	Whether AI tools comply with legal regulations.	Do AI tools violate the law?	Very High Risk

4 Discussion

As AI tools become increasingly integrated into the decision making and governance processes of corporates, the ethical legitimacy of AI has attracted growing attention, which is a new dimension for evaluating corporate social responsibility and governance performance. Ethical legitimacy directly influences corporate reputation and long term value creation. In the areas of data privacy and algorithmic bias, managers who lack sufficient awareness of AI ethics may undermine corporate governance mechanisms and focus on the product development with profit oriented, which can erode public trust and user confidence. Traditional ESG frameworks have focused primarily on environmental sustainability, social responsibility and corporate governance. When AI technologies are more widely adopted in enterprises, public expectations have expanded beyond the conventional ESG dimensions to include corporate AI ethics. There is a growing trend toward incorporating AI ethics indicators into ESG evaluation systems, for example, international rating agencies have begun to assess corporate disclosure of AI risks and governance policies.

Corporate AI governance is shifting from reactive to proactive, the traditional model with compliance oriented has proven insufficient to address the complex ethical risks posed by AI and the model center on preventing data breaches and regulatory violations. According to the significant influence of AI tools on decision authority and resource allocation, organizations are increasingly developing comprehensive AI ethics

governance frameworks. Through mechanisms of AI ethics committees, algorithm auditing systems and AI transparency reports, enterprises can enhance the fairness, transparency and explainability of their AI strategies. There is a shift in governance logic from external regulatory compliance to internal value driven management, which mitigate potential legal risks and strengthens the trust of users in the enterprise.

5 Conclusion

This study analyzes how managerial cognition of AI ethics influences the implementation of corporate AI strategies and proposes an integrated framework encompassing internal governance, external environmental factors, and the construction of ethical tools. Managerial awareness of AI ethics plays a central role in the planning and execution of AI strategies. Because senior executives typically lack technical backgrounds, their limited understanding of data privacy, algorithmic bias, and model transparency often leads to an underestimation of ethical risks, thereby undermining the legitimacy and sustainability of AI strategies. When firms lack internal structures such as AI ethics committees, algorithm audit mechanisms, and transparency disclosure systems, deficiencies in ethical governance are further amplified. In such contexts, technical teams operate with limited oversight, making it difficult to detect and correct ethical issues in a timely manner. Moreover, delayed external regulation and insufficient public scrutiny contribute to corporate neglect of AI ethics, weakening managerial ethical pressure and reducing motivation for responsible governance. As a result, AI strategies tend to prioritize efficiency while neglecting social responsibility. To address these challenges, organizations have begun establishing internal supervisory systems, including AI ethics committees, managerial AI ethics cognition measurement models, and ethical impact assessment tools. Through the development of these oversight mechanisms, managers' capabilities in risk identification and ethical judgment are strengthened, enabling more effective governance of ethical risks throughout the implementation of AI strategies.

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