Мехрибан Иманова
Нахчыванский государственный университет
Матанат Алиева
Азербайджанский университет архитектуры и строительства

Этические аспекты систем искусственного интеллекта: ответственность и принятие решений

Аннотация. Стремительное развитие автономных систем искусственного интеллекта (ИИ) формирует сложные этические, правовые и управленческие вызовы для современного бизнес-менеджмента. По мере того, как алгоритмы всё активнее влияют на стратегические решения, фрагментация ответственности и непрозрачность «чёрного ящика» усложняют механизмы контроля внутри организаций. Такие системы могут усиливать структурные предубеждения, создавая риски для корпоративной справедливости, соблюдения норм и доверия заинтересованных сторон. Опираясь на такие рамочные документы, как Регламент ЕС об ИИ, этические концепции и разработки в области объяснимого ИИ (XAI), в исследовании предлагается интегрированный подход к управлению, объединяющий юридические обязательства, этические стандарты и управленческий контроль. Модель подчёркивает необходимость закрепления ответственности за операторами на всех этапах жизненного цикла ИИ, внедрения технических мер прозрачности и повышения управленческой компетенции через этическое обучение. Сделан вывод, что внедрение принципов ответственного ИИ в корпоративное управление усиливает управление рисками, способствует устойчивому созданию ценности и обеспечивает социально справедливые и подотчётные бизнес-практики.
Ключевые слова: искусственный интеллект (ИИ), подотчётность, прозрачность, предвзятость, человеческий контроль, бизнес менеджмент.

Mehriban Imanova
Nakhchivan State University
Matanat Aliyeva
Azerbaijan University of Architecture and Construction

Ethical aspects of artificial intelligence systems: responsibility and decision-making

Abstract. The rapid evolution of autonomous Artificial Intelligence (AI) systems has introduced complex ethical, legal, and managerial challenges for modern business governance. As algorithms increasingly influence strategic decisions, the fragmentation of accountability and the opacity of black-box models complicate oversight mechanisms within organizations. Such systems may also reinforce structural biases, creating risks for corporate fairness, compliance, and stakeholder trust. Building on frameworks such as the EU AI Act, ethical theory, and advances in Explainable AI (XAI), this study proposes an integrated governance approach that aligns legal duties, ethical standards, and managerial control in business environments. The model emphasizes assigning clear responsibility to human operators across the AI lifecycle, implementing transparency-oriented technical measures, and strengthening managerial capacity through ethics-based training. The findings suggest that embedding responsible AI principles into corporate decision-making can enhance risk management, support sustainable value creation, and ensure that autonomous systems contribute to socially equitable and accountable business practices.

1. INTRODUCTION

The accelerating adoption of Artificial Intelligence (AI), particularly systems driven by Deep Learning and Big Data, is transforming organizational structures by shifting many high-impact decisions from human managers to autonomous algorithms. This transition demands a renewed evaluation of existing ethical and legal standards, as AI now supports functions ranging from financial forecasting and automated trading to operational planning and strategic resource allocation. In business environments, the central challenge lies in reconciling the advanced functional capabilities of AI with its lack of moral agency-raising the question of how responsibility and accountability should be assigned when algorithmic decisions generate financial loss, discriminatory outcomes, or operational risks.

The purpose of this study is to analyze the ethical tensions created by AI-enabled decision-making within corporate governance and business management. Four interconnected issues are examined: fragmented managerial accountability when AI participates in decision chains, the opacity of algorithmic models that undermines transparent governance, the amplification of bias that can distort hiring, credit scoring, or customer segmentation, and the mismatch between established liability norms and decisions produced by autonomous systems. By integrating philosophical reasoning, legal principles, and emerging technical solutions, this article proposes governance mechanisms that help businesses deploy AI systems that are not only efficient but also ethically aligned, explainable, and accountable.

METHODS

This report is based on a multidisciplinary and step-by-step approach; the aim is to bring together different theoretical directions and research methods in AI ethics to analyze more clearly the problem of correctly defining responsibility. In the context of business management, this approach is particularly important, since the implementation of AI in companies has a wide range of implications, from strategic decision-making to risk management and corporate governance mechanisms. Therefore, the integration of ethical, legal and technological perspectives allows managers to determine who is responsible for the consequences of algorithmic decisions, while at the same time correctly integrating AI into organizational structures.

1. Conceptual and philosophical deconstruction: AI is a reflection on fundamental ethical concepts—Moral Autonomy, Intentionality, and Autonomy as applied to such devices. This includes challenging bioethical and philosophical critiques of attributing moral personhood to contemporary AI agents and emphasizing the importance of attributing responsibility to humans (Wallach & Allen, 2009).

2. Comparative framework to traditional laws: We compare the weaknesses of existing (and possibly applicable) legal frameworks, in particular Tort Law (Negligence) and Product Liability, as applied for regulating harm caused by AI. This compares with recent, more risk-based regulatory proposals such as the European Union's AI Act (European Parliament, 2024) and UNESCO's principles in its Recommendation on the Ethics of Artificial Intelligence (UNESCO, 2021).

3. Evaluation of Technical Solution: We review the technical pros and cons related to transparency and fairness. This also involves an analysis of Explainable AI (XAI) approaches (e.g., LIME, SHAP) efficacy and limitations to the "black box" problem solution and fulfillment to the explanation regulatory necessity (Guidotti et al., 2018). Quantitative approaches to algorithmic bias detection and mitigation are also discussed.

4. Synthesis of Ethical Guidelines: We synthesize universal ethical guidelines in Fairness, Transparency and Accountability from one or more than one guideline (e.g., ethics reports and guidelines issued by OECD or an international governing body) to form a set of core principles that apply to the design, development and deployment of all high-risk AI system.

2. RESULTS

The interdisciplinary analysis has shown that AI decision-making creates new tensions between competing ethical values in business management. The main one is the fragmentation of responsibility. In modern companies, the single human-assisted control of AI systems to participate in shaping their decisions weakens responsibility. It becomes difficult to determine which party is legally and morally responsible for a system failure.

From a philosophical perspective, the reason for this problem is that artificial systems have moral agency. They cannot be held accountable for algorithmic reasons because they have consciousness, mobility, and ethical-metacognitive actors. This increases the burden of responsibility on human managers and organizations for decisions related to AI design, implementation, and control. The causal chain of failures related to AI in a business context is also multifaceted: biased data, poorly designed models, malicious errors, and insufficient monitoring can all combine to lead to systematic failure. Such decentralized failures do not fit into the classical corporate responsibility and contractually based causality approaches. To this end, frameworks such as the EU AI Act also impose clearer requirements on staff compliance, oversight and accountability.

A second major challenge is the lack of robustness in decision-making. Deep learning models, which are "black boxes" in business analytics, are at the forefront of understanding their internal governance principles, weakening ethical oversight in corporate governance. The lack of explanation of algorithmic decisions conflicts with principles such as audit, risk management and transparency. Explainable AI (XAI) approaches, while offering local explanations, do not fully answer the question of "why did they make that decision?" which is critical for business strategy, and may retain deep structure.

Systematic effects of bias in AI systems pose strategic, reputational and legal risks to business potential. Models trained on historical data can replicate and reinforce social and economic disadvantage in products such as recruitment, credit calculations and share segmentation. Seemingly neutral influences (address, language devices, behavioral patterns) can be fully correlated with the characteristics being assisted, leading to discrimination. This seriously challenges the principles of corporate governance and standards of fair ethical decision-making.
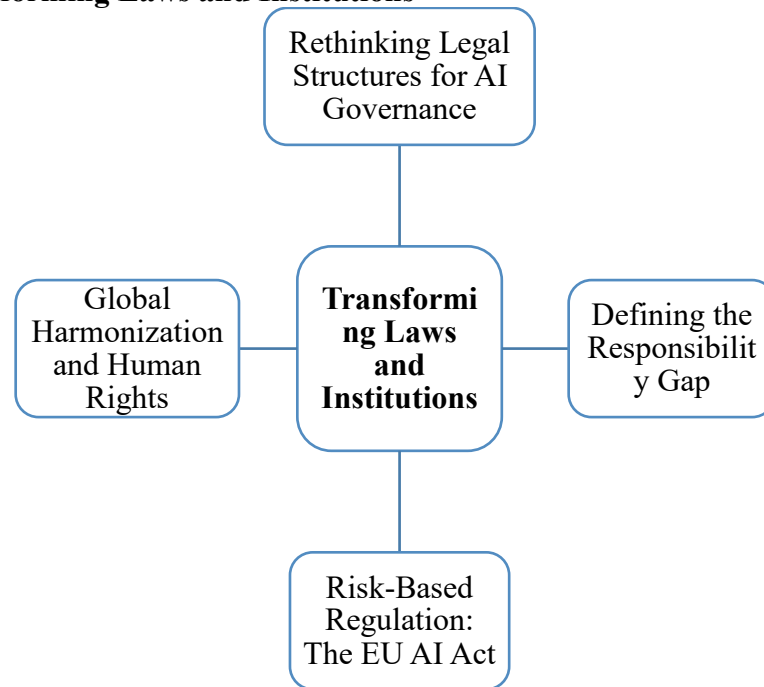
The loss of "meaningful human control" poses a practical and ethical threat to business practice. AI systems are increasingly relying on automation to improve the quality of managers, which reduces the possibility of rare but critical errors. Therefore, the principle of Meaningful Human Control (MHC) is particularly emphasized in ethical and regulatory frameworks. According to this principle, managers must have technical literacy, situational awareness, and the ability to stop or recalculate in the moment. Maintaining human agency is not only a procedural requirement, but also a fundamental condition for corporate ethical decision-making.

3. DISCUSSION

Addressing the deep ethical challenges of autonomous AI decision-making requires a multi-pronged strategy that combines legal reforms, technological innovations, and human-centered governance approaches. Continuous ethical oversight cannot be a stand-alone measure; it must ensure corporate responsibility, design integrity, and a systems-wide approach to AI decision-making by managers and decision-makers throughout the entire lifecycle. This allows for both risk mitigation in business management and ethical and accountable strategic decisions (Imanova et al., 2025).

3.1. Transforming Laws and Institutions

Schema 1. Transforming Laws and Institutions

Rethinking Legal Structures for AI Governance

Global Harmonization and Human Rights

Transforming Laws and Institutions

Defining the Responsibility Gap

Risk-Based Regulation: The EU AI Act

Source: UNESCO, 2021

The first move to achieve ethical alignment is a rethinking of old-fashioned legal structures that emerged from static technologies and a responsive negligence model. Modern governance systems will have to evolve towards proactive, risk-based regulatory designs that can assign meaningful responsibility within dynamic AI ecosystems.

A central challenge is the definition of the responsibility gap: the gray area between human intention and algorithmic rollout. Therefore, the duty of due diligence has to be made clear for AI developers ('unbiased design', 'validation' and 'continuous testing') in legal systems as well as for its deployers in situations on how to control it properly (for instance: performing a context sensitive usage and monitoring). This hierarchy of obligations creates a normative road for remedy in the case of harm.

The EU AI Act is the first major risk-based regulation of its kind, wherein systems are clearly differentiated in terms of systemic potential harms to society and aligning compliance load accordingly. High-risk systems, thereby have to go through Ethics Impact Assessments (EIAs), stringent conformity checks and ongoing post-market surveillance – where the burden of ethical proof is placed on creators and operators rather than victims or regulators. Beyond Europe, there is still a need for global harmonization. As UNESCO (2021) stresses, AI governance should be based on the foundations of universal human rights principles of transparency, traceability and accountability. Making such standards globalized would mean we could avoid "ethics dumping," where companies take advantage of jurisdictions with weaker ethical protections to unleash high-risk technologies.

3.2. The Technical and Design Emphasis

AI systems need to have moral conformance built in, not glued on as an after-the-fact regulation. This requires moving beyond optimization for performance to a coherent design philosophy emphasizing fairness, interpretability and accountability. One key move is to bake in Explainable AI rather than just dream about it as compliance. Explainable AI techniques must move past localized interpretability to enable being provided with contexts that are auditable,

comprehensible and satisfy ethical and legal scrutiny. This kind of transparency allows individuals to question the decisions made by AI, and it permits regulators to undertake effective audits.

Just as important is the concept of Fairness by Design. Technical protocols need to be implemented at the developer level to systematically apply fairness metrics in data pre-processing, model training and validation. Compulsory bias audits from performance on training sets to evaluations over protected groups can be put in place for balanced treatment and outcome distribution. Unchecked algorithmic optimization for efficiency has long been shown to have the perverse effect of reinforcing discrimination (O'Neil, 2016), such that fairness can be considered as a quantifiable and enforceable design constraint rather than an ethical afterthought.

3.3. Empowering the Human in the Loop

Schema 2. Empowering the Human-in-the-Loop

Empowering the Human-in-the-Loop

- Mandating Competence and Authority
- Effective Redress Mechanisms
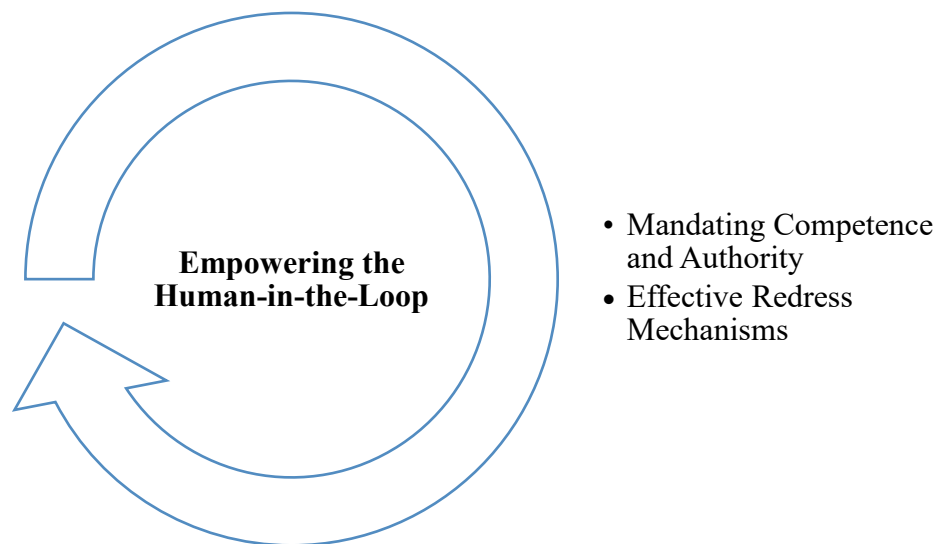
Source: O'Neil, 2016

In the end, the moral framework of AI comes down to strengthening not replacing human judgment. The principle of meaning human control (MHC) needs to be operationalized as a core regulation and design feature. This involves prescribing competence and power in AI operators. Those who oversee autonomous systems must be specifically educated in AI ethics, data interpretation and technical literacy. And institutional mechanisms need to ensure that these human supervisors have real decision authority, including the ability to shut down the system where appropriate. This empowerment guarantees that agency prevails where ethical considerations are at stake (e.g., in safety-sensitive domains).

Recourse mechanisms for individuals affected by decisions made based on AI are equally important. Theses mechanisms should be transparent, open and intuitive so that anyone can appeal without need of expertise. AI may be deployed by organizations but these will have legal responsibility for explaining controversial decisions that are clear, reasoned and unbiased. In this fashion, accountability is not detached from reality but doable grounding AI governance within an ethical-responsible & legal-coherent human-centric system.

From the perspective of business management, ethical leadership in AI is a moral duty and an indicator or long-term sustainable competitiveness of the organization. When translated into transparent governance, risk reduction and responsible innovation, ethical compliance mitigates

reputation harm, legal exposure and operational drag while strengthening stakeholder confidence. As such AI is a strategic and not just a regulatory issue, meaning that business leaders should be treating AI ethics as part of the overall enterprise strategy.

Example 1. Cost–Benefit analysis of Ethical AI deployment

We can estimate the "managerial" value of ethical AI alignment using a simplified cost-benefits framework:

$$ROI_{EthicalAI} = \frac{B_t - C_t}{C_t} * 100$$

Table 1. Cost-Benefit Analysis of Ethical AI Deployment

Component	Category (C/B)	Specific Examples (from the text)	Quantified Example (Hypothetical)
Costs (C_t)	Investment	Data audits, Ethics training for employees, Algorithm transparency tools, Compliance audits	$500,000
Benefits (B_t)	Financial & Nonfinancial Value	Increased operational efficiencies, Enhanced customer retention, Increased reputation value, Revenue from trust, Compliance business incentives	$850,000
Net Benefit (B_t-C_t)	Profit/Value		$350,000
ROI	Return on Investment	Ethical stakeholder return on investment (making responsible innovation a factor of economic resilience)	70% $\frac{\$850,000-\$500,000}{\$500,000}$

where:

B_t = total financial and nonfinancial benefits of ethical AI (e.g., increased efficiencies, revenue from trust, compliance business incentives)

C_t = cost of ethical implementation (e.g. data audits, ethics training, algorithm transparency tools) over all timesteps.

For instance, imagine a company spending $500,000 on explain ability tools, compliance audits and training employees (C_t=500,000). Following the implementation, the operational efficiency is enhanced and so customer retention being raised; that increases reputation value (and explicit value part of reputation identity), resulting in a joule of benefit ($850, 000).

The resulting ROI is:

$$ROI_{EthicalAI} = \frac{850,000 - 500,000}{500,000} * 100 = 70\%$$

This provides us an evidence that weaving AI ethics into our innovation efforts pays off not only on the field of morality. But also, in the boardroom where it brings 70% ethical stakeholder return on investment which makes responsible innovation another factor of economic resilience and brand health.

Managers should integrate EIAs and AI Risk Matrices into strategic decision-making models in a governance context. They enable the continuous observation of high-risk system and early

discovery of algorithmic or reputational weaknesses. Relatedly, take into consideration that we will need to augment "KPIs" to include more than just the typical productivity measures, but such as well: ethical compliance indicators fairness scores, explainability indices and stakeholder trust ratings.

By leveraging AI-based ethical dashboards, businesses can visually link their ethical performance with commercial value. So, for example, a 10% increase in algorithmic transparency may equate to a 5% bump in consumer trust and a 3% decrease in regulatory costs, according to internal analytics. This shift from being reactive with compliance into data-driven ethical direction, it was putting AI center stage not as a cost center but as something that drives a competitive edge for an organization.

Managerial Analysis

Therefore, considering business management, ethical AI integration is an investment in strategy and not a constraint.

Table 2. Managerial Integration and Metrics

Strategic Imperative	Tool/Methodology	Traditional KPI Augmentation (Examples)	Commercial Value Linkage (Dashboards)
Governance & Risk	**Ethical Impact Assessments (EIAs)**	**Typical:** Productivity Measures, Sales Volume	**Risk Reduction:** Early discovery of algorithmic or reputational weaknesses.
Decision-Making	**AI Risk Matrices**	**New:** Ethical Compliance Indicators, Fairness Scores, Stakeholder Trust Ratings	**Competitive Edge:** Data-driven ethical direction, not reactive compliance.
Performance Tracking	**AI-based Ethical Dashboards**	**New:** Explainability Indices (e.g., 10% increase in algorithmic transparency)	**Value Creation:** 5% bump in consumer trust, 3% decrease in regulatory costs.

By baking accountability, transparency and human oversight into the fabric of their operation models, not only do orgs reduce risk, they also increase their economics and reputational capital. The integration of ethical governance with business objectives means AI becomes a vehicle for sustainable growth and long-term stakeholder value, rather than an unchecked disruptor.

CONCLUSION

The moral development of artificial intelligence (AI) is closely related to business and management, which involves reshaping the principles of decision-making, responsibility and control. AI systems are more autonomous and complex, their constraints and ethical structures are being undermined; these structures form the basis of the operations and decision-making mechanisms of modern companies. Classical concepts of responsibility, based on the causal relationship of human structure and thinking, are inadequate for complex algorithmic systems arising from human-machine interaction.

The "black box" nature of deep learning models limits their ability to manage cause and effect, assess the fairness of decisions and detect systematic bias. The formation of historical and social data further aggravates this problem. With the widespread use of AI in modern business, the risk of "automation trust" increases; Managers can lose critical skills by ignoring the system's ability to make mistakes, and such meaningful human oversight is weakened.

But there are benefits. Responsible AI governance requires a combination of legal reforms, technological innovation, and human-centered oversight. Legally, responsible AI implementation,

deployment, and operations should be clearly delegated to human managers. This approach creates a clear and enforceable legal framework that provides compensation for potential risks in companies.

From a technological principle perspective, ethical design performance should be built on fairness, accountability, and system reliability. Biased audits and the implementation of advanced fairness metrics throughout the entire AI lifecycle minimize the risk of discrimination.

Human oversight is at the heart of ethical governance. The role of managers should not be purely formal; they should be technically literate, aware of the situation vis-à-vis their customers, so that they can critically evaluate AI decisions, question them, and change them if necessary. Companies are widely implementing AI ethics, technical knowledge, and operational decision-making training, and are implementing security measures in ethics and operational systems.

In the future, ethical AI governance should be based on three key principles:

1. Accountability:The responsibility of human managers should be legally traceable and enforceable at all stages of the AI lifecycle.

2. Transparency: High-risk systems should operate in a traceable and explainable manner.

3. Human Control: Managers should exercise real and effective control through technical knowledge, management, and situational awareness.

When applied systematically, this principle realizes the technological potential of business management for social justice, human rights, and ethical decision-making, minimizes the disruptive effects of AI on companies' operations, and provides benefits for both the organization and people.

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Сведения об авторах

Мехрибан Иманова, Доктор философии по экономике, доцент, Нахчыванский государственный университет, Нахчыван, Азербайджан

Матанат Алиева, старший преподаватель, Азербайджанский университет архитектуры и строительства, Баку, Азербайджан

Information about the authors

Mehriban Imanova, Doctor of Philosophy in Economics, Associate Professor, Nakhchivan State University, Nakhchivan, Azerbaijan

Matanat Aliyeva, head teacher, Azerbaijan University of Architecture and Construction, Baku, Azerbaijan