

## **CHAPTER XV**

# **Managing Opportunities and Risks of the Digital Age: Ethics and Strategy in Business Transformation**

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### **Abstract**

This study discusses the role of artificial intelligence (AI) in digital business transformation and the ethical challenges in its implementation. With the increasing adoption of AI in various sectors, companies face a dilemma between efficiency and social responsibility. The study highlights effective business strategies for integrating AI ethically, the balance between regulation and innovation, and the long-term impact of AI on the global economy. The research method used is conventional literature review, which allows for in-depth exploration of the perspectives of social, educational, and technological experts. The study results show that risk-based regulation, a human-in-the-loop (HITL) approach, and transparent policies are essential to ensuring fair and responsible AI implementation. The conclusion confirms that the balance between innovation and ethics is the key to business sustainability in the digital era. Further research is recommended to explore the effectiveness of AI regulations in different countries and their impact on global business competition.

**Keywords:** artificial intelligence, business transformation, opportunities and risks

### **Introduction**

Artificial intelligence (AI) is the main catalyst in business transformation in the rapidly evolving digital era. Companies across various sectors are beginning to adopt AI technology to improve operational efficiency, optimize customer experience, and accelerate

data-driven decision-making.(Babina et al., 2024) However, applying AI in business also presents ethical challenges and risks (Ormond, 2020) that must be carefully managed. The main strategic issue in this context is how companies can use AI optimally without neglecting the aspects of morale, transparency, and social impact. (Bankins & Formosa, 2023)

This phenomenon is increasingly evident with the increasing adoption of AI in various industries. For example, a McKinsey & Company report (Luo et al., 2023) 50% of global companies have integrated AI into their business processes, especially in task automation and large-scale data analysis. However, the successful implementation of AI still faces obstacles. (Raftopoulos & Hamari, 2023), such as algorithm bias, data security risks, and unequal access to technology. In e-commerce, AI is used to personalize the customer experience, but it also raises concerns regarding privacy and manipulation of consumer behaviour. (Alhitmi et al., 2024).

Supporting data from the World Economic Forum report reveals that 85% of companies. (Odent, 2019) AI will majorly affect their business competitiveness in the next five years. However, only 25% of companies have a mature and inclusive AI strategy. This gap shows that while AI promises efficiency and innovation, many organizations are still not ethically and strategically prepared to manage the implications of this technology. Ideally, AI is used to improve business sustainability by considering compliance and community welfare. However, the reality is that many companies focus more on efficiency and profitability without considering the social impact.

The consequences of this problem can have a wide economic, social, and legal impact. If AI is implemented without adequate regulation, the risk of data misuse, algorithmic discrimination, and injustice in market access will increase. Furthermore, public trust in AI technology can decline. (Odent, 2019) If there is no transparent mechanism for its application. Therefore, the urgency of discussing ethical business strategies in digital transformation is becoming increasingly important (Bankins & Formosa, 2023). Companies must develop policies that ensure the responsible implementation of AI and align with the values of fairness.

As a solution, companies need to implement ethical AI policies by adjusting existing regulations and building a transparent audit system. Additionally, the Human-in-the-loop (HITL) approach (Retzlaff et al., 2024), where humans remain engaged in AI-based decision-making, can reduce the risk of bias and increase accountability. Employee education and training is also important in ensuring a good understanding of AI and its impact.

As a basis for further exploration, some of the study questions that can be asked are: (1) What is the most effective business strategy in integrating AI without neglecting the ethical aspect? (2) To what extent can regulation balance AI innovation with consumer protection? (3) What are the long-term impacts of the application of AI in the global economic structure? By answering these questions, it is hoped that this discussion can provide a more comprehensive insight into managing opportunities and risks in the digital era in modern business strategies.

## **Literature Review**

### **Responsibility and Ethical AI**

Human-in-the-Loop (HITL) is an approach in the development of artificial intelligence (AI) systems that emphasizes active human involvement in the machine learning cycle (Retzlaff et al., 2024). While no single individual is explicitly recognized as the originator of this concept, HITL has evolved in tandem with advances in AI technology and the need for human interaction in the decision-making process by machines (Mosqueira-Rey et al., 2023).

HITL refers to a system in which humans provide direct feedback to an AI model, especially when the model's predictions are below a certain confidence level. Through these interactions, the AI model continuously adjusts and improves its performance based on human input through repeated corrections. (Ren & Xia, 2024)

Key parameters in HITL implementation include model confidence levels, feedback mechanisms, and learning iterations (Retzlaff et al., 2024). The confidence level determines the threshold for human intervention (Stevens & Stetson, 2023). Human feedback is enabled if the model's predictions fall below this threshold. It

includes mechanisms that allow humans to provide corrections or approvals to the model's output, which is then used to update the algorithms and training data.

Factors that affect the effectiveness of HITL include the quality and speed of human feedback, the task's complexity, and the user interface's design. (Retzlaff et al., 2024) The quality of feedback is crucial; accurate and informative feedback will accelerate model learning. Feedback speed is also crucial, especially in real-time applications requiring quick decisions. The complexity of the task determines the extent to which human intervention is needed; More complex tasks may require more human involvement. The intuitive user interface design ensures that humans can interact with the system efficiently, minimizing errors and increasing productivity.

In the context of regulation and policy, the HITL approach can help meet compliance requirements by ensuring that the final decision remains in human hands (Mosqueira-Rey et al., 2023) HITL improves the technical performance of AI systems and builds user trust, especially in situations where transparency and accountability are critical. Overall, Human-in-the-Loop is an approach that combines AI computing with human judgment and intuition, creating a more adaptive, accurate, and ethical system for decision-making.

## **Business Ethics**

Business ethics is a branch of philosophy that studies the moral principles and standards that guide behaviour in the business world. Although the concept of ethics in business has been around for a long time, its theoretical development has been heavily influenced by philosophers such as John Stuart Mill and Immanuel Kant. (Adriani, 2018)

The main parameters in business ethics include honesty, integrity, fairness, responsibility, and transparency. (Ferrell et al., 2018) These parameters are an important foundation that reflects moral values in business activities. Honesty is the foundation of trust between business people, while integrity shows consistency between words and actions. Justice is necessary to ensure that the rights and obligations of all parties are fulfilled proportionately, while

responsibility reflects the willingness to bear the consequences of each decision. Transparency complements these parameters by disclosing relevant information to stakeholders for informed decision-making.

The factors that affect business ethics can be divided into two categories: internal and external. Internal factors include company culture, leadership, and internal policies (Makati, 2019) External factors include economic pressures, government regulations, social norms, and pressure from stakeholders (Makati, 2019) Economic pressures, such as fierce competition, can encourage companies to take unethical shortcuts for profit.

Business ethics emerged from the theory of deontology (Udayakumar & Babu, 2021) It was developed by Immanuel Kant, who emphasized that the moral value of an action is not determined by its consequences but by its underlying moral motives and obligations. In business ethics, this theory teaches that business decisions should be based on universal moral principles that can apply to everyone in similar situations, such as honesty, respect for human dignity, and not treating others only as a tool to achieve goals.

### **Business Transformation**

Business transformation (Technology & Transformation, n.d.) It is the fundamental process of changing the systems, processes, technology, and way an organization works to improve performance and create new value. This is more than just an ordinary change; it is a comprehensive change that touches on the organization's strategic, operational, and cultural aspects.

Business transformation parameters encompass three interrelated key dimensions that support overall organizational change. The parameters in question are digital transformation (Kraus et al., 2022), business model changes, and cultural transformation (Bayramov et al., 2023). Mouzas and Stefanos mentioned that the parameters of business transformation are (S0148296322000662, n.d.) Market-based asset ownership, HR capabilities, brand rights, design, and data.

The success of business transformation is influenced by various interrelated factors, starting from internal factors that include leadership quality and clarity of organizational vision, level of readiness of human resources, financial capabilities, availability of technological infrastructure, and organizational culture. Meanwhile, external factors that provide pressure and opportunities for transformation include changes in consumer behavior, technological developments, market competition dynamics, government regulations, and global economic conditions.

Business transformation is also supported by enabler factors such as technology availability, access to talent, active support from stakeholders, and the business ecosystem. On the other hand, organizations also need to be aware of inhibiting factors such as resistance to change, limited resources, complexity of organizational structures and processes, and various risks related to security and privacy.

### **Research Method**

In this study, the method used is a conventional literature review, often called a narrative review. This method aims to thoroughly understand a particular topic by analyzing and synthesizing various relevant literature sources. In contrast to systematic reviews that follow strict protocols, conventional literature reviews are more flexible in their approach, allowing researchers to explore various perspectives and findings in the literature.

The process begins with the selection of specific and relevant topics. Once the topic is established, the next step is a literature search. This search involves identifying credible and relevant sources, such as academic books, journal articles, research reports, and other related publications. These resources can be found through academic databases, libraries, or other online platforms.

Once the literature has been collected, the next stage is critically evaluating each source. This evaluation assesses the information's quality, validity, and relevance. Researchers should consider the methodology used in the study, the data's reliability, and the findings' suitability to the research context.

The next stage is information synthesis. Researchers integrate findings from various sources in this stage to comprehensively understand the topic. This synthesis summarizes the information and identifies patterns, relationships, and gaps in the literature. By doing so, researchers can develop strong arguments and identify areas that require further research. Researchers need to maintain objectivity and openness to various perspectives during this process. This ensures that the reviews are unbiased and accurately represent the existing literature.

## **Discussion**

### **The company's process of ethically integrating artificial intelligence (AI) into business strategy**

Integrating artificial intelligence (AI) into business strategy requires an approach that considers ethical aspects to ensure effective and responsible implementation. A human-centred approach is key in this regard, emphasizing transparency, fairness, reliability, and privacy (Radanliev, 2025). By ensuring that AI systems can be explained and understood by users, companies can build trust and a good reputation in the eyes of consumers.

Additionally, fairness in AI means avoiding biases that could harm certain groups, while reliability ensures that systems function as expected without significant errors. Privacy is also a major concern, given the large amount of personal data that AI may use. Therefore, the company must ensure that applicable regulations protect customer data.

Research on 'Ethical Management of Artificial Intelligence' (Brendel et al., 2021) found three perspectives: managerial decision-making, ethical considerations, and macro and micro environmental dimensions. Tilala mentioned that artificial intelligence (AI) and machine learning (ML) technologies are revolutionizing healthcare by offering opportunities such as data privacy and security, algorithmic bias, transparency, clinical validation, and professional responsibility (Harishbhai Tilala et al., 2024). Ethical considerations related to the use of AI interventions in mental health and well-being in the form of privacy, bias, consent, transparency, human oversight, and ongoing

evaluation can ensure that AI interventions are developed and used in an ethically sound manner, respecting individual rights, promoting justice, and maximizing benefits while minimizing potential harm. (Saeidnia et al., 2024)

The rapid development of Artificial Intelligence (AI) has given rise to various important discourses related to ethical considerations that need to be carefully managed. Starting from fundamental values and principles that emphasize respect for human autonomy and distributive justice in technology access, transparency and accountability in AI decision-making become crucial aspects that must be considered to ensure a fair and bias-free process (Mann & Doleck, 2023).

Data privacy and security (Alhitmi et al., 2024). The large volume of data processed by AI systems is also a major concern, so clear standards are needed to manage and protect personal information. The socio-economic impact of AI implementation needs to be anticipated (Trabelsi, 2024), Especially in terms of shifting jobs and potential social inequalities that may arise, while the issue of balance of power in the mastery of AI technology requires a mechanism that can ensure an equitable distribution of benefits and prevent technological monopolies that can harm the wider community (Emery-Xu et al., 2024)

### **Regulations that support AI innovation that protect consumers**

Effective regulation encourages AI innovation and protects consumers from potential risks. A risk-based regulatory approach, such as the one advocated by IBM through the Precision Regulation for AI, allows for flexibility in technology development while ensuring that AI applications that have the potential to impact society significantly are closely monitored. In Indonesia, the drafting of AI regulations emphasizes the principles of inclusivity, humanity, security, and accessibility (Studi et al., 2024). This approach ensures that AI development focuses on technological advancements and considers social impact and consumer protection.



In addition, adaptive and collaborative regulation between governments, industry, and civil society can create an ecosystem that supports innovation while establishing clear ethical and safety standards. For example, the Financial Services Authority (OJK) has issued a code of conduct guide for the responsible application of AI in the financial sector, (Otoritas Jasa Keuangan, 2023) Which emphasizes the principles of transparency, accountability, and security. As such, well-designed regulations can be the foundation for innovative and responsible AI development, ensuring that consumers' interests are protected without hindering technological advancement.

### **The role of ethics in the development and application of AI in the business sector**

Ethics is central to developing and applying artificial intelligence (AI) in the business sector. It ensures these technologies are used for the common good and do not negatively impact society. The ethical application of AI involves several key aspects, including transparency, fairness, security and privacy, and accountability. (Radanliev, 2025)

Companies must ensure that their AI systems can be explained and understood by users. This transparency builds trust between the company and consumers. Avoiding bias in AI systems ensures that all groups are treated fairly. Consumer data protection should be a top priority. Companies must comply with applicable regulations and ensure that the data collected and used by AI is protected from unauthorized access or misuse. Companies also must be held accountable for the decisions and actions taken by their AI systems. This means having mechanisms in place to identify and correct errors and providing a pathway for consumers to file complaints or questions regarding the use of AI.

By integrating these ethical principles into the development and application of AI, companies are not only complying with existing regulations but also building a good reputation and trust in the eyes of consumers. Additionally, an ethical approach to AI can be a competitive advantage as consumers become increasingly aware of and appreciate socially responsible companies. Therefore, ethics is a moral obligation and a smart business strategy in this digital age.

## **Conclusion**

Based on the analysis, it can be concluded that integrating artificial intelligence in business strategies brings various benefits, such as operational efficiency, service personalization, and accelerated decision-making. However, ethical challenges, data security, and regulation are crucial aspects that must be carefully managed. Companies that successfully implement AI ethically and strategically will have a competitive advantage in the global market, while failure to account for social and regulatory impacts can lead to a loss of consumer trust and legal sanctions. Therefore, the balance between innovation and ethics is key to AI-based business development.

This study has several limitations that must be considered when interpreting and applying its findings. First, conventional literature review methods, although allowing for extensive exploration, have limitations regarding systematization and reproducibility. The second limitation lies in the study's focus, which is more on conceptual and theoretical aspects. While this provides a strong foundation of thought, the study is not yet equipped with sufficient empirical evidence on the effectiveness of AI implementation strategies in specific business contexts.

In addition, the study does not include an in-depth comparative analysis of AI's application in different industry sectors or geographic regions. It also does not comprehensively map regulations, technological infrastructure, and human resource readiness differences in various regions.

Lastly, the limitations in accessing the company's primary sources and internal data hinder the production of a more detailed analysis of the practical implementation of AI strategies in the business. Although the study has leveraged various credible secondary sources, limited access to internal company data and in-depth case studies made some practical aspects of AI implementation, including operational challenges and specific solutions implemented by companies, unable to be thoroughly explored.

In the next study, it is recommended that the implementation of AI in various industrial sectors be explored more deeply, as well as the effectiveness of regulations implemented in various countries. Additionally, empirical studies involving interviews with business leaders and regulators can provide more practical insights into the challenges and opportunities in AI adoption. Companies must also invest in employee training to improve their understanding of AI technology and business ethics. Thus, digital transformation is hoped to run sustainably and responsibly and provide maximum benefits for all stakeholders.

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