

The Leadership CODE for AI Transformation: Unlocking Economic Value through Change Management and Human-Centred Design

B.R. Gutola^{1*}

¹Faculty of Management, Comenius University Bratislava, Odbojárov 10, P.O. Box 95, 820 05 Bratislava 25, Slovak Republic

Abstract

INTRODUCTION: Despite heavy investment in artificial intelligence infrastructure and talent, an estimated 70–85% of digital transformation projects fail, partly because human-focused leadership models are lacking.

OBJECTIVES: This study develops and illustrates the CODE Framework, an integrative leadership model combining change management, behavioural economics, human-centred design and ethical governance.

METHODS: A qualitative theoretical synthesis was combined with a comparative case study of two organisations, JPMorgan Chase and Lenovo.

RESULTS: The four pillars (Clarity of Vision, Organisational Alignment, Design for Humans and Ethical Governance) proved mutually reinforcing, with measurable outcomes evident in both organisations.

CONCLUSION: The framework offers leaders an integrated roadmap for artificial intelligence-driven transformation, and the case evidence is preliminary and exploratory rather than a validation.

Keywords: artificial intelligence transformation, behavioural economics, change management, CODE Framework, ethical governance, human-centred design, leadership, organisational alignment

Received on 12 March 2026, accepted on 05 June 2026, published on 07 October 2026

Copyright © 2026 B.R. Gutola, licensed to EAI. This is an open access article distributed under the terms of the [CC BY-NC-SA 4.0](#), which permits copying, redistributing, remixing, transformation, and building upon the material in any medium so long as the original work is properly cited.

doi: 10.4108/eetsbi.12203

*Corresponding author. Email: roba.bokayo@gmail.com

1. Introduction

The digital economy is at a turning point, and equally, artificial intelligence (AI) technologies are challenging organisations' processes, values and decisions. Today, AI is a broad field that includes machine learning, natural language processing, computer vision, and generative AI, and has been shown to have transformative applications in financial services, manufacturing, healthcare, and public administration [1, 2]. This technology is being witnessed across all industries, with businesses eager to implement AI systems that boost efficiency, streamline decision-making, and develop innovative value-added offerings. However,

return on investment (ROI) on AI investments is considerably variable across organisations, even after making substantial investments in AI infrastructure and hiring AI-related talent. According to the empirical evidence, 70–85 percent of the projects with the objective of digital transformation are not successful, primarily because of the absence of change management and poor leadership frameworks [3]. Murire [4] also illustrates that organisational resistance, lack of AI literacy, and the lack of organised governance mechanisms are among the key obstacles to transformation. Likewise, Bock and von der Oelsnitz [5] state that current leadership competence models haven't caught up with the behaviours

and ethics that have arisen with the use of AI. Traditional leadership frameworks are therefore not adequate to deal with the multidimensional challenges of AI transformation.

While many of the recent literature on AI transformation leadership are devoted to different aspects of the transformation, there is a lack of literature to fully acknowledge the blending of the human-behavioural and design-oriented approaches within a unified model. Technology-centred frameworks give architectural guidance and do not consider the organisational and human aspects of change [6]. Although useful, traditional change management approaches, including Kotter's 8-step and Lewin's unfreeze-refreeze models, lack AI-specific behavioural considerations and economic value logic as well as the governance demands that AI systems impose [7]. The EU AI Act's ethics-focused approaches can appear to focus more on governance than on the creation of economic value or the use of AI in ways that are human-centred [8]. Additionally, cognitive biases and loss aversion have been shown to have a significant impact on the behaviour of both individuals and organisations in the context of technological change, but this has not been systematically integrated into the current AI leadership models [9, 10]. Hence, there is no model available that explicitly combines change management with behavioural economics, human-centred design and ethics in a cohesive actionable and AI driven transformation specific framework.

To overcome these limitations, this research proposes a holistic model of AI transformation leadership, which combines elements from multiple theoretical approaches, and illustrates its applicability through comparative case study analysis. The CODE Framework is not based on the technology or management, but based on the process of transformation with AI as a technological, organisational and human process, and of course has an ethical dimension.

1.1. Research Objectives

To fill the gap identified in the literature, the current study aims to accomplish three objectives that are interrelated. First, the paper proposes a comprehensive framework for leadership of AI transformation (the CODE Framework), which can be systematically applied to the technological, human, economic, and ethical aspects of AI transformation, built through theoretical analysis on existing knowledge from the fields of change management theory, behavioural economics, human-centred design, and ethical governance literature. Secondly, the research demonstrates that the CODE Framework can be used to conceptualise and theoretically synthesise the gap between the organisation's preparedness and technological capability. Thirdly, the study assesses the practical significance and applicability of the framework by analysing a number of organisational case studies from different industries, in a rigorous manner.

1.2. Research Gap

AI transformation leadership research is characterised by an enduring and large research gap. Current research has largely

compartmentalised the concepts of change management, human-centred design, behavioural economics and ethical governance as distinct and parallel sub fields, rather than integrated components of a single leadership approach. Insufficient change management is found to be a key factor contributing to the failure of digital transformation by Bellantuono et al. [3], without considering the behavioural or design aspects of leadership. Margetis et al. [6] propose human-centred principles for the design of AI systems, but do not incorporate governance and economic value mechanisms. While Walmsley [8] offers a theoretical base for thinking about AI transparency and governance, it does not link these with organisational change processes or human centred adoption dynamics. Murire [4] explores how AI impacts organisational working practices and argues that there is significant cultural resistance to AI but does not develop a practical integrated leadership model. More recently Bock and von der Oelsnitz [5] and Saura and Bužinskienė [9] show the importance of behavioural and psychological aspects of leadership in the AI era, but they either address single aspects or do not develop a synthesis. The failure to develop a comprehensive multi-domain framework thus creates a substantive gap in the existing body of literature, which the present study aims to fill by designing the CODE Framework and providing preliminary exploratory evidence of its applicability.

2. Literature Review

The literature review is based on four areas of theory that underpin the CODE Framework. All of them are explored in depth for their significance, usability and specific value to AI transformation leadership. The CODE Framework combines these perspectives into a unified framework, recognising the interdependence of these perspectives, rather than treating them in isolation as existing paradigms do.

2.1. Key Conceptual Definitions

For conceptual clarity and as part of the process of making comparisons to previous studies, the following definitions of key constructs are offered.

AI transformation is the organisational process of using AI technologies to strategically affect how your organisation operates, works and creates value in a way that changes the fundamental way it operates and competes. AI transformation is different from the incremental use of technology as it is multi-dimensional, structural, cultural and behavioural [4].

Organisational alignment is the extent to which structures, processes, incentives, capabilities and values are aligned with a clear strategic intent in an organisation. In the context of AI transformation, the focus on alignment is on the degree of reorganisation of these organisational elements to enable, not hinder, AI-based operations [3].

Human centred design is a philosophy and methodology whereby the needs, behaviours and experiences of humanity are the focus of the design process of systems, products and

services. In the context of AI transformation, it means co-designing with end users, research with empathy and testing prototypes to make sure that AI systems are user-friendly, acceptable, and actually useful [6].

Ethical governance for AI refers to a set of principles, policies, accountability frameworks and oversight mechanisms that help to guide the development and use of AI systems in ways that are ethical, transparent, respects privacy, safe, and aligned with societal values. Ethical governance is more than following the rules and regulations and is a tool to foster stakeholder trust [8].

2.2. The Strategic Role of AI Change Management

The use of AI in change management is no longer just a technology implementation project but a more holistic and comprehensive initiative that involves integrating technology, changing organisational culture, and setting the direction for the future [4]. As Mithas et al. [1] show, AI-powered operations management is essentially transforming organisational structures, necessitating a multi-faceted approach to both technical and human change management. Implementation of AI is a process of change, transformation and adjustment that affects not only the systems, but also the people and practices within an organisation [4]. While the traditional approaches focus on business model transformation, workforce transformation, and technical complexity in distinct projects, the challenge of AI change management is to manage both business and workforce transformation as well as technical complexity in a single project [3].

To be successful with AI change management, leaders must learn how to communicate the vision, engage stakeholders, deal with resistance, and get them on board [5]. When communicating a vision, it is important to convey more than simply what the AI technologies can do, but also why

the change is important and how it may impact the ethics of the process through a range of stakeholders [8]. AI transformation decisions have wider societal implications and therefore should not be made without engaging with both internal staff as well as customers, regulators and affected communities [2]. Organisations that have unstructured change management processes are faced with a set of recognised issues, including poor technology adoption, disappointment due to initial excitement, as well as isolated wins that do not transfer to the rest of the organisation [3, 11].

2.3. Economic Value Creation through AI Adoption

The contribution of AI to values goes beyond process automation to several interconnected mechanisms [2]. Knowing these value creation paths will help leaders make better investment decisions, focus their efforts on the highest value creation path, and efficiently allocate resources when competing priorities arise. The CODE Framework has three main value creation mechanisms: human augmentation, innovation acceleration and decision quality enhancement.

The benefits of AI's contribution to productivity are tangible, from process optimisation to enhancing human productivity. Automation strategies try to replace humans in repetitive activities and augmentation strategies try to decrease cognitive load in complex activities [6]. Empirical studies have shown that the value creation process by augmentation strategies is more sustainable than automation, by using the complementary capabilities of human and machine intelligence [12]. Investment in AI-enabled human capital development has similarly been shown to strengthen organisational performance outcomes [13].

The three main mechanisms of value creation through AI are shown in Table 1, and their strategic significance for organisational leadership is described.

Table 1. AI Value Creation Mechanisms and Strategic Implications

Value Mechanism	Primary Focus	Key Benefits	Leadership Implications
Human Augmentation	Enhancing human capabilities	Improved decision quality, creative problem-solving	Invest in training, foster human-AI collaboration
Innovation Acceleration	Rapid experimentation at scale	Faster time-to-market, competitive advantage	Build experimentation culture, reduce bureaucracy
Decision Quality Enhancement	Improving analytical precision	Reduced errors, optimised allocation	Define decision rights, ensure explainability

Source: Zhou et al. [12]

2.4. Human-Centred Design in Digital Leadership

The principles of human-centred design are crucial pillars for the implementation of AI systems and the realisation of lasting value [14]. In the context of AI transformation, human-centric design plays a pivotal role for a number of reasons: Adoption, usage, and engagement rely on the human component, which is the most important factor when it comes to the success with which technology is implemented. Whereas technology-driven designs have a higher likelihood of disappointing users, causing change resistance and slowing down adoption, human centred design consistently results in greater user satisfaction, faster system adoption, and more effective use.

In the context of AI transformation, empathy becomes a pivotal leadership skill as it involves leaders recognising and responding to employee fears and apprehensions regarding the integration of AI into the workplace [5]. Empathy goes beyond addressing fear to establishing open lines of communication, offering reskilling programs, and engaging workers in decision-making throughout the process of designing and implementing the AI system.

Behavioural economics offers significant insights into the reactions of organisations and individuals to AI transformation initiatives [9]. The applicability of it to AI transformation is because of the fact that classical economic models are not adequate to describe real human behaviour. Significant empirical support verifies that there are cognitive biases, mental shortcuts, and emotional factors that consistently influence decisions. By identifying these trends, leaders can create effective change strategies that align with human psychology instead of challenging it [10]. One behavioural tendency in the transformation of AI stands out: When it comes to transforming AI, people and organisations exhibit a strong preference for maintaining the status quo, even when it is clear that other approaches can be more effective.

The connection between behavioural economics and the CODE Framework is evident: the pillar on Clarity of Vision directly confronts status quo-bias with a clear message and attractive early wins; the pillar on Design for Humans nudges for uptake; and the pillar on Organisational Alignment counteracts loss aversion by providing transparent support structures through shared decision-making.

2.5. Governance as a Strategic Enabler

Governance in AI transformation settings goes past compliance and hazard administration to end up being a key differentiator as well as competitive benefit [8]. Well-designed governance structures help organisations develop trust among stakeholders that leads to AI adoption, avoid costly failures due to lack of controls, remain future-ready for regulatory changes, and show customers, talent, and ethically-minded partners how to responsibly develop AI.

As AI systems grow in sophistication, they present a complex set of cross-cutting questions and concerns that are

central to effective AI governance: fairness and non-discrimination, privacy and data protection, transparency and explainability, safety and reliability, and human oversight and control.

3. Methodology

The study was conducted with a qualitative research methodology that utilised a framework development and a comparative case study analysis to understand the practices of AI transformation leadership. When phenomena are complex, context dependent, and the phenomena are not yet subject to deductive, quantitative testing, qualitative methods are appropriate for the exploratory development of a conceptual framework [15]. The study design is thus aligned with the research goals and prevailing literature on the subject of AI transformation leadership.

3.1. Framework Development Approach

The CODE Framework was developed by systematically integrating four different theoretical fields, each offering different and complementary perspectives and views on AI transformation leadership. The theoretical synthesis was carried out in five steps: (1) narrative literature reviews on each domain were conducted on the academic research databases Scopus, Web of Science and Google Scholar; (2) the principles underlying the selected literature were extracted from the most recent and best cited papers on each of the domains; (3) inter-domain associations and conceptual overlaps were identified; (4) the conceptual framework was built based on the extracted principles; and (5) the coherent conceptual framework was translated to clear definitions, linkages and applications. It should be noted that this review process was a narrative synthesis rather than a formal systematic review. No predefined search protocol, documented search strings, explicit inclusion and exclusion criteria, transparent screening flow, table of selected studies, PRISMA-style reporting, or bibliometric analysis such as VOSviewer was applied, and this represents a methodological limitation that is discussed further in Section 3.3. Four thematic core areas were identified which formed the pillars of the CODE Framework: Clarity of vision (integrating change management and behavioural economics), Organisational alignment (integrating change management and human centred design), Design for humans (integrating human centred design and behavioural economics), and Ethical governance (integrating governance frameworks and change management).

3.2. Case Study Selection and Analysis

Case studies were purpose sampled to ensure a representation of a wide range of sectors that faced key changes in the transformation space in relation to AI. When the purpose of sampling is to find information-rich cases that help to illuminate phenomena of interest rather than to be statistically

representative, then purposive sampling is appropriate [16]. The attributes that were considered when making the selection are availability of full-scale AI transformation initiatives, availability of documentation, industry vertical presence, documented successes and failures. The case studies were chosen based on their reputability, and were sourced from publicly available reports, investor presentations, and peer-reviewed analyses of the cases, all of which were published from 2018 through 2025.

The financial services industry was selected because of its large amount of available public information, the centralised process for regulatory compliance, and the fact that the industry had a large AI transformation across many of their business functions. Complementing the view from manufacturing and technology was Lenovo, the company has been taking AI to transform its global supply chain operations. These cases come from the service and manufacturing sector, the centralised and decentralised organisational structures and varying regulatory environments, providing useful comparisons.

The analytical approach was based on the procedure of comparative framework analysis [17] that included analysing each case against the four pillars of the CODE, followed by a comparison of the cases in a systematic manner to identify cross-case patterns. Case studies in this study serve two purposes. First as a demonstration of the applicability of this framework, and second as preliminary exploratory evidence of its practical applicability, rather than as validation of the framework. Results are exploratory and in the future should be tested quantitatively.

3.3. Methodological Limitations

There are a number of limitations to this study. Firstly, secondary data sources are used and hence the extent to which empirical insights can be gained is restricted by the availability of information made available by organisations, which can result in disclosure bias. Second, the scale of the two well-resourced organisations is a purposive one and therefore the results can only be generalised with caution to small and medium sized enterprises (SMEs) or organisations in emerging markets. Third, during the process of the case analysis, the dynamics of the transformation process over the long term is not recorded. Fourth, the theoretical synthesis underpinning the CODE Framework was conducted as a narrative literature review rather than a formal systematic review. It did not follow a predefined search protocol, documented search strings, explicit inclusion and exclusion criteria, a transparent screening flow, a table of included studies, PRISMA-style reporting, or a bibliometric analysis such as VOSviewer. Consequently, the completeness and reproducibility of the underlying evidence base, and by extension the theoretical grounding of the CODE Framework, cannot be fully verified against these established review standards. Future studies need to overcome these limitations by using a longitudinal study design, a wider sample, primary data collection, and a formal systematic literature review following PRISMA guidelines.

4. Results

In the results section, a detailed articulation of the components of the CODE Framework is presented, as well as how these pillars are manifested in organisational practice. The framework represents an integrated model of leadership, blending the disciplines of change management, behavioural economics, human centred design and ethical governance.

4.1. The CODE Framework: An Integrated Leadership Model

The four pillars of CODE are Clarity of vision, Organisational alignment, Design for humans, and Ethical governance. This acronym encapsulates the vital elements leaders need to consider in driving successful AI transformation. Consistent with the five-step theoretical synthesis process outlined in Section 3.1, the CODE Framework is the product of a systematic integration of principles drawn from the change management, behavioural economics, human-centred design, and ethical governance literatures, rather than a standalone conceptual proposal. The CODE Framework reflects the inherent intertwining and reinforcing nature of these elements, rather than a piece-by-piece approach to studying them. The CODE Framework's unique value is the dual nature of the behavioural economics and human-centred design concepts combined with traditional change management and governance concepts. The CODE Framework is presented here as an integrative, practice-oriented model that brings these four dimensions together within a single framework. Based on the literature reviewed for this study, comparable integrative models combining all four dimensions do not appear to be common in the existing AI transformation leadership literature, although this observation reflects the scope of the present review rather than a systematic review of the broader leadership literature.

4.1.1. Clarity of Vision

Clarity of vision is the cornerstone pillar providing strategic direction for AI transformation. It includes full articulation of the organisation's AI transformation destination, purpose and success measures [8]. Strategic clarity is crucial because it aligns the actions of stakeholders in one direction, facilitates decision making, and is a foundation for prioritising competing opportunities. Organisations with unclear vision are plagued by recurring problems: confusing strategic opportunities with tactical distractions, loss of momentum, conflicting priorities, and fragmented initiatives.

4.1.2. Organisational Alignment

Organisational alignment relates to both human and cultural system, and structure, changes needed to enable AI transformation. This pillar acknowledges that organisational structures, processes, incentives and norms need to change, so as to facilitate rather than hinder new technologies. One of the major causes of failure of transformation is empirically analysed as misalignment. Structural alignment involves reorganising AI-powered operations, such as the creation of

cross-functional teams, centres of excellence, new roles, and restructuring reporting lines.

4.1.3. Design for Humans

Design for humans puts human-centred design at the heart of building AI products, ensuring that human needs, dignity and autonomy are at the heart of the change. The key aspects of this pillar include empathy, inclusive participation, and user experience. Its importance is rooted in the fact that sustainable change will not happen unless humans accept it, engage with it and are able to use it effectively. Empathy needs to be built on a genuine understanding of users' thoughts, feelings and needs.

4.1.4. Ethical Governance

Ethical governance sets guidelines, processes, and oversight mechanisms for responsible AI creation and utilisation. The pillar emphasises that ethics should be not just a compliance requirement, but also a strategic asset, ensuring that trust from stakeholders is a prerequisite for successful AI adoption. Effective governance structures tackle issues of fairness, privacy protection, transparency, safety and human oversight as interrelated aspects that must be managed in an integrated manner.

Table 2 below presents, for each of the CODE Framework pillars, its core elements, key outcomes and typical failure modes and enabling relationships.

Table 2. CODE Framework Pillars – Components, Outcomes, and Interdependencies

Pillar	Core Elements	Key Outcomes	Failure Modes	Enabled by
Clarity of Vision	Strategic destination, transformation purpose, success metrics	Aligned efforts, coherent decisions	Fragmented initiatives, conflicting priorities	Organisational Alignment
Organisational Alignment	Structural redesign, cultural shifts, capability development	Cross-functional collaboration, AI capabilities	Siloed operations, talent shortages	Design for Humans
Design for Humans	Empathy, inclusive participation, user experience	High adoption, user satisfaction, trust	User rejection, poor experiences	Ethical Governance
Ethical Governance	Fairness, privacy, transparency, safety, oversight	Stakeholder trust, risk mitigation	Bias incidents, privacy breaches	Clarity of Vision

Source: Authors' own synthesis

4.2. Case Study Findings

The case study analysis shows how the various elements of the CODE Framework are applied in practice in an organisation. The two organisations were chosen since they had completed a transformation program in AI. The case evidence presented is second hand, it is important to note that. It is offered as examples of the framework in use, and illustrates the applicability of the framework rather than validating it. No causal claims are made and the analysis is of the observed organisational practices applied to the CODE pillars to demonstrate the conceptual applicability; the findings should be regarded as preliminary exploratory evidence, not as confirmation of the framework's validity.

4.2.1. JPMorgan Chase: Financial Services Sector

JPMorgan Chase's AI transformation demonstrates the use of the CODE Framework in all four areas, making it a leader in

the field of implementing AI in strategic ways in the highly regulated financial services industry [19].

Clarity of Vision: JPMorgan Chase shared a comprehensive vision for AI transformation, including the use of AI tools to enhance customer service, drive operational efficiency, and accelerate innovation. The company spends roughly \$12 billion per year on technology infrastructure, and has over 50,000 technologists, including over 1,500 data scientists and machine-learning engineers focused on developing AI. Leadership has clearly stated that AI is not just about cutting costs but also about reimagining the company's strategy for competitive advantage, regulatory compliance, and customer engagement [18, 19].

Organisational Alignment: The company set up an AI Centre of Excellence responsible for cross-functional AI initiatives, creating standardised development patterns, and fostering knowledge sharing between business units. Over 300 AI applications are deployed. These programs offer comprehensive training in AI concepts, ethics, and

applications, equipping employees with the necessary groundwork for AI literacy.

Design for Humans: The Contract Intelligence (COiN) platform resolves specific problems that employees face when reviewing contracts and supplements their knowledge. COiN processes 12,000 commercial credit agreements in seconds, versus approximately 360,000 hours of manual processing (or about 173 full-time employees). AI powered chatbots handle more than 3 million customers per month, resolve 90% of their issues, and reduce wait times by 50%.

Ethical Governance: JPMorgan Chase established robust governance arrangements relating to fairness, transparency, privacy issues and compliance with regulatory obligations. All AI deployments are subjected to ethical review, and bias-testing protocols for customer-facing models. Demographic groups for equitable treatment report model performance on a regular basis.

4.2.2. Lenovo: Industrial Manufacturing and Technology Sector

The way AI has been integrated into Lenovo's entire manufacturing process shows how well the company has integrated AI into its operations all over the world, balancing efficiency, quality, sustainability, and human factors. Because of its performance in all pillars of the CODE Framework, the organisation is an example of an enterprise undergoing AI transformation in industry [20, 21].

Clarity of Vision: Lenovo shared an ambitious vision of the integration of AI throughout its manufacturing ecosystem, optimisation of its supply chain, product development and enhancing its customer experience. The company has pledged

to become a 'net zero' company by 2050 and the AI-driven initiatives are focused on reducing its operational carbon intensity by 35 percent by 2030. Over 30 manufacturing facilities worldwide have implemented predictive maintenance.

Organisational Alignment: Lenovo created cross-functional AI teams of data scientists, engineers, domain experts, and business leaders to ensure AI projects are in line with the business reality and strategic focus. 85% of large business decisions included AI-informed data, thanks to data-driven culture initiatives. Production defects were cut by 30 percent with the use of AI quality control systems.

Design for Humans: Lenovo focused on minimising learning curves and boosting employee productivity through intuitive AI-powered tools. AI use for knowledge workers resulted in saving around 1.9 hours per week. Marketing teams could be freed from content personalisation, as generative AI applications were capable of doing it 90 times faster. Optimising the supply chain using AI cut inventory costs by 15 percent and increased the availability of products to 98 percent.

Ethical Governance: Lenovo's Responsible AI Principles include six fundamental guidelines that span fairness, transparency, privacy, security, accountability and societal benefit. Strategic oversight is given by an independent Chief AI Officer reporting to the board. A Responsible AI Committee quarterly reviews all AI systems.

The evidence on how the CODE Framework has been implemented in each organisation is systematically compared in Table 3.

Table 3. Comparative Analysis of CODE Framework Implementation

CODE Pillar	JPMorgan Chase	Lenovo
Clarity of Vision	AI-first institution; \$12B annual tech investment; 1,500+ AI specialists; 300+ applications deployed	Net-zero 2050 vision; 35% carbon reduction target; 30+ facilities with predictive maintenance AI
Organisational Alignment	AI Centre of Excellence; 50,000+ technologists; thousands trained in AI literacy	Cross-functional teams; 85% decisions use AI insights; 30% defect reduction
Design for Humans	COiN: 12,000 contracts vs 360,000 hours (~173 full-time employees); 3M+ chatbot interactions/month; 90% resolution; 50% wait time reduction	1.9 hours/week saved; 90x faster personalisation; 15% inventory cost reduction; 98% product availability
Ethical Governance	Mandatory ethics reviews; bias testing across demographics; human-in-loop for credit decisions	6 Responsible AI Principles; Chief AI Officer reporting to board; quarterly reviews; 100% privacy coverage

Source: Authors' analysis based on the JPMorgan Chase Annual Report [18], the Lenovo ESG Report [20] and Munir [19]

5. Discussion

The theoretical contributions, practical implications, comparison to alternative frameworks and interdependencies of pillars in the CODE Framework are discussed.

5.1. Theoretical Contributions

The CODE Framework contributes to the AI transformation leadership literature in several related ways. First, it offers a model that is integrated and multi-domain in scope: rather than treating change management [3], human-centred design [6], and ethical governance [8] as separate streams, the CODE Framework operationalises all four dimensions as interdependent parts of a single model of AI transformation, grounded in human-centred design and human-centred ethics for change management. The contribution lies less in any single construct being new and more in the systematic introduction of the constructs and the description of how the constructs support one another. Second, the framework elevates human-centred design to a leadership competency. Third, the framework contains specific mechanisms of economic value creation, which go beyond the simple automation narrative [22]. Fourth, it also draws on the insights of behavioural economics for designing transformation strategies. Fifth, ethical governance is not viewed as a compliance burden, but as a strategic competence.

5.2. Practical Implications

The CODE Framework offers systematic direction to leaders of organisations on how to plan and deliver AI transformation initiatives. Behavioural change designs create interventions that can be more effective, when designed according to behavioural principles. For adoption to occur, leaders need to overcome status quo bias, with early wins; social proof, sharing of successes; and loss aversion, by providing support systems with transparency and guarantees for reskilling [11].

The system can also be used for diagnostics. The four pillars can be a framework for leaders to explore where they are not doing as well as they could in their transformation system. It is easy to have a clear vision, but shoddy adoption, and low level practice of human centred design. Alternatively, weak ethical governance can go hand-in-hand with strong alignment structures, leading to customer and regulator trust deficits.

5.3. Comparison with Alternative Frameworks

Comparing the CODE Framework to other models helps to explain its uniqueness. Technology models are based on technical architecture, data infrastructure and algorithms.

They offer the essential building blocks, but there are examples in case evidence of their inability to stand-alone. The CODE Framework places technology capabilities in a larger context recognising that the deployment of technology is not the same as change.

Pure models of change management like Kotter's 8-Step Process are useful general principles [7], but these are not AI specific and do not consider the special behavioural dynamics, economic value logic and governance requirements of AI systems. Ethics-based methods, such as the EU AI Act's risk-tiering approach, take a broader view of ethics and governance issues, but tend to place a secondary focus on economic value-creation and human-centred usage. These streams are interdependent as the empirical data from the two case studies show, and so they are all pursued at the same time and with the same degree of strategic commitment. Other leadership models, such as the transformative leadership compass identifying six competencies for digital transformation entrepreneurship, similarly aim to synthesise leadership capabilities but do not explicitly integrate behavioural economics and ethical governance as interdependent dimensions in the way the CODE Framework does [23].

5.4. The Interdependence of Framework Pillars

The four pillars of the CODE Framework are intrinsically linked. They are not independent variables but rather they reinforce each other in an integrated system. Vision is the basis for alignment, giving an organisation its strategic direction for coherent organisational reconfiguration. Alignment is a process that can be used to design through the creation of cross-functional structures that include different user perspectives. Design helps to clarify issues by identifying those that relate to users; issues that must be resolved by governance structures. Governance facilitates vision through trust among stakeholders to create ambitious transformation goals.

These interdependencies create cyclical reinforcement, where successes in one pillar fuel successes in other pillars [24]. The transformations start slowly and then gather steam as more and more legs are well developed.

These interdependencies are illustrated in Table 4. This table is intended as a systems thinking tool: if leaders are concerned that progress towards transformation is not getting them where they need it to be, the table can help the leader determine which Pillar dependency is not making progress.

Table 4. Framework Pillar Interdependencies

Pillar	Enables	Reinforcement Mechanism	Case Evidence
Vision	Alignment	Clear direction guides structural decisions	JPMorgan AI-first vision enabled Centre of Excellence structure

Pillar	Enables	Reinforcement Mechanism	Case Evidence
Alignment	Design	Cross-functional structures enable diverse user perspectives	Lenovo cross-functional teams facilitated inclusive design
Design	Governance	User insights surface governance requirements	Both organisations addressed stakeholder-specific concerns
Governance	Vision	Stakeholder trust enables ambitious transformation goals	Lenovo sustainability vision made credible through governance

Source: Authors' own synthesis

5.5. Framework Applicability across Organisational Contexts

One of the case evidences given is that both JPMorgan Chase and Lenovo are giant, well-funded, multinational companies. The use of the CODE Framework with small and medium sized enterprises (SMEs) and organisations in emerging markets, however, should be considered and their needs addressed. This is important because the framework's current empirical grounding is limited to large, resource-rich organisations, which raises questions about its transferability and scalability to contexts where financial, human, and technological resources are significantly more constrained.

The four pillars of the framework have a sound conceptual basis that is applicable across organisational sizes, including SMEs. However, there is a need for contextual adaptation to the SME environment due to their resource constraints. Strategic documentation may not be as necessary as it is in contexts that are more formal. The alignment within the organisation can take place informally, via cross-functional working or through a formal Centres of Excellence model where resources permit. Lightweight user research techniques can be used to implement design for humans, without having to have large-scale user experience programmes. Good governance in an SME environment can be more dependent on industry norms and external advice than on internal governance committees.

Other factors, such as regulatory immaturity, low baseline AI literacy, lack of infrastructure, and the special factors associated with stakeholder trust, are relevant to emerging markets. In such scenarios, the principles of human-centred design and ethical governance embedded within the CODE Framework become particularly relevant and may offer meaningful guidance. The framework should be tested in the future explicitly in these different settings through empirical studies.

6. Conclusion

The value creation, decision making and relationship with stakeholders change in the organisation due to AI technologies. On a theoretical level, this study could be considered as a step forward in the current scholarship on the leadership of the AI transformation, since it develops one of the first models that integrates change management,

behavioural economics, human-centred design, and ethical governance into a single framework, the CODE Framework. These disciplines were deliberately selected because they collectively address the organisational, cognitive, human, and normative dimensions of AI transformation that no single existing framework adequately covers.

By analysing these two case studies in detail across differing industries, the fundamental interdependence of the four pillars, and the effect that underperformance in each of them could have on the overall effectiveness of transformation, is illustrated. The quantitative and qualitative evidence provided shows that more comprehensive implementation is able to produce tangible outcomes. JPMorgan Chase's COiN platform is reported to save the equivalent of 360,000 hours of lawyer time annually, approximately 173 full-time employees, freeing legal and compliance professionals for higher-value strategic work [18], while Lenovo's AI-driven implementations reportedly saved knowledge workers 1.9 hours per week and accelerated content personalisation by a factor of 90 [21].

Theoretically, the CODE Framework builds on the emerging scholarly conversation on AI transformation leadership, which has been influenced by Murire [4], Bock and von der Oelsnitz [5], Bellantuono et al. [3], and Walmsley [8], along with others. It fills a gap in the literature by combining behavioural and human-centric viewpoints, which until now have been studied in isolation, and by shifting the focus of ethical governance from a mere compliance hurdle to a driver of value creation. On a practical level, the framework provides a roadmap for diagnosis and implementation, offering structured guidance for leaders seeking a balanced approach to AI transformation across technological, organisational, human, and ethical dimensions.

Several lines of future research are recommended. Longitudinal studies following organisations throughout their entire transformation processes would shed light on the temporal dynamics of the journey. Quantitative studies measuring the implementation level of the pillars across a larger number of organisations would provide statistical evidence of the framework's validity. Experimental designs that test both the integrated application of the CODE Framework and the consequences of its fragmentation would generate causal evidence. Context-specific studies examining the applicability of the framework in SMEs, public sector organisations, and organisations operating in emerging market settings would further strengthen and extend its reach.

References

- [1] Mithas S, Chen ZL, Saldanha TJ, De Oliveira Silveira A. How will artificial intelligence and industry 4.0 emerging technologies transform operations management? *Prod Oper Manag.* 2022;31(12):4475–4487.
- [2] Parycek P, Schmid V, Novak AS. Artificial intelligence (AI) and automation in administrative procedures: potentials, limitations, and framework conditions. *J Knowl Econ.* 2024;15(2):8390–8415.
- [3] Bellantuono N, Nuzzi A, Pontrandolfo P, Scozzi B. Digital transformation models for the I4.0 transition: lessons from the change management literature. *J Open Innov Technol Mark Complex.* 2021;7(3):202.
- [4] Murire OT. Artificial intelligence and its role in shaping organizational work practices. *Adm Sci.* 2024;14(12):316.
- [5] Bock T, von der Oelsnitz D. Leadership competences in the era of artificial intelligence. *Strategy Leadersh.* 2025;53(3):235–255.
- [6] Margetis G, Ntoa S, Antona M, Stephanidis C. Human-centered design of artificial intelligence. In: Salvendy G, Karwowski W, editors. *Handbook of Human Factors and Ergonomics.* 5th ed. Hoboken (NJ): Wiley; 2021. p. 1085–1106.
- [7] Rodriguez Villanueva L, Schwarz AH. Navigating organizational transformations: change management frameworks study [Master's thesis]. Lund: Lund University; 2025.
- [8] Walmsley J. Artificial intelligence and the value of transparency. *AI Soc.* 2021;36(2):585–595.
- [9] Saura JR, Bužinskienė R. Behavioral economics, AI and entrepreneurship. *Int Entrep Manag J.* 2025;21(1):1–33.
- [10] Eckert SJ, McCoy M. Benefits of behavioral nudges in retirement savings programs. *J Financ Plan.* 2024;37(3):72–86.
- [11] Hofman B, de Vries G, van de Kaa G. Status quo biases and traditions slow the adoption of sustainable technologies. *Energy Res Soc Sci.* 2022;84:102367.
- [12] Zhou L, Paul S, Demirkan H, Yuan L, Spohrer J, Zhou M, et al. Intelligence augmentation: towards building human-machine symbiotic relationship. *AIS Trans Hum-Comput Interact.* 2021;13(2):243–264.
- [13] Ammer MA, Alqahtani AS, Alqahtani FS, Alqahtani MS, Ammer AA. Application of artificial intelligence for better investment in human capital. *Mathematics.* 2023;11(3):612.
- [14] Chinthala KKR, Thakur MS, Shuaib M, Alam S. Computational intelligence in society: human-centric solutions. *J Comput Cogn Eng.* 2024;3(2):126–139.
- [15] Yin RK. *Case Study Research and Applications: Design and Methods.* 6th ed. SAGE Publications; 2018.
- [16] Patton MQ. *Qualitative Research and Evaluation Methods.* 3rd ed. SAGE Publications; 2002.
- [17] Miles MB, Huberman AM, Saldaña J. *Qualitative Data Analysis: A Methods Sourcebook.* 3rd ed. SAGE Publications; 2014.
- [18] JPMorgan Chase & Co. *Annual Report 2023.* New York: JPMorgan Chase & Co.; 2023.
- [19] Munir T. *Reimagine Finance: The CFO's Leadership Playbook for the Age of AI, Data, and Digital.* Hoboken (NJ): John Wiley & Sons; 2025.
- [20] Lenovo Group Limited. *Environmental, Social and Governance Report 2022/23.* Hong Kong: Lenovo Group Limited; 2023.
- [21] Lenovo Group Limited. *Annual Report 2023/24.* Hong Kong: Lenovo Group Limited; 2024.
- [22] Affizie G. The Cyclical Interdependence Theory of Needs. SSRN Working Paper 4979455;2024.
- [23] Schiuma G, Schettini E, Santarsiero F, Carlucci D. The transformative leadership compass: six competencies for digital transformation entrepreneurship. *Int J Entrep Behav Res.* 2022;28(5):1273–1291.
- [24] Aggarwal A, Dhaliwal RS, Nobi K. Impact of structural empowerment on organisational commitment: the mediating role of women's psychological empowerment in the context of the IT industry. *Vision.* 2022;26(2):147–157.