

# Building sustainable AI-augmented organisations: a strategic framework for long-term workforce transformation

Emmanuel Senior Tenakwah and Benjamin Otchere-Ankrah

## Abstract

**Purpose** – This paper extends previous research on artificial intelligence (AI) integration and workforce transformation by developing a framework for building sustainable AI-augmented organisations. Building on emerging evidence on upskilling imperatives, this paper aims to examine how organisations can achieve long-term success through strategic, ethical and employee-centric AI adoption.

**Design/methodology/approach** – This paper synthesises insights from recent case studies on AI-driven labour tensions, upskilling frameworks and human-machine collaboration models. It adopts an integrative approach combining strategic human resource management perspectives, organisational sustainability theory and change management principles.

**Findings** – This research reveals that sustainable AI integration requires a multidimensional framework encompassing five critical pillars: ethical AI governance and transparency mechanisms, continuous workforce development ecosystems, human-centric technology design principles, adaptive organisational structures and stakeholder engagement and trust-building processes. Organisations that successfully implement this framework demonstrate superior innovation capabilities, enhanced employee engagement and more resilient competitive positioning.

**Originality/value** – This paper offers a framework that bridges the gap between technological implementation and sustainable organisational transformation. By synthesising lessons from upskilling imperatives and human-machine collaboration research, it provides human resource leaders with actionable strategies for building AI-augmented organisations that balance efficiency gains with employee well-being, ethical considerations and long-term competitive advantage.

**Keywords** Artificial intelligence, Organisational sustainability, Strategic human resource management, Workforce transformation, Ethical AI, Human-machine collaboration

**Paper type** General review

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## Introduction

The integration of artificial intelligence (AI) and automation technologies represents a defining challenge for contemporary organisations, with profound implications for workforce management, organisational culture and competitive sustainability. While AI adoption has surged, with a 70% increase over the past five years and global spending projected to exceed \$204bn by 2025, many organisations struggle to translate technological investments into sustainable competitive advantage (McKinsey & Company, 2025). The fundamental issue is not merely technological capability but rather the capacity to orchestrate complex transformations that simultaneously advance organisational objectives while preserving worker dignity, cultivating skills and maintaining ethical standards.

Previous research has established that successful AI integration requires sophisticated people management strategies that balance innovation with human concerns (Tenakwah and Amankwaa, 2025). Organisations must develop comprehensive approaches

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encompassing strategic workforce planning, cultural transformation, ethical frameworks and continuous learning ecosystems (Asiedu and Tenakwah, 2025). However, what remains underexplored is how these various dimensions can be integrated into a cohesive, sustainable framework that guides organisations through long-term AI-augmented transformation.

This paper addresses this gap by developing an integrated framework for building sustainable AI-augmented organisations. Drawing on insights from recent labour disputes, upskilling imperatives and emerging research on human–machine collaboration, we propose a five-pillar model that positions strategic human resource management as the central orchestrator of sustainable AI transformation. Our framework moves beyond viewing AI adoption as a technical project or an isolated human resource (HR) initiative and conceptualises it as a comprehensive organisational transformation that requires systematic attention to governance, learning, design, structure and stakeholder relationships.

## The imperative for sustainable AI integration

### *Lessons from recent labour tensions*

The introduction of AI-generated algorithms to monitor worker movements and set productivity targets has led to significant workforce resistance, industrial action and lost sales (Tenakwah and Amankwaa, 2025). These disputes reveal fundamental tensions that arise when efficiency optimisation through technology proceeds without adequate consideration of worker well-being, professional discretion and safety concerns. The core issue is not AI adoption itself but rather the failure to balance technological capabilities with human agency (Tenakwah and Amankwaa, 2025). Workers have expressed concerns that AI-driven performance monitoring conflicts with their desire for professional discretion and dignity, particularly when algorithms fail to account for unavoidable delays and legitimate variations in work pace. These cases demonstrate that organisations cannot divorce technological implementation from comprehensive workforce planning and change management strategies.

### *The skills transformation imperative*

Parallel to challenges in AI implementation, organisations face an unprecedented imperative to transform skills. Research indicates that over 1 billion jobs will be radically transformed by technology in the next decade, with between 75 and 375 million workers globally potentially needing to switch occupations or acquire new skills by 2030 (World Economic Forum, 2025). Technical skills competencies now degrade by approximately 50% after just five years (IBM, 2021). These statistics reveal that continuous upskilling and reskilling are not merely desirable workforce development initiatives but rather strategic imperatives for organisational survival. Organisations viewing workforce skills as static commodities to be maintained rather than dynamically evolved will inevitably be outperformed by more adaptable competitors (Asiedu and Tenakwah, 2025).

### *The human–machine collaboration challenge*

Successfully integrating AI into organisational workflows requires a detailed examination of work activities to coordinate seamless human–machine partnerships (Brynjolfsson and McAfee, 2014). Most traditional roles will need to be redefined through the lens of human–machine collaboration, from call centre agents working with conversational AI to radiologists using imaging AI tools. This evolution demands more than technological deployment – it requires sophisticated strategies for operationalising optimised workflows at scale.

The complexity of human–machine collaboration extends to the creation of entirely new AI-centric job roles. Organisations now require automation architects and engineers to design and maintain AI systems, AI trainers and curators to manage data sets and model performance, AI governance and risk management experts to ensure ethical deployment and “human AI specialists” to ensure seamless coordination and optimal division of labour between human workers and AI systems (Tenakwah and Watson, 2024). These emerging career pathways require interdisciplinary training that blends technical skills with domain expertise.

### **The five-pillar framework for sustainable AI-augmented organisations**

Building on these imperatives, we propose an integrated framework comprising five interconnected pillars that collectively enable sustainable AI-augmented organisational transformation. Each pillar represents a critical dimension requiring systematic attention, strategic planning and continuous refinement. While presented separately for analytical clarity, these pillars are mutually reinforcing and must be developed in coordination to achieve sustainable outcomes.

#### ***Pillar 1: Ethical AI governance and transparency***

Ethical AI governance forms the foundational pillar of sustainable AI integration. Effective ethical governance requires establishing AI ethics committees with diverse stakeholder representation to oversee the ethical implications of AI initiatives. These committees must have genuine decision-making authority, not merely advisory roles, ensuring ethical considerations receive equal weight alongside efficiency and profitability metrics. Organisations should develop clear guidelines addressing data privacy, algorithmic bias, transparency in AI decision-making and mechanisms for human oversight and intervention.

Transparency mechanisms are particularly critical for building trust and ensuring accountability. Workers and other stakeholders must understand how AI systems function, what data they use, how decisions are made and what recourse exists when errors occur or concerns arise. Organisations should implement regular AI ethics audits to examine deployment practices, conduct bias assessments, review decision-making processes and ensure compliance with ethical guidelines. Independent parties should conduct these audits, and the results should be transparently communicated to stakeholders.

#### ***Pillar 2: Continuous workforce development ecosystems***

The second pillar addresses the critical imperative for continuous workforce development in response to rapidly evolving skill requirements. As Asiedu and Tenakwah (2025) emphasised, organisations must shift from viewing skills development as tactical training initiatives to treating it as a strategic investment priority essential to sustainable competitive advantage. This requires building comprehensive workforce development ecosystems that enable continuous learning, facilitate skills transformation and cultivate growth-oriented mindsets.

The foundation of effective workforce development is data-driven skills forecasting integrated with strategic workforce planning. Organisations must conduct comprehensive analyses of current workforce skills composition, forecast future critical skills needs based on business strategy and market trends, map skills competitiveness relative to competitors and develop continuous cycles of targeted skills investment plans (Asiedu and Tenakwah, 2025). This requires establishing internal skills-mapping platforms that serve as centralised command centres for monitoring skills inventories, determining proficiency levels, identifying upskilling opportunities and continuously crowdsourcing skills forecasts from stakeholders.

Beyond data infrastructure, organisations must modernise their learning technologies and delivery mechanisms. Traditional passive, one-size-fits-all online course libraries and dated compliance-based training models prove insufficient for the dynamic requirements of AI-augmented work environments. Organisations should invest in consumer-grade learning technologies that facilitate adaptive, on-demand and collaborative learning experiences tailored to individual skill priorities and development aspirations. This includes digital coaching and AI-enabled knowledge assistants, immersive virtual learning environments, user-generated knowledge marketplaces and hands-on project-based learning opportunities.

Equally important is cultivating organisational cultures rooted in growth mindsets and lifelong learning. Organisations must make continuous learning an essential part of their cultures and employee value propositions, ensuring workers remain ahead of rapidly changing skill curves (Asiedu and Tenakwah, 2025). This involves building cultures of curiosity where employees feel comfortable navigating fluctuating skill-set requirements, providing tools and resources for personalised upskilling pathways and self-directed learning plans and seeding growth-oriented leadership in which executives model an enthusiastic embrace of their own continuous skills development.

### ***Pillar 3: Human-centric technology design***

The third pillar emphasises that sustainable AI integration requires human-centric technology design that prioritises augmentation over replacement, preserves human agency and enhances worker dignity. Successful AI implementation requires balancing technological capabilities with human agency, ensuring AI systems amplify rather than diminish human capabilities and decision-making authority (Davenport and Kirby, 2016).

Human-centric design begins with clearly articulating how humans and machines will collaborate to deliver superior value and productivity. Organisations must develop explicit human-machine collaboration models defining roles and responsibilities, decision-making authority and interaction protocols. These models should emphasise AI as a tool that enhances human capabilities – providing information, automating routine tasks and offering decision support – while preserving ultimate human judgement and authority over critical decisions.

### ***Pillar 4: Adaptive organisational structures***

The fourth pillar recognises that sustainable AI integration requires fundamental rethinking of organisational structures, roles and career pathways. Traditional hierarchical structures and linear career progressions prove inadequate for the dynamic, collaborative nature of AI-augmented work environments. Organisations must develop more flexible, adaptive structures enabling fluid collaboration between humans and AI systems while creating meaningful career pathways in the transformed landscape.

As Tenakwah and Watson (2024) highlighted, AI integration necessitates the creation of entirely new job models and career pathways to optimise human-machine collaboration. Organisations need teams of automation architects and engineers to design, deploy and maintain AI technologies; AI trainers and curators to manage data sets and model performance; AI governance and risk management experts to ensure ethical and unbiased systems; and human AI specialists to ensure seamless coordination between human workers and AI systems. These roles require interdisciplinary skills blending technical expertise with domain knowledge, necessitating new approaches to recruitment, training and career development.

### ***Pillar 5: Stakeholder engagement and trust-building***

The fifth pillar emphasises that sustainable AI integration requires proactive stakeholder engagement and deliberate trust-building processes. The Woolworths labour disputes demonstrate the costly consequences of failing to adequately engage workers and their representatives before implementing new technologies (Tenakwah and Amankwaa, 2025). Organisations must recognise that technological transformation is fundamentally a social process that requires buy-in, collaboration and shared understanding among diverse stakeholders.

Effective stakeholder engagement begins early in the AI adoption process, ideally before specific technologies are selected or implementation plans are finalised. Organisations should identify all relevant stakeholder groups, including frontline workers, middle managers, senior leadership, labour unions, customers and potentially community members or regulators. Each stakeholder group should be consulted to understand their perspectives, concerns, priorities and ideas regarding AI adoption. This consultation should be genuine and substantive, not merely perfunctory, and should include precise mechanisms for stakeholder input to influence decision-making.

### **Strategic HR's central role in orchestrating sustainable transformation**

Implementing the five-pillar framework requires sophisticated orchestration across multiple organisational functions and stakeholder groups. Strategic human resource management emerges as uniquely positioned to serve as the central coordinator of sustainable AI-augmented transformation. As Tenakwah and Watson (2024) argued, HR leaders must position themselves as strategic partners in AI integration, developing competencies in organisational development, skills forecasting, job architecture and overall culture evolution to navigate the AI transition effectively.

The breadth of skills transformation touches virtually every facet of strategic HR responsibilities, spanning workforce planning, skills forecasting, data analytics capabilities, career development systems, talent sourcing, learning content and platforms, employee engagement strategies, organisational design and cultural transformation (Asiedu and Tenakwah, 2025). This positions HR as the natural integrator of the various dimensions encompassed in the five-pillar framework, bridging between technological capabilities, business strategy and human needs.

Specifically, strategic HR must lead in several critical areas. First, HR should drive ethical AI governance by establishing ethics committees, developing ethical frameworks, conducting regular audits and ensuring ethical considerations receive appropriate weight in decision-making. Second, HR must architect and implement continuous workforce development ecosystems, including skills forecasting systems, modern learning technologies, growth-oriented cultures and individualised development pathways. Third, HR should champion human-centric technology design by advocating for worker perspectives in technology development, conducting impact assessments and ensuring AI systems enhance rather than diminish worker well-being and agency.

Fourth, HR must lead organisational restructuring by designing new job architectures, creating AI-centric roles, redesigning existing positions for human-machine collaboration and developing flexible career pathways reflecting non-linear trajectories. Fifth, HR should orchestrate stakeholder engagement by facilitating consultation processes, developing communication strategies, addressing worker concerns and building trust through demonstrated commitment to employee well-being and development.

To effectively fulfil this strategic role, HR leaders must develop new competencies beyond traditional HR expertise. This includes technological literacy to understand AI capabilities and limitations, strategic thinking to align AI adoption with long-term business objectives,

change management expertise to navigate complex transformations, data analytics skills to leverage workforce data for decision-making and stakeholder management capabilities to build coalitions and navigate diverse interests. HR leaders must also cultivate courage and influence to push back against purely efficiency-driven approaches, advocating balanced strategies that protect workers' interests while advancing organisational objectives.

Organisations should support HR in this expanded strategic role by providing adequate resources, including dedicated AI transformation budgets, access to relevant technologies and data, authority to influence AI adoption decisions and opportunities for HR leaders to develop required competencies through training and development programs. Senior leadership must also position HR as a genuine strategic partner, involving HR leaders early in AI planning processes and ensuring HR perspectives receive appropriate consideration in key decisions.

### **Implementation roadmap for building sustainable AI-augmented organisations**

While the five-pillar framework provides conceptual guidance (see [Figure 1](#) below) for sustainable AI integration, organisations need practical implementation roadmaps. Based on the synthesis of research and industry practices, we propose a phased approach encompassing assessment, foundation-building, pilot implementation, scaling and continuous refinement.

#### ***Phase 1: Comprehensive assessment and strategic planning***

The first phase involves conducting comprehensive assessments across all five pillars to establish a baseline understanding and identify priority development areas. Organisations should assess current ethical governance structures and practices, evaluate workforce composition and development, analyse current technology design approaches and human-machine collaboration practices, review organisational structures and career pathway models and gauge current stakeholder relationships and trust levels.

Based on assessment findings, organisations should develop strategic plans for AI-augmented transformation. These plans should articulate a clear vision and objectives for AI adoption, identify specific areas where AI will be deployed and expected benefits, outline an approach for each of the five pillars, including specific initiatives and timelines, define governance structures for overseeing implementation, establish metrics for measuring progress and success and allocate resources, including budgets, personnel and technology investments. Strategic planning should involve diverse stakeholder input, ensuring plans reflect multiple perspectives and build early buy-in.

#### ***Phase 2: Foundation-building***

The second phase focuses on building foundational capabilities across the five pillars before widespread AI deployment. This includes establishing ethical governance infrastructure such as AI ethics committees, ethical frameworks and guidelines, audit processes and mechanisms and channels for reporting and addressing concerns. Organisations should develop workforce development ecosystems that include skills-mapping platforms and forecasting systems, modern learning technologies and platforms, partnership arrangements with educational institutions and training providers and initial upskilling programs focused on AI literacy across the workforce.

Foundation-building also involves developing human-centric design principles and processes, establishing human-machine collaboration frameworks and protocols and creating feedback mechanisms for gathering user input on technology design. Organisations should begin redesigning organisational structures by defining new AI-centric job roles and requirements, developing preliminary job architectures for AI-

**Figure 1** Conceptual framework



augmented positions and piloting flexible career pathway models. Finally, organisations should establish mechanisms for stakeholder engagement, including regular consultation forums, transparent communication channels and processes for incorporating stakeholder feedback into planning.

**Phase 3: Pilot implementation**

The third phase involves piloting AI implementation in selected areas or business units, applying the five-pillar framework principles while learning from practical experience.

Organisations should select pilot areas strategically, choosing contexts where success is likely but challenges will reveal important lessons. Pilot implementations should incorporate all framework elements, including ethical review and governance oversight, targeted upskilling for affected workers, human-centric technology design with user involvement, organisational restructuring as needed and intensive stakeholder engagement and communication.

Organisations must carefully monitor and evaluate pilot implementations, gathering quantitative data on key metrics such as productivity, quality, efficiency, employee satisfaction and error rates, as well as qualitative feedback from workers, managers and other stakeholders. Evaluation should examine both technical performance and human dimensions, assessing whether AI systems function as intended, whether human-machine collaboration proves effective, how workers experience the changes, what challenges emerge and what adjustments might improve outcomes. Lessons from pilots should be systematically captured and incorporated into refinements before broader scaling.

#### ***Phase 4: Scaling and expansion***

Based on successful pilots and lessons learned, organisations can proceed to scaling AI implementation more broadly across the organisation. Scaling should be gradual and deliberate, rather than rushed, and should maintain attention to all five pillars as implementation expands. Organisations should develop detailed scaling plans specifying which areas will adopt AI in what sequence, what resources will be required for each phase, how learning from earlier implementations will be incorporated and how challenges will be addressed as they emerge.

As implementation scales, organisations must maintain vigilance across all framework pillars. Ethical governance must expand to cover additional AI systems and applications; workforce development programs must accelerate to prepare more workers for AI-augmented roles; human-centric design principles must be consistently applied to new implementations; organisational restructuring must proceed in coordination with technology rollout; and stakeholder engagement must intensify to address broader impacts. Organisations should also continue to gather data and feedback, monitor impacts, identify emerging issues and make necessary adjustments to maintain a sustainable trajectory.

#### ***Phase 5: Continuous refinement and evolution***

The final phase recognises that building sustainable AI-augmented organisations is not a one-time project but rather an ongoing journey of continuous refinement and evolution. As AI technologies advance, business strategies shift, workforce compositions change and societal expectations evolve, organisations must continuously adapt their approaches across all five pillars. This requires establishing processes for regularly reviewing and updating ethical frameworks, continuously forecasting skills needs and adjusting development programs, iteratively refining human-machine collaboration practices based on experience, periodically reassessing organisational structures and career pathways and maintaining ongoing stakeholder dialogue and trust-building.

Organisations should also remain attentive to emerging research and industry practices, learning from others' experiences and incorporating promising innovations into their own approaches. This includes participating in industry forums and knowledge-sharing networks, monitoring academic research on AI integration and workforce transformation, tracking regulatory developments and evolving ethical standards and maintaining openness to new ideas and approaches even as core principles remain stable.

## Conclusion

The integration of AI into organisational operations represents one of the most significant transformations in modern business history, with profound implications for competitive dynamics, workforce composition and the very nature of work itself. As recent labour disputes in Australia demonstrate, approaches that prioritise technological efficiency over human considerations risk not only workforce resistance and operational disruptions but also the failure to realise the full potential of AI-augmented organisational models.

This paper proposes a five-pillar framework for building sustainable AI-augmented organisations that balance technological advancement with human needs, ethical considerations and long-term competitive positioning. The framework encompasses ethical AI governance and transparency, continuous workforce development ecosystems, human-centric technology design, adaptive organisational structures and stakeholder engagement and trust-building. Together, these pillars provide integrated guidance for organisations seeking to navigate AI transformation in ways that serve both organisational objectives and worker interests.

Implementation of this framework positions strategic human resource management as the central orchestrator of sustainable transformation. HR leaders must develop new competencies and assume expanded strategic roles encompassing technological literacy, ethical governance, workforce analytics, organisational design and stakeholder management. Organisations must support HR in this role by providing adequate resources and authority and by positioning HR as a genuine strategic partner in AI adoption decisions.

The phased implementation roadmap offers practical guidance for organisations at various stages of AI adoption. From initial assessment and strategic planning through foundation-building, pilot implementation, scaling and continuous refinement, the roadmap emphasises systematic attention to all framework dimensions while maintaining flexibility to adapt to organisational contexts and emerging challenges.

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