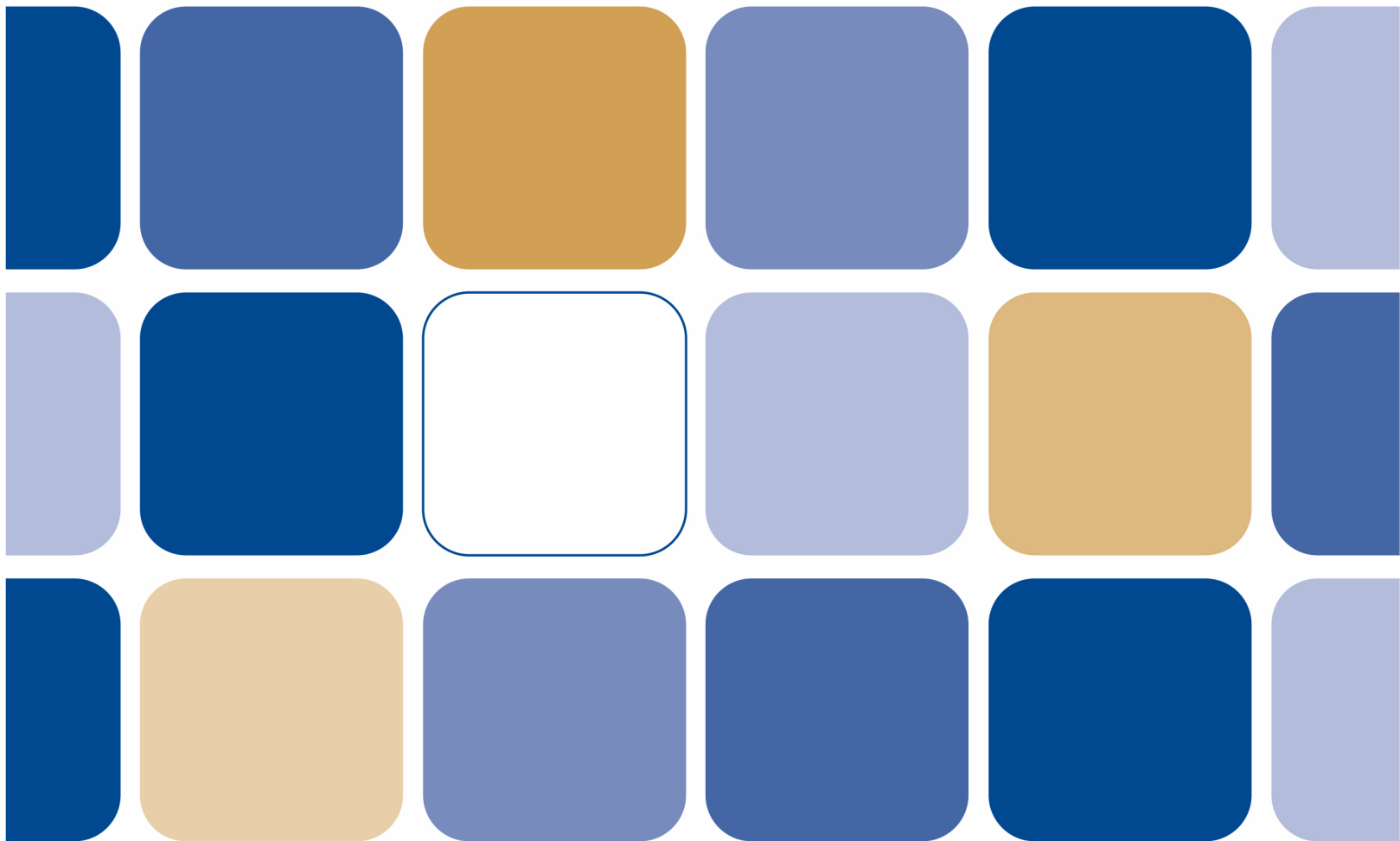


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Leadership evolution in the age of artificial intelligence

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Abstract Advocates of artificial intelligence (AI) envision a future where intelligent machines can perform routine tasks, allowing humans to focus on creative pursuits. Despite concerns about job losses, organisational think tanks believe that humans and machines can work together to achieve better results. This paper explores the interaction of AI and leadership to improve organisational performance. It inspires enthusiastic optimism in some managers and fear and scepticism in others. It is crucial to acknowledge and address these concerns as increased emotional tension always accompanies new phenomena. The paper explains that leaders who prioritise outcomes over technology can devise effective AI strategies that improve human capabilities, which could lead to a more productive, meaningful and fulfilling future of work. The paper uses pertinent tables to understand better the overall impact of AI on corporate culture and work style as well as its socioeconomic implications in the workplace. The paper concludes with a focus on hybrid models that combine human intelligence with machine intelligence to get exponential results.

KEYWORDS: artificial intelligence, AI, corporate culture, future of work, human augmentation

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INTRODUCTION

Artificial intelligence (AI) stands at the precipice of a major transformation, poised to either herald a Machine Learning Apocalypse or propel us into the Fourth Industrial Revolution. In anticipation of these changes, leaders must evolve organisational structures to better suit the burgeoning age of AI.

In the banking sector, integrating AI presents significant opportunities and challenges. AI mimics human cognitive functions through sophisticated algorithms, enabling banks to

harness vast datasets on customers, transactions and financials to improve various services such as customer support, accounting, sales, contracts and cybersecurity.

As AI becomes more embedded in banking technology, its influence on leadership becomes increasingly crucial to address. While technology offers new capabilities, the true measure of success lies in how organisations steer cultural shifts and talent development. Leaders are pivotal in guiding their institutions towards ethical

innovation with AI, balancing efficiency gains with a commitment to ethical practices and lifelong learning.

Leadership in the AI era should not merely react to technological disruption but should proactively engage with emerging technologies in a human-centric manner. Continuous innovation is essential for staying competitive in an AI-transformed landscape. Leaders are tasked with leveraging new data and insights to boost productivity and enhance strategic decisionmaking.

This paper delves into leadership strategies that effectively integrate AI to support both routine and complex decision-making processes. It discusses how human and AI synergy can cultivate a culture adaptable to change and dedicated to ongoing innovation. Navigating the AI era demands exemplary leadership emphasising ethical standards, talent cultivation and continuous education, ensuring that new opportunities are seized while risks are minimised.

This exploration into the future of AI is not to forecast what will happen but to equip leaders to better prepare for this new age.

HOW AI IS CHANGING THE WAY WE WORK

Creating AI strategies has often led organisations in the wrong direction, diverting attention from crucial business outcomes. For data and analytics leaders and line of business leaders, the initial enquiry into AI should not concern the choice of platform. Prioritising technological solutions before defining essential business challenges is akin to putting the cart before the horse.

The primary focus should instead be on developing AI competencies and establishing robust data engineering practices, as these are crucial for successful AI implementation. Regrettably, many organisations relegate these fundamental aspects to a secondary status, overshadowed by more immediate concerns. The AI landscape has advanced rapidly, far outpacing earlier forecasts. In the banking sector, the global market for AI was valued at approximately US\$19.87bn in 2023, with projections suggesting a compound annual growth rate of 31.8percent from 2024 to 2030, as illustrated in Figure 1.

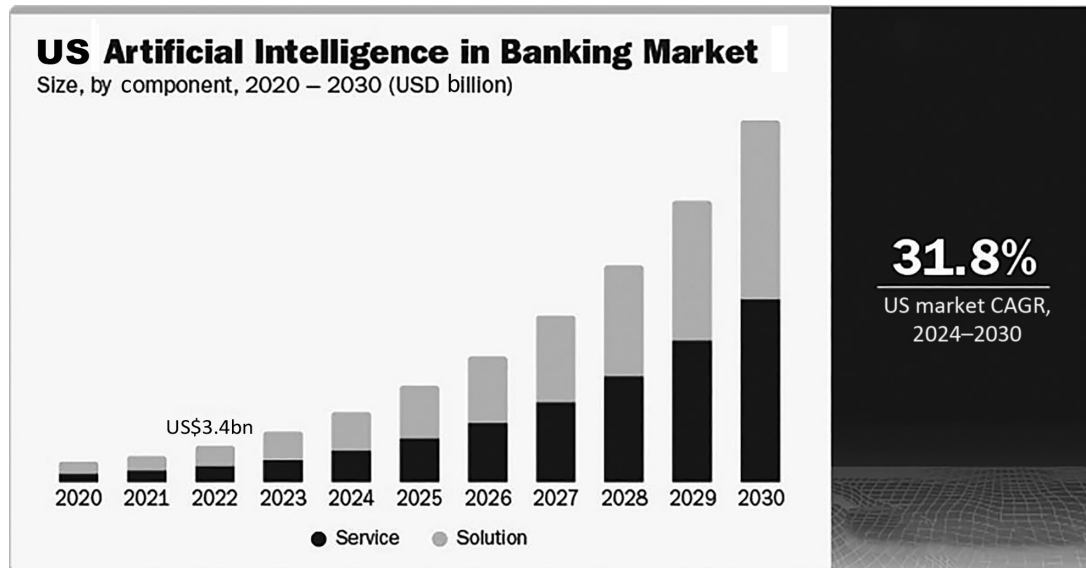


Figure 1 US artificial intelligence in the banking market.
Key: CAGR, compound annual growth rate

Source: 'Artificial Intelligence in Banking Market Size, Share & Trends Analysis Report by Component (Service, Solution), by Application (Risk Management, Customer Service), by Technology, by Enterprise Size, by Region, and Segment Forecasts, 2024–2030', Market Analysis Report, available at <https://www.grandviewresearch.com/industry-analysis/artificial-intelligence-banking-market-report> (accessed 15th January, 2024).

While maintaining an AI framework is crucial for sustainability, it should not overshadow the rigorous process of selecting the most impactful business use cases to address. The ultimate objective of any AI initiative should be to resolve real-world problems and deliver tangible value to the organisation.

The notion of AI — machines demonstrating human-like cognitive abilities — has been explored for several decades. An important insight from the extensive history of AI research is what has come to be known as Moravec’s Paradox. This principle, named after the Austrian scientist Hans Moravec,¹ suggests that complex tasks are often more straightforward for computers, while simple tasks can be exceptionally challenging. For instance, while computers quickly mastered adult-level logical problems, mimicking the basic mental abilities of a child — such as recognising parents, exploring surroundings, learning to write, navigating a room or responding to questions — proved far more complex.

This paradox highlighted that the most ancient human skills, such as motor control and language, became largely unconscious over billions of years of evolution, whereas abstract thinking, a more recent development, was simpler to reverse-engineer.

AI applications were, consequently, historically confined to specialised areas. The dawn of the 21st century, however, marked a significant shift driven by unprecedented advancements in computational power, data generation and storage and machine learning technologies, ushering in a true age of AI.

A staggering 70 percent of all global data has been produced in the last five years alone (Figure 2). This era is characterised by an overwhelming volume and diversity of data, over 80 percent of which is unstructured, surpassing our manual processing capabilities. Alongside these developments, significant advancements in computing power and sophisticated algorithms have begun to circumvent Moravec’s Paradox, heralding new possibilities for AI.

Understanding the core components of AI is essential for comprehending its functionality and evolution. These components — algorithms, data and computing power — drive AI’s operation.

- Algorithms, the building blocks of AI, consist of rules and instructions that orchestrate data processing and decisionmaking within AI systems.
- Data serves as the fuel for AI, playing a pivotal role in its learning processes and decision-making capabilities. The quality

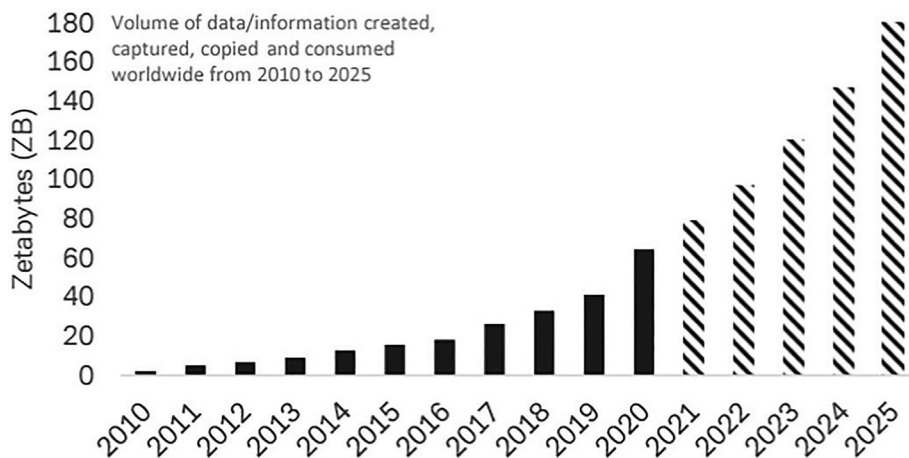


Figure 2 Amount of data created, consumed and stored globally (2010–2020)

Source: Amount of Data Created Daily (2024), by Fabio Duarte. Original Source by Statista, Bernard Marr & Co, available at <https://explodingtopics.com/blog/data-generated-per-day> (accessed 20th February, 2024).

of data directly influences the performance of AI models.

- The engine of AI comprises advanced computational models that utilise substantial computing resources to efficiently process large datasets.

In 2023, a survey was conducted to gauge the most significant impacts of AI on employment (Figure 3). The findings revealed a complex influence of AI on the job landscape. While many respondents highlighted optimised job functions as a significant impact, others anticipated job creation, job elimination or the reshaping of roles as predominant outcomes of AI integration. The future of work is expected to reflect a blend of these elements, depending on industry-specific dynamics, technological progress and workforce adaptation. As we navigate this changing environment, it is crucial to consider the comprehensive effects of AI on jobs and pursue a balanced strategy to maximise benefits while mitigating potential challenges (Figure 3).

AI'S IMPACT ON CORPORATE CULTURE

AI methodologies can influence organisational culture in two ways. First, AI can facilitate the management of culture through systems and tools that offer crucial insights. Secondly, the introduction of new AI systems in the workplace has the potential to directly affect employees' mindsets and behaviours.

AI has transformed organisational operations by automating tasks and introducing new ways to be efficient. AI solutions now handle repetitive tasks, allowing employees to dedicate more time to strategic initiatives and creative endeavours. This shift in responsibilities has helped cultivate an organisational culture that values critical thinking and developing higher-order skills among team members. Additionally, integrating AI enhances decisionmaking, with organisations accessing real-time, data-driven insights to make evidence-based decisions. The result is an adaptive, agile culture characterised by innovation and progression.

Adopting AI technology within organisations has proven to be a catalyst for developing a progressive workplace culture. AI-powered tools and applications have improved collaboration and communication, dismantling traditional hierarchies and silos. Teams can now collaborate seamlessly across geographical boundaries, fostering diversity and inclusivity. Moreover, AI has enabled a shift towards a more flexible work environment, which supports work-life balance and empowers employees to pursue their passions. This empowerment promotes a supportive workplace culture that values individual growth and development.

AI's most significant cultural impact lies in fostering a culture of innovation. Innovation arises from curiosity — posing questions, challenging norms, testing ideas and engaging with AI to uncover patterns beyond human

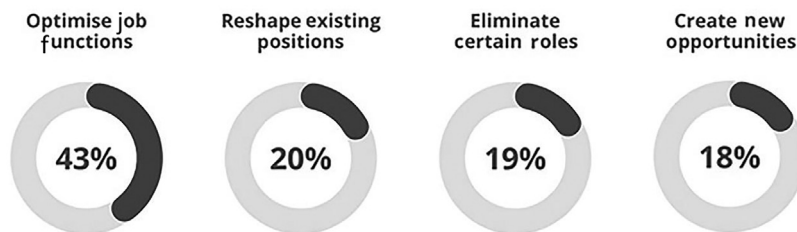


Figure 3 What is the most important impact of AI on jobs?

Source: 'AI and the Workforce: Perspectives on Job Impact, September 2023', Stage 4 Solutions, available at <https://www.stage4solutions.com/blog/ai-and-the-workforce-perspectives-on-job-impact/> (accessed 13th November, 2023).

detection. AI encourages experimentation and creativity by providing tools for rapid testing and refinement of ideas; consequently, the workforce is transitioning from highly technical roles to positions emphasising cultural fit and adaptability.

This shift towards a culture of innovation injects excitement and curiosity within the organisation, creating an environment that encourages creativity and prompts employees to think outside traditional boundaries. Adaptable, responsive and agile teams will thrive, pushing the organisation's culture toward continual growth and evolution.

Integrating AI tools has made financial institutions more collaborative and multidisciplinary, moving away from hierarchical leadership. Beyond simple teamwork, employees must now collaborate with machines, integrating systems as part of the team dynamic. This collaboration is essential for harnessing the full potential of the human-machine interface, propelling organisations towards a future of endless possibilities and constant evolution.²

AI AND LEADERSHIP

As AI becomes integral to business operations, leadership must evolve to adopt a human-centred approach. Influential leaders will regard AI not as a substitute for human employees but as a tool to augment human capabilities and boost creativity. They will prioritise the development of their teams and foster a culture of continuous learning, thereby equipping workers for an AI-enhanced future.

AI is set to transform the nature of work and the skills required from the future workforce; however, with strategic planning and a human-centric mindset, businesses can leverage AI to achieve greater efficiency while empowering employees with new opportunities. Leaders and workers alike must aim to establish a trajectory for ethical, responsible and inclusive AI usage that prioritises human interests.

By prioritising outcomes over technology, organisations can devise AI strategies that effectively

- empower workers with intelligent tools that augment their strengths;
- identify and capitalise on reskilling and upskilling opportunities for employees;
- cultivate a culture of experimentation and continuous learning;
- use AI to enable more strategic, creative work for humans and
- establish governance processes that prioritise fairness and transparency.

With exemplary leadership, AI has the potential to significantly enhance human capabilities, leading to a more productive, meaningful and fulfilling future of work. Visionary leaders in the banking sector play a crucial role in this transformative process. They should inspire curiosity about the synergies between human and machine collaboration, promote innovation and growth and champion a shift towards a more adaptive culture.

Leaders who effectively integrate AI into their operations will gain substantial productivity, efficiency and decision-making advantages. Additionally, those who emphasise human-centred leadership will excel in attracting, retaining and motivating top talent. To determine the optimal balance between leveraging AI and employing human qualities, leaders should consider all factors listed below and refer to the accompanying matrix, which outlines where leaders should utilise AI (Figure 4).³

A study published by the *International Journal of Human Resource Management* highlighted a significant gap in human resource literature regarding the intersection of AI and human resources. While existing studies extensively explore how technology has streamlined human resource processes, there is a pressing need to delve into how AI reshapes human resource practice, process and philosophy.

AI Versus Human: A Matrix of Leadership Activities

A guide for leaders to assess where they should leverage AI versus where they should leverage being human.

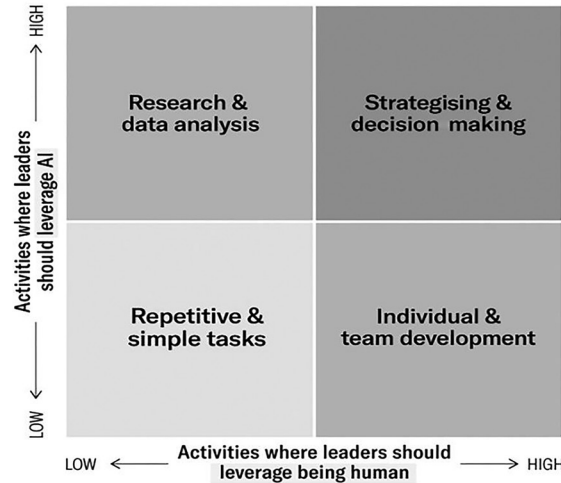


Figure 4 AI versus human: A matrix of leadership activities

Source: ‘The Best Leaders Can’t Be Replaced by AI’, January 2024, *Harvard Business Review*, available at <https://hbr.org/2024/01/the-best-leaders-can’t-be-replaced-by-ai> (accessed 12th February, 2024)

As individuals increasingly interact with robots as colleagues and technological platforms as managers, it becomes crucial to re-evaluate and update our theories on supervisorsubordinate relationships and team cohesion.⁴

Financial institutions must clearly understand how AI will affect roles and responsibilities across various departments now and in the future. When devising strategies to retain top talent, leaders should consider several crucial factors:

- Establishing a well-defined organisational structure that supports AI initiatives
- Ensuring AI projects align with strategic business objectives and address pertinent business challenges that resonate with overall business goals
- Assessing the necessary data infrastructural changes required to make AI projects viable
- Developing sustainable processes for collaboration that integrate seamlessly with existing systems

An executive’s leadership style guides a financial institution’s approach to managing the intricacies of digital transformation. This influence extends to shaping organisational norms, setting expectations and defining desirable outcomes for large-scale, complex projects involving transformative technologies.⁵ Omar El Sawy, a professor of data science at the University of Southern California, asserts that influential leaders distinguish themselves by strategically navigating the complexities of digital transformation. They adopt innovative approaches to business strategies, business models and enterprise platforms, reshaping organisational mindsets and enhancing skill sets.⁶

THE NEW PARADIGM OF HUMAN AUGMENTATION

AI is becoming increasingly vital in augmenting human capabilities, enhancing what individuals can achieve while acting as a bridge between people and technology. In the

banking sector, future success will hinge not only on possessing the most advanced systems but also on the ability to seamlessly integrate the strengths of human employees with those of machines. The value of human-machine collaboration is widely acknowledged from a technological standpoint; nonetheless, enhancing human capabilities remains a crucial yet often overlooked component that could enable organisations to fully exploit the synergistic potential of human and technological resources.

The paradox of AI is that while humans are central to its operation, they also represent its greatest vulnerability. The goal is to cultivate a professional, reliable, intelligent, resilient and adaptable workforce capable of navigating competitive environments. Historically, banks have often prioritised machine capabilities over human skills as technology has advanced. This trend is starting to shift with recent advances in AI, which have sparked the growth of the interdisciplinary field known as human augmentation. This field has the potential to transform every aspect of our lives.⁷

Developing effective human augmentation strategies hinges on understanding the dynamic interplay between people and technology. This requires access to and analysis of personal data, including psychophysiological variables and individual reference data. These elements are crucial for precisely tailoring human augmentation initiatives to ensure that the intended effects are realised. Only through such meticulous and informed efforts can AI and human augmentation coexist beneficially.

Financial institutions are advised to adopt the following best practices to effectively incorporate the principle of augmenting human intelligence with AI.⁸

- AI should augment, not replace, human intelligence. The goal is to enhance human decision-making capacities rather than allow AI to function independently.
- In the design of human-AI interactions, human oversight throughout the AI life cycle is ever present and must always be factored in. This helps promote accountability and addresses potential biases, ensuring that the outcomes of AI systems are managed responsibly.
- A broad spectrum of individuals should be encouraged to engage in AI-driven banking to provide inclusive and equitable access to AI technologies and ensure that benefits are broadly distributed.
- Individuals should always be informed that they are interacting with an AI system rather than a human. Transparency is vital for maintaining trust and managing expectations.
- Comprehensive training and reskilling programmes should be implemented to develop a diverse and capable workforce that can thrive in an AI-enhanced banking environment.

ETHICAL, SOCIAL AND ECONOMIC IMPLICATIONS OF AI IN THE WORKPLACE

Adopting AI technologies in the workplace leads to technological progress while, at the same time, presenting ethical, social and economic factors to consider.

PRIVACY CONCERNS

Employee monitoring has long been a cornerstone of operational management, with many contemporary production techniques depending on the observation of task completion to refine workflows and enhance productivity.⁹ In the past, monitoring primarily involved direct human supervision, complemented by rudimentary forms of surveillance; however, the advent of predictive analytics, unstructured data analysis, network records, smartphone applications, sensors, biometric scanners and facial recognition technology has revolutionised this practice.¹⁰

These tools have facilitated the creation of comprehensive, multi-source datasets, significantly transforming the landscape of employee monitoring.

This evolution in monitoring technologies has also intensified concerns regarding privacy violations and the infringement of personal rights. The scrutiny of employees' private communications, social media interactions and even their locations during non-working hours has escalated. Utilising algorithmic systems for such invasive observation not only breaches individual privacy but could also be leveraged to 'monitor and suppress collective action'.¹¹

Bias and discrimination

Bias and discrimination in workplace practices, encompassing recruitment, management and promotion, are pervasive and enduring issues.¹² Implementing formal rules in management processes via AI can not only diminish bias and discrimination but also streamline decisionmaking. AI systems, frequently utilised in human resources, tout their objectivity, a notable improvement over traditional recruitment methods.¹³ Additionally, AI's capability to process a larger volume of applications can significantly broaden the applicant pool, enhancing hiring diversity; however, AI systems are not immune to biases, which can manifest at both the system and data levels.¹⁴

System-level bias arises from the selection of parameters and variables during AI development. Human decisions on which variables to consider, how to measure them and which datasets to use for training AI systems are influenced by existing biases. This underscores the urgent need for greater diversity within the AI technology sector.¹⁵ Although algorithms do not generate societal biases, they can replicate, disseminate and standardise these biases on a large scale, thereby cementing historical patterns of inequality.¹⁶ Moreover, compared with overt forms of discrimination, biases embedded

within AI are more elusive, abstract and difficult to detect, posing significant challenges in enforcing non-discrimination laws.

AUTONOMY AND DIGNITY

While AI technology has the potential to make jobs more engaging and allocate more time for creative tasks, it also poses significant risks to employee autonomy. Systematic management through AI and automated decisionmaking can severely limit employees' ability to make even marginal decisions about their work. For instance, devices employed in some call centres monitor and provide immediate feedback on employees' emotional states, alerting them to regulate their emotions.¹⁷

AI-driven performance monitoring prioritises quantifiable targets, often overlooking essential but less measurable aspects of performance. This emphasis can diminish autonomy, stifling employees' creative capacity and ability to contribute innovatively. Such a reduction in creative freedom impacts individual workers and poses broader societal concerns. Creativity and the capacity to think or act innovatively are crucial for addressing new challenges and advancing societal progress. As technology increasingly drives societal development, it is imperative to remember that the essence of society is defined by its humanity, not just its technological advancements.

THE FUTURE OF AI IN BANKING

The future, driven by relentless advancements in AI, is unfolding staggeringly. AI, once a distant vision, has now become an integral part of the present, weaving its way through various sectors within the banking industry. Although the prospect of human-level AI is still several decades away, the current trajectory of AI development is focused on hybrid models. These *Super Humans* — teams of humans and AI systems — collaborate to

achieve cognitive and physical feats that were previously unattainable.

Concerns that AI might lead to widespread unemployment seem overblown. Instead, AI is poised to catalyse the creation of new industries, likely generating more jobs than it displaces. Effective leadership becomes increasingly crucial as the banking sector continues to evolve under the influence of AI. Leaders must prioritise ethical practices, cultivate a culture of innovation and commit to developing talent. Success in this new era should not be gauged merely by the accuracy of AI predictions but also by the broader impact of these technologies on society.

As we stand on the brink of this transformative age, leaders must reflect: are we ready to steer our organisation through the evolving landscape of AI?

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