MANAGING WORK IN THE ERA OF AI

Automation vs. Augmentation

UNIVERSITY OF CAMBRIDGE
Judge Business School

ExecutiveEducation

AI AS A DISRUPTIVE FORCE

Managing work in the era of AI

Automation vs. Augmentation

John F. Kennedy once observed, "Change is the law of life. And those who look only to the past or present are certain to miss the future." Though more than six decades have passed since he made this statement, its significance remains. The rise of Artificial Intelligence (AI) in the workplace has driven rapid and transformative changes across industries. It is clear that those who resist adapting to this evolving reality risk being left behind.

A good example of such failure is Kodak, a company that struggled to adapt despite being a pioneer in digital technology. Steve Sasson, an engineer working in the R&D labs of Kodak developed the first digital camera in the early 1970's, however, Kodak hesitated to pursue it, fearing it would cannibalise its profitable film business. As digital photography and smartphones surged, Kodak hung on to its traditional film products and delayed its shift to digital, allowing competitors to dominate the market. This reluctance to innovate led to the company's decline, culminating in its 2012 bankruptcy, a mere 5 years after Sasson's Kodak digital camera patent expired. Kodak's story illustrates the dangers of relying on legacy business models in a rapidly changing technological landscape.

Today, AI—especially in its current forms, stands at the forefront of a similar transformation, revolutionising work processes, driving efficiencies, and presenting both opportunities and challenges.

This document examines the dual role of AI as a disruptive force and a tool for augmenting human capabilities while addressing the complexities of managing this transformation.

If we take a step back and reflect on the images we had of AI just a few years ago, many assumed that if AI took off, we'd see robots performing all sorts of tasks. However, that's far from the reality today. While technology has advanced rapidly, what we now have are task-specific AI tools, that, although focused, are highly effective and carry significant implications for work, organisations, and society.

Until recently, highly skilled professionals whose knowledge and expertise seemed irreplaceable felt secure in their positions. Now, AI is disrupting industries from entertainment to auditing. AI's transformation of once labour-intensive processes is reshaping entire fields. The global AI market is growing at an astonishing pace, with estimates suggesting it could surpass £1.8 trillion by 2030.

This growth isn't solely attributable to AI; broader advancements in computing power and network infrastructure have enabled the processing of vast amounts of data, which is essential to the development of sophisticated machine-learning algorithms. For example, AI is already being widely used by human experts in areas such as disease diagnosis, increasing the speed and strengthening accuracy in detecting illnesses.

While AI may not yet outperform humans in all sorts of tasks, it can definitely carry out certain tasks better, such as processing data:

"AI is coming at the perfect time. It has the potential to rescue us from data overload... Psychologists say that humans can handle four independent variables and when we get to five, we're lost."

Dr. Robert Truog, head of the Harvard Medical School Center for Bioethics, on the role of AI in healthcare

So we do not necessarily need to question whether there will be work for humans in the future. But it is helpful to think about how work will be change as certain tasks get automated and other augmented

Automation vs. Augmentation

Planning for the future of work thus requires us to carefully consider both automation and augmentation approaches. Automation refers to the complete replacement of human involvement in repetitive and routine tasks. AI-driven automation is evident in areas like document review within legal services, where machines now perform these tasks with minimal human oversight. Augmentation, on the other hand, describes a collaborative interaction between humans and machines, where AI enhances human decision-making without entirely removing the need for human input.

"In many cases, [algorithms] can outperform humans. Organisations are attracted to using algorithms because they want to make choices based on what they consider is 'perfect information', as well as to reduce costs and enhance productivity. But these enhancements are not without consequences… If routine cognitive tasks are taken over by AI, how do professions develop their future experts?"

Professor Stella Pachidi - Assistant Professor in Information Systems

For instance, in consulting, AI has shown an ability to enhance performance in creative and writing tasks. Yet, over-reliance on AI for problem-solving sometimes results in errors, underscoring the need for a careful balance between human judgment and AI assistance. This highlights the importance of discerning which tasks are best suited for automation and which require human insight.

The Emerging AI-Driven Workforce

As AI becomes more integrated into workplaces, the way we work and interact with technology is changing quickly. Younger workers are learning to use AI tools to complete tasks faster, leading to higher productivity. A notable example comes from a major accounting firm, where a junior employee used an AI script to finish a task in just 10 minutes, a job that would normally take two days. This example shows how AI can help workers achieve results that would have seemed impossible before.

This change in direction implies that while AI will not necessarily replace people, it will give an advantage to those who know how to make the most of these tools. It also demonstrates the urgent need for businesses to rethink how they train staff to work effectively alongside AI.

"A weak human player plus a machine plus a better process is superior to a very powerful machine alone, but more remarkably, is superior to a strong human player plus machine and an inferior process."

Garry Kasparov, Chess Grandmaster

CHALLENGES TO EXPERTISE

AI's ability to handle tasks traditionally performed by skilled professionals—such as reviewing legal documents or conducting audits—raises critical questions about how expertise is cultivated and sustained. In law firms, for instance, senior partners often maintain that junior staff need to perform manual tasks to gain experience. Yet, as AI increasingly takes over these responsibilities with greater speed and accuracy, conventional training approaches are being reconsidered.

Furthermore, AI can challenge human judgement in organisations. For example, in sales, AI tools that suggest optimal times for client outreach can clash with the instincts of account managers, creating tension between data-driven insights and human intuition, especially in roles involving complex decisions. While AI can enhance efficiency, relying on it too heavily presents risks, as human judgment remains essential in high-stakes or intricate situations.

Ethical and Leadership Concerns

The growing use of AI also brings ethical and management challenges, particularly in decision-making. Many AI systems operate in ways that are not fully understood, creating issues around transparency and accountability, especially when these tools influence people's lives, such as predicting employee performance or managing risks. Moreover, AI models can reflect biases embedded in their training data, leading to skewed or inaccurate outcomes. This phenomenon, known as AI hallucination, can perpetuate systemic inequalities if not addressed. AI's tendency to generate structurally similar outputs for all users, regardless of individual nuances, raises concerns about the lack of personalization and adaptability in critical decision-making contexts.

Additionally, there are difficulties in blending AI talent into traditional business structures. Data experts often find it frustrating when their innovations are not fully adopted by the wider business. This points to the need for more collaboration between technical and business teams to ensure AI is implemented effectively.

ABOUT THE AUTHOR

Looking Ahead

As AI becomes more embedded in businesses, leaders will need to strike a balance between automation, supporting human skills, and maintaining expertise. It is essential to view digital change as a transformation for people as much as for technology, requiring employees to learn new skills and adapt their roles to work alongside AI.

Organisations must also encourage a culture of experimentation and teamwork. Collaboration between different teams, such as domain experts and data specialists, will be crucial to overcoming the challenges of isolated working environments and ensuring AI tools are adopted successfully.

Conclusion

The introduction of AI into the workplace offers a chance to automate routine tasks and support human decision-making. However, businesses must manage this change carefully, ensuring that employees are given the training they need to work with AI effectively. Leaders must develop an environment where continuous learning, collaboration, and innovation thrive. While AI may not replace human workers entirely, those who learn to work alongside it will likely replace those who do not.

Stella Pachidi
Assistant Professor in Information Systems

Stella Pachidi's research interests include how organisations manage the challenges associated with digital transformation, the impact of algorithmic technologies such as artificial intelligence, machine learning, and data analytics on the nature of work, the effects of the quantification and datafication of work on management and organising, and how workers collaborate across knowledge boundaries.

She is a member of the Organisational Theory and Information Systems subject group at Cambridge Judge Business School, which is engaged with cross-disciplinary themes, including leadershipmaking. However, businesses must manage this change carefully, ensuring that employees are given the training they need to work with AI effectively. Leaders must develop an environment where continuous learning, collaboration, and innovation thrive. While AI may not replace human workers entirely, those who learn to work alongside it will likely replace those who do not.

Contact us

To find out more about organisational strategy and leadership learning solutions for your teams, get in touch today: executive.education@jbs.cam.ac.uk

To discuss individual placement on an open programme, please call:
+44 (0)1223 762183 or visit our open programmes page

For customised programmes for your organisation, please call:
+44 (0)1223 765508 or visit our custom programmes page

UNIVERSITY OF
CAMBRIDGE
Judge Business School

ExecutiveEducation

Certified
B
Corporation