

AI and the Future of Work

Business Briefings

INTRODUCTION

When working on or selecting AI technologies that will be used in workplaces, at all stages of the development and implementation process, it is important to consider how these technologies will impact different workers, and how they may change the nature of working experiences and employment relationships.

BROADENING FOCUS

A technology can be brought into a workplace with one intended goal, or to solve a particular issue, e.g. to decrease the errors made in a particular process. However, focusing on a single objective in creating and implementing technologies can lead to blind spots for wider impacts, e.g. on worker wellbeing. While one narrowly set target may be achieved, knock-on effects can disenfranchise workers and can undermine organisations in the long term (e.g. increasing sick leave, damaging worker retention); this can also undermine perceptions of AI (e.g. reducing trust in these technologies).

When designing or selecting technologies to be used in work, it is therefore important to consider a broad range of possibly disenfranchising impacts, such as:

- **Discrimination:** can the technology unfairly impact some workers based on protected characteristics? E.g. discriminating in hiring processes, or reducing accessibility.
- **Intensification of work:** can the technology push workers to unsustainable productivity goals? E.g. requiring constantly high volumes of output, monitoring work speed and breaks.
- **Disempowerment:** does the technology reduce human accountability in workplace decisions? E.g. automated allocation, or withdrawal, of work.

BROADENING PARTICIPATION

There are currently disparities between the demographic makeup of those designing and making decisions about AI use in work, and workers who are tracked and managed through AI systems. One way of working towards more equitable decision-making in the design and implementation of AI technologies would be to increase participation by diverse workers in those processes. This could include:

- Increasing diversity in AI development and decision-making roles
- Consultations with a broad range of workers who may be impacted by the technology prior to its deployment

DATA COLLECTION

Data is collected in workplaces through AI systems, and used to enable AI for further workplace uses. This can lead to potential disenfranchisement such as:

- **Lack of meaningful consent:** if a worker cannot opt out of having their data collected without risk of losing their livelihood.
- **Lack of transparency:** the uses of worker data are not always made clear, especially when data is resold and repurposed.
- **Lack of benefit:** workers whose data is collected often do not themselves get to benefit from the use of that data.

All of these issues could be redressed by **designing and implementing data collection in workplaces more equitably and transparently.**

TECHNOLOGY EVALUATION

When evaluating AI technologies used in workplaces, different concerns can be included to judge their effectiveness or success, including:

- Is the way the technology works well understood by all employees, as it relates to their work and wider concerns?
- Who benefits from the use of this technology? How equitably are the benefits shared?
- How do employees feel about the technology? Are there disparities across groups regarding positive or negative (or other) feelings?
- What impacts does the technology have outside of its defined goals?

KEY QUESTIONS

- *Who benefits from specific AI design and implementation in workplaces?*
- *When is AI not the right solution? What kinds of technologies, in which contexts, should not be developed or used?*
- *How can AI be tested thoroughly before being implemented in workplaces?*
- *What kinds of AI design choices can increase worker empowerment?*
- *How can greater diversity be fostered in AI development and decision-making roles?*

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AI and the Future of Work: Good Work

INTRODUCTION

Providing “good” work in all job roles across organisations is essential for employee recruitment, motivation, and retention. How AI technologies are brought into work can impact experiences of workers at all levels. This ultimately impacts performance and productivity.

EDUCATION NEED

There is a need for education and training that develops an understanding of AI and related technologies across organisations, from workers through to senior management. This is not necessarily a need for coding skills; working with, and living with AI, requires different skillsets from developing AI.

- **Employers:** need proficient understanding of linkages between data use and equality issues with AI technologies.
- **Workers:** need opportunities to develop understanding of how AI technologies work, as a means of empowering them to have input into technology implementation.

There is a role for employers, and also for trade unions and other worker collective groups, in providing education and training for all who are of working age.

GUIDANCE NEED

The current market can appear to be a ‘Wild West’ of unregulated and unpredictable technologies. These can be brought into organisations without a proper understanding of their impacts upon work experiences.

Guidance is needed to support organisations to evaluate technologies and make informed choices on their deployment.

Research is needed to identify which sectors and regions are more or less engaged with AI technology, and have better or poorer worker outcomes, so as to identify examples of best practice that could serve as a guide for others.

The guidance needs to contextualise AI:

- as specific to each kind of work sector
- in relation with other technologies
- with regard to the aims of the decision-makers selecting and deploying AI
- what AI deployment might mean for each employee

OPPORTUNITIES AND RISKS

- Current employee wellbeing focus could be leveraged to steer AI uses in positive directions
- It is important to become “AI ready” before AI comes into your workplace: training at all organisational levels should start now
- The risks of bringing in poorly understood AI technologies with a top-down approach greatly outweigh possible benefits

WORKER SURVEILLANCE

Surveillance AI technologies have been on the increase, with their development driven by an efficiency focus. However, the use of worker surveillance is overwhelmingly detrimental:

- surveillance has unequally repressive impacts, often to the detriment of low grade and low-paid workers. As these workers are more likely to be women, minorities, and workers with disabilities, this raises serious discrimination concerns.
- being surveilled at work significantly degrades worker's experiences, leading to decreased wellbeing, increased anxiety and feelings of disempowerment, and can be associated with health and safety risks.
- these technologies are often predicated on bad science. They use poor proxy measures of productivity (e.g. facial expression recognition technology is presented as reliable without evidence). Their central claim that surveilling workers increases productivity is also unproven.

However, surveillance could be used for positive aims, such as leveraging wellbeing metrics for individual workers to identify positive trends in their own working patterns. But for this to succeed there must be trust, which must place an individual's data within their control.

CO-PRODUCTION

A collective voice is needed in steering AI/data use in work so as to ensure the technology works for everyone.

Co-production of AI technologies with a shared ownership approach across an organisation could help:

- attract the best talent
- increase wellbeing
- increase inclusion, equality and fairness

KEY QUESTIONS

- *Which types of AI technologies (e.g. worker surveillance) should always be considered more risky and damaging than their potential benefits?*
- *What are the best ways to engage all employees across all levels in conversations about the deployment of AI technologies?*
- *Where and how can the best guidance and education on AI technologies for businesses be provided?*
- *How can the benefits of using AI technologies be shared across all employees at all levels?*

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AI and the Future of Work: Sector and Scale

INTRODUCTION

AI is a tool UK businesses large and small can use to improve operations and increase productivity. Many UK businesses already use AI-based products and services, e.g.: voice-to-text features, 'smart' personal assistants. Despite the potential benefits of these technologies, there are barriers to wider AI adoption especially for smaller organisations. It is also important to identify the challenges and barriers to integrating AI within existing business practice models. Lessons learned from early adopters can help UK businesses from different sizes, geographies and sectors to adopt AI-driven technologies sustainably and responsibly.

SKILLS CULTURE

Smaller businesses often compete against larger, better-resourced businesses or organisations for access to skilled workers. This is exacerbated by the fact that larger businesses can shape the supply and demand of AI skills. This disadvantage can be overcome by:

- strategically designing and building a culture of AI skills within individual businesses
- reducing their dependency on external AI expertise by investing in the skills training of existing workers
- conducting skills-based hiring and moving away from an over-reliance on traditional qualifications alone can help broaden the talent base

BUSINESS CULTURE CHANGE

Businesses sometimes struggle to integrate workers with technical expertise/AI skills into their existing teams/practices. This can lead to such workers feeling out of place and limited in their professional development.

These tensions can be alleviated by proactively creating 'safe spaces' or 'tech bubbles' where these skilled workers can thrive, e.g.:

- managers can assign these workers to projects with work pace and environment that optimise their skills, and offer opportunities for learning
- more experienced engineers can be placed in teams to mentor more junior employees
- interdisciplinarity can be promoted, encouraging active sharing of different approaches

DIVERSITY AND INCLUSION

There are pressing concerns about the lack of diversity in technology development, and linked to how AI technologies can exacerbate biases and yield discriminatory outcomes. Diversity, in both the gender and ethnic balance of workers, and of disciplinary expertise, is important for tackling issues of bias and discrimination related to AI development and decision-making.

Businesses will benefit from understanding:

- how AI and the wider tech skills are taught, and where STEM trained workers may need broader exposure to interdisciplinary approaches
- how to proactively hire a more diverse workforce, especially targeting those whose experience makes them better equipped to foresee and address issues of equality.

A more inclusive AI builds upon the diversity that enriches the entire process from research and development, decision-making, work and implementation.

SUGGESTED APPROACHES

- **Demystify AI:** getting to know AI better, asking questions, and becoming more familiar with what can be reasonably expected of an AI tool can help make implementation easier.
- **Promote a Culture of Skills:** invest in training and skills development of existing workers, conduct skills-based hiring and move away from an overreliance on degrees alone.
- **Transform Business Culture:** create 'safe spaces' where skilled workers can thrive, assign these workers to projects that optimise their skills and allow them to progress in their careers.
- **Promote a Diverse and Inclusive Business Environment:** proactively promote diversity in the workforce, talent, opinion, and decision-making. Workers with different experiences and points of view add tremendous value.
- **Improve the AI Experience:** focus on the experiences and wellbeing of all employees working with AI, and include all employees in decision-making about how AI is brought into work processes.

KEY QUESTIONS

- *In addition to those mentioned above, what barriers to AI adoption exist across businesses of different sizes? And how do the main barriers to AI adoption differ across businesses of different sizes?*
- *How can business decision-makers identify when, if at all, AI can actually be useful?*
- *How can technology and wider interdisciplinary skills training be integrated into continuing professional development?*
- *What support do businesses of different sizes need to overcome barriers to AI adoption?*

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INTRODUCTION

There is consensus that there is a pressing AI-skill gap in the UK with the government acknowledging that it costs the UK economy £63 billion every year. General AI-literacy amongst the population is considered as being too low whilst 35% of UK firms already report that their employees lack technical skills needed to meet their business goals.

To counter this, UK businesses are taking measures to invest in their employees, notably by offering retraining and up-skilling programmes. However, such initiatives are not equally distributed amongst businesses. Geographical and sectoral differences persist with some sectors investing more than others and middle-sized and small businesses (SMEs) facing particular challenges in adapting their employees and operations to an AI-enabled economy. Furthermore, important questions about what role businesses can play in coordinating AI-skill oriented programmes alongside government and other stakeholders need to be addressed.

SCALING UP INVESTMENT

The increasing use of AI across sectors and industries leads to a shift in the required skillset of employees. This affects not only technical domains but increasingly also has effects on non-technical fields, leading to a need for retraining, up-skilling and programmes fostering life-long learning to help employees develop crucial AI-skills.

- **Within businesses:** Company led AI-skill learning programmes could be conceptualised for all employees regardless of their current positions and tasks to ensure a higher level of general AI-literacy across the business. In the long term, this helps to develop a higher degree of adaptability for employees with evolving roles. Future retraining and up-skilling can then continue to build on a common baseline. To optimally implement such programmes, it would be necessary for company leadership to regularly assess the opportunities and limitations that AI presents in relation to their business needs.
- **Across businesses:** Not all businesses recognise the large-scale cross-sectoral implications of AI and consequently have not invested in AI-related skills and learning programmes. This is particularly the case across non-technical and SME-dominated sectors such as storage, transportation and retail. SMEs for instance, lag behind larger companies in using data analytics. Consequently, it is important for SMEs to start identifying their AI-related skill needs as well as scale up investment into learning programmes for their employees according to their capabilities.

TRAINING BEYOND AI

- **Digital Literacy:** The level of general AI-literacy is a crucial pre-condition for building AI-related skills. Currently, the level of general digital literacy highly varies across sectors and professions. It will be important for businesses to consider how to incorporate wider digital skills into their training programmes to ensure a holistic knowledge base of their employees.
- **Data and Statistics:** The use of AI-based applications and programmes is highly dependent on using data ranging from basic data analytics to complex data sets and so called “Big Data”. Including data-related skills into learning programmes funded by business could help with this.

- **More complex legal environment:** Some sectors may also need to invest resources into basic legal training regarding AI- and data-related regulation that is increasingly affecting routine operations. The European General Data Protection Regulation for instance will still largely be relevant for UK businesses even beyond Brexit and, with the publication of the [National UK AI Strategy](#), general literacy on data protection has been identified as an important point for building an AI-enabled workforce.
- **Ethics:** In order for businesses to be aware of the ethical implications of using AI and what possible societal effects it might have beyond their own workforce, it is important to incorporate elements of AI ethics into retraining and upskilling programmes. It is important for businesses to think about this from a reputational lens but also consider wider risk-related and legal requirements.

COOPERATION

Businesses are already creating industry-funded AI conversion masters or specialised apprenticeships. However, these efforts are not equally distributed across all sectors. To help increase the level of AI-skills in employees entering the labour market, it is important to further industry-academia cooperation for AI-based university and school programmes. Beyond this, it is important for businesses to take an active role in formulating future AI-skills needs and opportunities but equally risks and challenges. This could happen in exchange not only with policymakers and regulators but also wider civil society.

ACCESS AND DIVERSITY

It is important for businesses to think about how the implementation of AI and the change in skill sets affects their most vulnerable employees and how they can be supported. This could help foster discussions about participatory design and co-creation processes in building AI into the operations of a business.

There is a need for greater diversity within the workforce, especially in AI related and technical fields. Both women and minorities are underrepresented in such sectors with systemic implications for biases in the way AI is developed and used. To address this, businesses can invest more resources and develop more stringent programmes to address the lack of diversity in their workforce.

KEY QUESTIONS

- *How can the development of AI-skills be achieved across sectoral and geographical borders?*
- *How can AI-skills be forged as a lifelong and adaptable skill set? How can employees be prepared for several instances of training, re-skilling and up-skilling throughout their careers?*
- *How can AI-skills in businesses be developed in an inclusive manner that protects vulnerable employees and empowers minorities and women?*

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