

Written submission from Professor Seun Kolade (AIB0030)

Written evidence submitted by Professor Seun Kolade**Call for evidence: Artificial Intelligence, business and the future of the workforce**

This submission addresses the Committee's inquiry into artificial intelligence, business and the future of the workforce, with particular attention to two areas that are too often treated as marginal to mainstream technology policy but are, in fact, central to the UK's economic and social future: the informal economy and the circular economy. It draws on my recent research on artificial intelligence, digital transformation, informal enterprise, circular business model innovation and the future of work.

My core argument is that AI should be understood not simply as a frontier technology race, but as a broad economic and institutional transition. Its benefits and burdens will not be distributed evenly. They will be mediated by organisational capability, worker voice, institutional design, sectoral conditions and the uneven geography of digital access. If left largely to market forces, AI may deepen existing divides between large firms and microbusinesses, between secure and insecure workers, and between regions with strong digital ecosystems and those without. If governed well, however, AI can support productivity, better work, greener business models and more inclusive local growth.

The UK debate on AI still tends to assume that the relevant unit of analysis is the formal, well-capitalised firm. That is too narrow. The informal economy is not external to the UK economy. It sits within it, beneath it and around it, in the form of undeclared work, casual self-employment, platform-mediated labour, home-based enterprise, cash-in-hand services, repair and reuse activity, and many migrant and low-margin microbusinesses operating at the edges of formality. These actors are often overlooked in mainstream innovation policy, yet they matter greatly for livelihoods, local resilience and economic adaptation.

They also matter for sustainability. Many circular activities such as repair, reuse, refurbishment, resale and recovery are disproportionately undertaken by small, low-resource and sometimes semi-formal enterprises. In my view, any serious attempt to think about AI, business and the future of work in the UK must therefore take these overlooked parts of the economy much more seriously. The decisive policy question is not simply whether the UK can build advanced AI. It is whether the UK can diffuse useful AI across the whole economy, while protecting workers and enabling smaller firms, including those in precarious and informal settings, to participate in the gains.

1. The future of AI

Over the next decade, AI is likely to evolve less as a single dramatic rupture and more as an increasingly embedded layer across everyday business systems, public services and labour processes. For many organisations, AI will not arrive as a standalone event. It will come through software updates, workflow tools, customer interfaces, diagnostics, scheduling systems, procurement platforms, accounting packages, search, translation, forecasting and decision support.

The Committee should plan for three overlapping scenarios.

The first is an augmentation-led scenario. Here, AI supports workers by reducing repetitive cognitive tasks, improving forecasting, assisting decision-making and freeing time for judgement, creativity, care and coordination. This is the most desirable pathway for the UK. It offers the best chance of productivity gains that do not come at the expense of job quality and dignity.

The second is a bifurcated adoption scenario. In this future, large organisations and high-capability regions move quickly, while smaller firms, poorer places and insecure workers lag behind. This is, in my judgement, the most plausible near-term risk. AI may level some barriers, but it can also harden existing asymmetries of data, skills, finance and organisational readiness.

The third is an extractive scenario. In this version, AI is widely adopted, but mainly to intensify surveillance, automate management, reduce headcount and shift risk further onto workers. Productivity may rise in a narrow sense, but work quality, trust and resilience decline. In parts of the platform economy, outsourced services and routine administrative work, we are already seeing early signs of this.

In practice, the UK will likely experience all three scenarios at once. That is why the policy challenge is not simply to accelerate adoption, but to shape its direction. A human-centred, sustainable and resilient AI transition will not emerge automatically from market incentives alone.

2. AI adoption across the UK economy

AI is already being deployed across a wide range of UK sectors. In finance and professional services it is being used for drafting, analysis, risk detection and customer support. In health it is being used in diagnostics, triage and administrative assistance. In education it is being tested for planning, feedback and assessment support. In logistics and manufacturing it is helping with optimisation, forecasting and maintenance. In government it is increasingly framed as a tool for service improvement and administrative efficiency.

Yet headline adoption can be misleading. There is a major difference between strategic adoption and incidental use. Many larger organisations are experimenting with AI through formal transformation programmes. Many SMEs, by contrast, encounter AI mainly through tools bundled into software they already use. Their adoption is often partial, improvised and reactive rather than strategic.

This is especially true in the informal and semi-formal economy. Microbusinesses may use AI through translation tools, social media analytics, simple chatbots, platform dashboards, mobile payment apps or low-cost content generation tools. They rarely adopt AI through dedicated budgets or bespoke systems. Rather, they make do with what is available, often creatively, but under severe constraints. This is one reason why I have become increasingly interested in digital bricolage as a way of understanding how resource-constrained firms adapt to technological change. Many smaller firms do not build capability by purchasing advanced infrastructure. They build it by creatively recombining underused digital tools already at hand.

This matters for the circular economy too. AI has real potential in predictive maintenance, waste sorting, materials tracing, reverse logistics, resale matching, energy management and demand forecasting. But the key barrier is rarely the abstract promise of the technology. It is the organisational capacity to turn tools into routines, routines into implementation, and implementation into measurable environmental and commercial value.

One of the clearest lessons from my recent work in this area is that AI tools alone do not guarantee better sustainability outcomes. What matters is whether firms build the competencies, structures and implementation capacity needed to translate digital potential into practical change. That matters just as much for a local repair enterprise or resale business as it does for a large manufacturing firm.

The main barriers to adoption are therefore not only financial or technical. They include poor data quality, limited managerial time, weak absorptive capacity, lack of trusted guidance, uncertain returns on investment, fragmented digital skills, regulatory ambiguity in sensitive domains, and fear, often justified, that AI may expose firms and workers to new risks without clear gains. This is especially acute in low-margin sectors. A small repair business, social enterprise, circular start-up or neighbourhood service provider may see the promise of AI but still lack the time, capital, integration support and institutional backing required to use it productively.

Without targeted support, the UK risks producing a two-speed AI economy: one highly capable, visible and well supported; the other improvised, precarious and largely left to fend for itself.

3. Infrastructure for the AI transition

The Government is right to stress compute, data, skills, procurement and regulatory capacity. These are all important foundations. But for the purposes of workforce transition and broad-based business adoption, infrastructure must be understood more widely than data centres and cloud services.

In my view, the UK needs at least five layers of infrastructure by 2035.

First, hard infrastructure: compute, cloud access, secure data environments, energy and connectivity.

Secondly, data infrastructure: accessible, interoperable and trusted datasets, as well as stronger standards for sharing and governance across sectors and supply chains.

Thirdly, institutional infrastructure: assurance systems, regulatory sandboxes, local testbeds, technical extension services and trusted intermediaries who can help firms adopt AI safely and effectively.

Fourthly, capability infrastructure: FE colleges, local innovation hubs, sector bodies, business support organisations and workplace learning systems.

Fifthly, social infrastructure: worker consultation, dispute resolution, awareness of rights, and practical mechanisms for voice when high-impact AI is introduced into the workplace.

This wider understanding matters because the key market failure in the UK is not only frontier capability. It is diffusion capability. The country is becoming more confident in talking about AI excellence. It is still much less effective at helping ordinary firms, especially SMEs and lower-margin service businesses, adopt useful technologies in ways that are safe, productive and socially legitimate.

There is a major opportunity here for the UK to build regional AI adoption ecosystems, rather than concentrating almost exclusively on frontier research and elite firms. Public procurement should be used much more deliberately to create markets for trustworthy, interoperable AI that improves public services while also supporting local enterprise ecosystems. I believe there is particular scope here in circular economy domains such as waste reduction, local authority resource management, repairability, asset maintenance and public estate energy efficiency.

Public funding should focus where the social return is high but private incentives are weak: local adoption support for SMEs, AI assurance, open standards, public-interest data infrastructure, FE-based reskilling, circular testbeds and stronger regulatory capability. Private investment should continue to lead on commercial infrastructure and sector-specific deployment. But the state must act where markets routinely underprovide patient support, trusted guidance and inclusion.

4. Impacts on work and workers

AI can improve productivity, but productivity is not a self-executing outcome. Nor is it socially neutral. The real question is not only whether AI saves time, but where the value goes, who benefits, and what happens to work quality in the process.

At the economy level, AI could strengthen the UK's productivity performance and support growth in both the AI sector itself and in other sectors that use it. At the sector level, it may improve planning, forecasting, diagnostics, energy use and service delivery. At the organisational level, it can reduce repetitive tasks and improve decision support. At the worker level, however, it can either remove drudgery and support judgement, or deepen surveillance and fragmentation.

The gains will depend on at least three conditions. First, firms need complementary organisational change. Simply buying tools will not do. They need to integrate them into workflows, redesign tasks sensibly and build confidence in their use. Secondly, workers need to be involved in implementation. AI introduced against workers rather than with them is more likely to produce mistrust, poor uptake and degraded work. Thirdly, productivity gains need to be reinvested in service quality, innovation and capability, rather than treated purely as a short-term labour-shedding dividend.

The occupations most exposed are those with routine, repetitive and codifiable tasks, especially in administration, clerical work, customer support, logistics coordination, compliance screening and parts of professional service work. But the larger story is not simple replacement. It is task restructuring, job polarisation and uneven bargaining power. Workers whose roles centre on information handling may benefit or lose depending on where they sit in the chain of control. Those who can interpret, manage and shape data may gain. Those whose labour is rendered more measurable and interchangeable may lose ground.

This is where the language of precarity becomes especially important. From my reading of the evidence, and from my own work on "Employment 5.0" and digital transformation, the UK should expect AI to intensify inequality unless policy intervenes. Workers already facing insecure conditions, platform dependency, low autonomy or weak bargaining power are likely to bear the sharpest risks. In these settings, AI may produce a layered or double precarity: insecurity rooted both in labour market position and in algorithmic control. For gig workers, agency staff, migrant workers and self-employed contractors, this can mean unstable income combined with opaque systems of evaluation, ranking and sanction.

The circular economy illustrates a more hopeful alternative. Where AI is used to support repair, reuse, maintenance, recovery and more efficient resource use, it can improve productivity while serving environmental goals. But again, those benefits depend on implementation capacity. There is a world of difference between AI that helps a business waste less, repair more and respond faster, and AI that merely optimises throughput in an otherwise linear and extractive system.

In recruitment and HR, broad safeguards should include transparency where AI materially shapes decisions, routine bias testing, proportionate explainability, human review for high-stakes outcomes, accessible routes of appeal, and stronger protections where automated systems influence hiring, progression, performance management or dismissal.

5. Skills, education and transitions

The UK needs a much broader AI skills strategy than one centred only on elite technical talent. It certainly needs world-class researchers and engineers. But it also needs a workforce that can use AI well, manage it responsibly and adapt to changing task structures without being discarded in the process.

Four layers of skill deserve priority.

The first is foundational AI literacy for all workers: what these systems can do, where they fail, how outputs should be checked, and what rights workers retain when AI enters the workplace.

The second is managerial and adoption capability: how to redesign jobs, manage change, assess risk and integrate AI into workflows responsibly.

The third is domain-specific capability: how AI applies in sectors such as care, education, logistics, manufacturing, retail, repair, resale and resource recovery.

The fourth is specialist technical capability for those building, auditing, governing and assuring advanced systems.

Current provision is not yet adequate to this challenge. The system remains too slow, too qualification-bound and too poorly adapted to the realities of SMEs, insecure workers and mid-career transitions. The most effective reskilling models for smaller firms are likely to be modular, local, trusted and directly connected to practical use cases. For lower-paid and insecure workers, they also need to be affordable and accompanied by time, support and some form of transition security.

There is a particularly strong case for treating circular economy skills as a strategic domain within the AI transition. Repair, refurbishment, asset life extension, reverse logistics and resource intelligence all require hybrid skill sets that combine practical know-how with digital capability. If the UK is serious about green growth, it should not confine AI skills policy to coding and data science alone. It should invest in the distributed workforce that makes sustainable systems function in practice.

6. Government strategy, regulation and rights

The Government's AI strategy has several strengths. It rightly recognises the importance of infrastructure, talent, procurement reform, public-sector adoption, regulatory confidence and private-sector diffusion. Yet there are still serious gaps in relation to work, informality, smaller firms and employment quality.

The first gap is that diffusion is still underpowered relative to invention. The second is that employment-related AI governance remains too thin. The third is that the strategy has not yet adequately incorporated the realities of precarious, low-visibility and semi-formal work.

I would urge the Committee to recommend the following.

First, make diffusion a core objective of UK AI policy, not an afterthought.

Secondly, create regional AI adoption hubs with a clear mandate to support SMEs, microbusinesses, social enterprises and local circular economy actors.

Thirdly, use procurement more deliberately to support trustworthy AI applications that improve public services while strengthening local business ecosystems.

Fourthly, treat the circular economy as a priority domain for AI adoption, especially where AI can support repair, reuse, maintenance, resource efficiency and recovery.

Fifthly, strengthen worker protections where AI materially affects recruitment, management, pay, discipline or dismissal.

Sixthly, require meaningful consultation with workers and staff representatives when high-impact workplace AI is introduced.

Seventhly, invest in regulatory capability and AI assurance, especially in domains where employment rights, safety and fairness are at stake.

Eighthly, support capability building, not mere technology acquisition. One of the strongest conclusions I would draw from my recent work in both sustainability and informal enterprise contexts is that tools alone do not generate transformation. Outcomes depend on the competencies, structures and adaptive capacity that surround those tools.

Conclusion

The UK should approach AI as a major economic and social transition, not merely as a technological opportunity. The prize is considerable: better productivity, stronger public services, greener business models and new forms of innovation. But those gains will not be automatic, and they will not be fairly distributed unless policy is deliberate.

The informal economy and the circular economy are especially revealing test cases. They show how innovation is often improvised under constraint, how much of the future of work is already being lived at the margins, and how sustainability often depends on the very actors policy pays least attention to. They also show that the real dividing line is not between adopters and non-adopters. It is between those with the capability, infrastructure and institutional support to use AI on their own terms, and those who encounter it mainly as a force that disciplines or displaces them.

The Committee therefore has an opportunity to help shape a better national settlement. The UK does not simply need more AI. It needs the right kind of AI economy: one that is productive but also human-centred, innovative but also fair, and ambitious but also attentive to those workers, firms and places most likely to be left behind.

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