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AI adoption and mid-sized firm productivity

A Cebr report for HSBC UK

HSBC UK | Cebr

Contents

Authorship and acknowledgements
This report has been produced by Cebr, an independent economics and business research consultancy established in 1992. The views expressed herein are those of the authors only and are based upon independent research by them.

The report does not necessarily reflect the views of HSBC.

Executive summary

Cebr is pleased to present the following report to HSBC analysing the impact of artificial intelligence (AI) on productivity. The report focuses on mid-sized firms, defined as those with annual turnover of between £15 million and £300 million.

The report is comprised of three chapters. In the first chapter, the productivity performance of mid-sized firms is benchmarked against the wider business population. In Chapter 2, we analyse the impact of AI adoption on the productivity performance of firms, with impacts modelled at the level of the firm and economy. In Chapter 3, we evaluate the state of AI adoption today among mid-sized firms.

Key findings from this research include:

Chapter 1 – Benchmarking productivity
We estimate that, in 2025, there were 35,000 mid-sized firms within the non-financial business population.

We estimate that, on average, a firm in this class employed 430 people and generated revenue of £104 million. We estimate that the average GVA generated by a typical firm in this class was £31 million in 2025. All monetary values are expressed in 2025 prices, unless otherwise indicated.

We estimate that real productivity among mid-sized firms, measured as GVA per employee, reached £72,000 in 2025. This places mid-sized firms 22.4% above the economy-wide average, extending a productivity premium that has widened steadily over the past 15 years.

We estimate that mid-sized firms have a modest productivity advantage of about 2% over larger firms, defined as those with revenues exceeding £300 million. While the gap is relatively small, it is significant in aggregate: with roughly 16 million people employed by mid-sized businesses, this advantage translates into an additional £23 billion in output.

Chapter 2 – Estimating the productivity impact of AI adoption
Evidence from a Bank for International Settlements study of more than 12,000 European and US firms suggests that AI adoption raises labour productivity, measured as revenue per employee, by around 4%. The gains are primarily driven by capital deepening, meaning workers become more productive, rather than being replaced, with no evidence of negative short-term employment effects.

To model the effects of AI adoption, we estimate both the number of firms using AI and the proportion of adopters deploying it to improve business operations. By assumption, these entities are well positioned to realise productivity gains. The impact of AI adoption on productivity is modelled as a process of gradual diffusion, in which the full treatment effect is fully realised four years after initial adoption.

A mid-sized firm that becomes a productive AI adopter in 2025 is estimated to benefit from a revenue uplift of £4.5 million and a GVA uplift of £1.3 million in the fourth year after adoption, compared to an equivalent non-adopter.

Combining projections of new mid-sized firm AI adopters, productivity estimates, and a multi-year AI diffusion pathway we estimate the additional revenue and GVA uplift starting in 2026 over a long-term horizon.

We estimate that 2,700 mid-sized firms operationalised AI to improve business operations in 2025. The resulting productivity benefit from this adoption cohort alone is estimated to be worth £30 billion in revenue over the next four years. By 2030, we estimate that a growing wave of AI adoption among mid-sized firms will add £105 billion in revenue, and an additional £31 billion in GVA.

Chapter 3 – AI Adoption Today
The Business Insights and Conditions Survey (BICS) is used alongside other sources to qualitatively analyse the state of AI adoption amongst mid-sized businesses in the UK.

AI usage across all measures has increased significantly among surveyed mid-market businesses since September 2023, rising from 35.2% to 55.2% as of the most recent survey data, from December 2025. The primary uses were text generation using Large Language Models, data processing using machine learning, and visual content creation.

The majority of firms currently using AI are doing so to improve business operations, as opposed to developing new products, exploring new markets, or providing products / services to new customers. AI adoption seems to be concentrated in 'copilot' rather than 'agentic' use cases, which is reflected in other industry surveys and studies.

When assessing the workforce impacts of AI implementation, 54.0% of target firms reported that AI had not affected their headcount, with 42.2% expecting there to be no impacts in the near term as a result of AI adoption. That said, a larger proportion of firms stated that AI adoption had reduced headcounts than increased them, and the same is true for the expected change.

Mid-market businesses identified skills gaps as the primary barrier to AI adoption, with smaller proportions citing a lack of trust in AI's safety and transparency, or a lack of identified use cases. However, 42.4% of firms reported that there were no reasons for AI adoption to be prevented or delayed, indicating that conditions for the adoption of this technology remain permissive.

Introduction

Artificial Intelligence (AI) is transforming business operations across the globe, reshaping how firms create value, optimise processes, and compete in increasingly digital markets. In the United Kingdom, this transformation presents both significant opportunities and complex challenges, particularly for mid-sized firms that sit at the heart of the economy. Mid-sized businesses are a key driver of employment, innovation, and economic dynamism, yet their experiences of AI adoption and the resulting impacts on productivity remain underexplored relative to larger enterprises.

This report examines the impact of AI on productivity among mid-sized firms in the UK. It begins by benchmarking the productivity performance of mid-sized firms against the wider business population to assess their contribution to overall economic output. Through this comparative lens, we quantify the relative contribution of mid-sized firms to the UK economy.

Building on this foundation, the report estimates the current stage of productive AI adoption within this cohort and forecasts how adoption is likely to evolve over the coming years. Using a diffusion model and scenario analysis, we quantify the expected uplift in revenue and gross value added (GVA) that could arise from deeper and more effective integration of AI technologies.

Finally, we explore the state of AI adoption today by drawing on longitudinal survey data collected from firms across the UK. These data provide unique insight into how mid-sized businesses are implementing AI in practice, the strategic role AI plays in their operations, and the obstacles that hinder wider or more sophisticated adoption.

Taken together, this report offers a comprehensive assessment of the interplay between AI and productivity among mid-sized UK firms, illuminating current trends, future opportunities, and the policy and managerial levers that can help unlock the full potential of AI-driven growth.

1. Benchmarking mid-sized firm productivity

1.1 The UK's business and productivity landscape

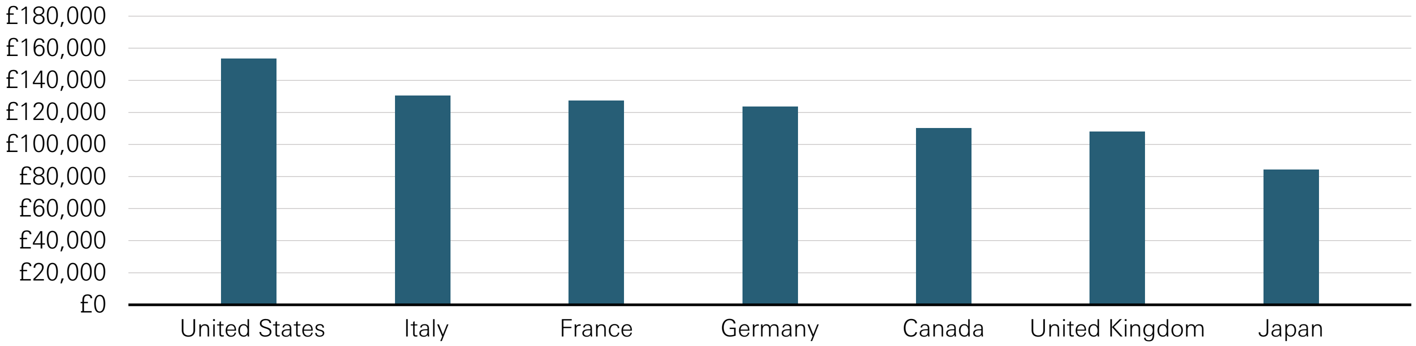
Mid-sized firms occupy a distinctive and influential position within the UK economy, making a substantial contribution to overall business activity and performance. By benchmarking their performance against both smaller and larger businesses, we can identify the size of the productivity advantage and the contribution to overall economic performance. This analysis shows the role of mid-sized firms as leaders in productivity, highlighting why support of this segment is critical for sustaining and accelerating national productivity growth.

The UK's overall productivity performance has lagged many of its international peers over the past decade, with slow growth in output per worker constraining wages and living standards. This "productivity puzzle" has been driven in part by uneven investment in technology and skills. Against this backdrop, mid-sized businesses merit particular attention. By operating at a scale that provides greater access to capital, skills and formalised management practices than smaller firms, while retaining comparatively leaner structures than large corporates, they may be well placed to translate investment and innovation into productivity gains that contribute meaningfully to closing the gap with leading economies.

We define mid-sized firms as those with annual turnovers between £15 million and £300 million. Using enterprise-level counts from the ONS Inter-Departmental Business Register (IDBR), we estimate there were roughly 36,000 mid-sized UK firms in 2025. This represents 1.3% of the total 2.7 million firms listed on the IDBR. Unsurprisingly, the distribution of firm revenues within the population is heavily positively skewed with 98.5% of firms generating less than £15 million. Meanwhile, we estimate that just 0.1% firms within the IDBR dataset generate revenue over £300 million.

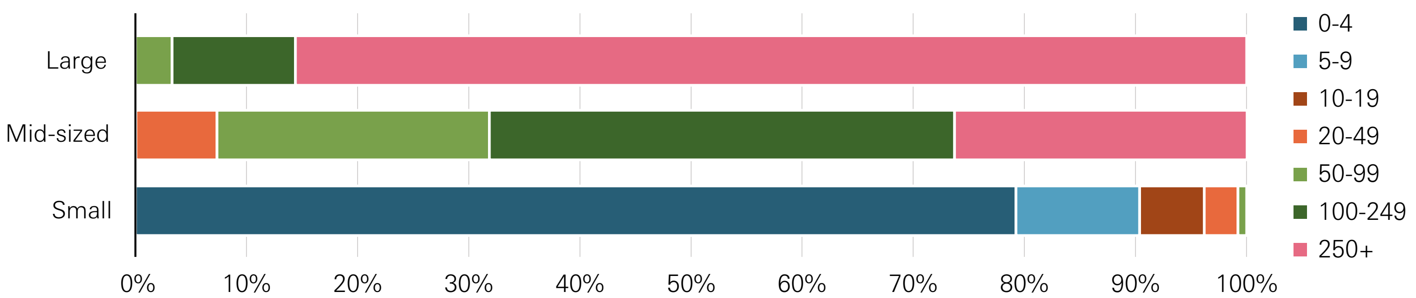
The IDBR dataset is used to map the distribution of employment size bands across three turnover classes: small, mid-sized and large firms. Small firms are defined as those generating below £15 million in revenue. Mid-sized firms are defined as those generating between £15 million and £300 million in revenue and large firms are those defined as generating over £300 million in revenue.

Chart 1: GDP per person employed 2024, (2021 PPP US dollars)



Source: World Bank, Cebr

Chart 2: Percentage distribution of firms by employment size band within each revenue class



Source IDBR, Cebr analysis

1.2 Productivity Estimation

After mapping the employment structure within the three revenue classes, we apply the employment shares to the ONS Annual Business Survey (ABS), which covers the UK non-financial business economy and reports approximate GVA (aGVA) and firm count by employment band. GVA is converted to 2025 prices using Cebr's GDP deflator forecast before estimating productivity. This allows us to calculate average productivity, measured as real GVA per employee, for each revenue class. Financial and insurance activities (SIC Section K) are excluded because their output is primarily measured using imputed margins rather than observable market transactions, making turnover-based productivity and revenue comparisons with other sectors unreliable.

Average GVA at the firm level is calculated for each employment band by dividing real-terms aGVA by the number of firms. Average employment per firm is drawn from the UK Business Population Estimates. These firm-level estimates of GVA and employment are then allocated to revenue classes using a weighted average, linking the share of firms in each employment band to the corresponding revenue class. For the mid-sized revenue class, we estimate average GVA of £31 million in 2025 and an average headcount of 430 employees. This compares with small firms, which are estimated to have an average GVA of £420,000 and an average headcount of 7, and large firms, which have an average GVA of £85 million and an average headcount of 1,200 employees.

Dividing average firm level GVA estimates by implied headcount produces an estimate of GVA per employee. We estimate that 2025 real productivity among mid-sized firms in the UK was £72,000, with respective values of £58,500 and £70,500 for small and large firms.

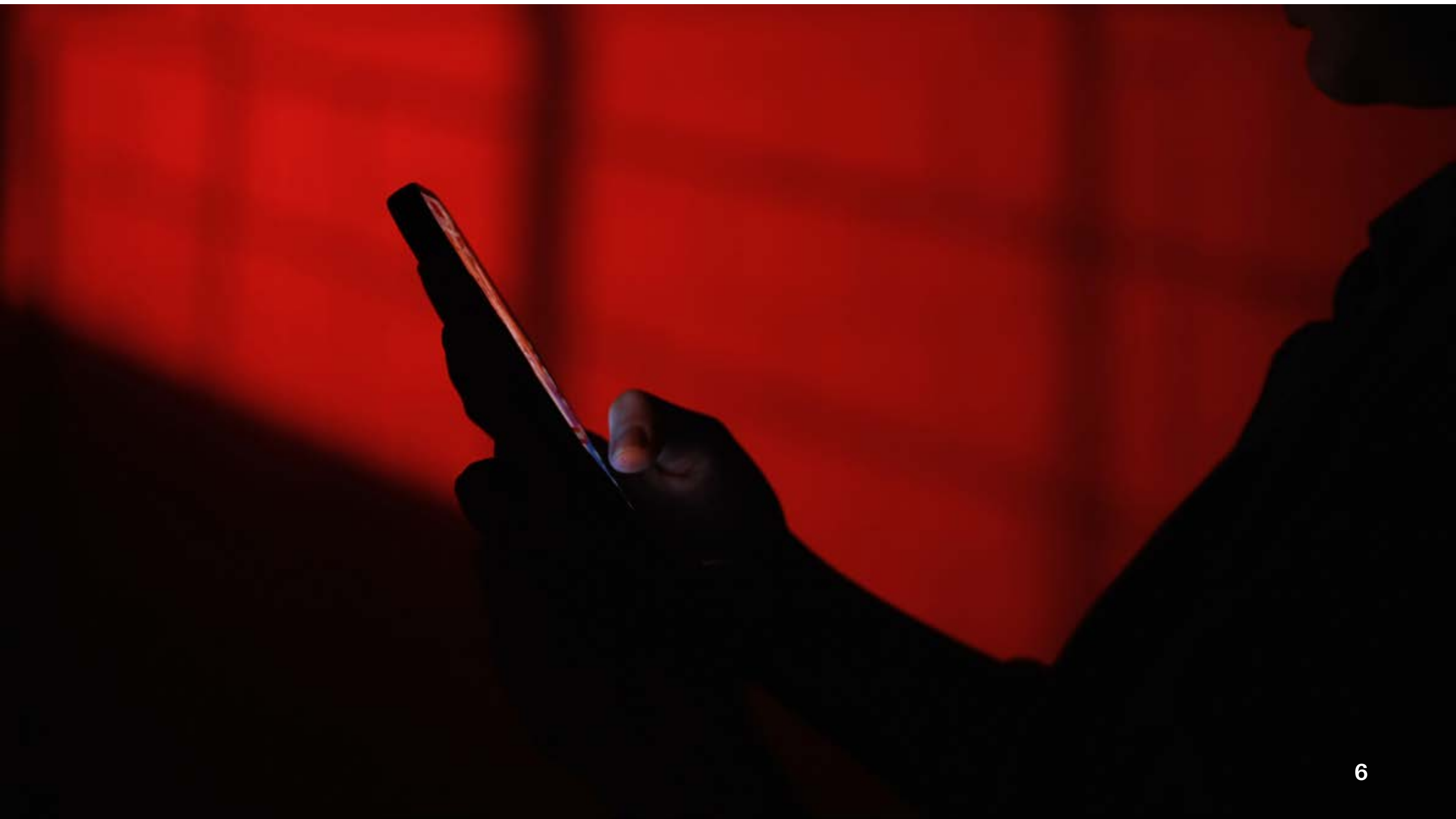
In the decade up to 2025, we estimate a compound annual growth rate (CAGR) in productivity of 1.9% for mid-sized, exceeding that of small firms, which had a CAGR of 0.8%. Large firms' productivity growth was slightly faster, at 2.0%.

Since 2009, the estimated productivity gap between mid-sized firms and the national average, which is largely shaped by the performance of small firms given their numerical dominance, has widened steadily. By 2025, we estimate that mid-sized firms are approximately 22.4% more productive than the national average, compared to 18.5% in 2015 and 12.2% in 2009.

22.4%

The positive differential in productivity for mid-sized firms versus the national average

The widening productivity gap likely partially reflects differences in the ability of firms to adopt and effectively use new technologies over this period. Since the late 2000s, business productivity growth has increasingly been driven by digitalisation, data use, and automation. Mid-sized firms are typically large enough to invest in enterprise software, process automation, and data infrastructure, but still flexible



enough to reorganise workflows around these tools. Smaller firms often lack the capital, specialist staff, and scale needed to justify such investments, so adoption has been slower. This interpretation is consistent with findings from the Organisation for Economic Co-operation and Development's Digital Economy Outlook, which documents persistent size-based gaps in the adoption of advanced digital tools, with smaller firms lagging particularly in data-intensive and capital-intensive technologies[1].

We also find that mid-sized firms are, on average, slightly more productive than large firms, by around 2.1%. This may reflect the advantages of operational flexibility combined with sufficient scale: mid-sized firms are large enough to invest in technology, process improvements, and skilled staff, but small enough to adapt quickly to new methods, reallocate resources efficiently, and avoid some of the bureaucratic overhead that can slow decision-making in larger organisations. Large firms often face more complex structures, slower internal communication, and legacy systems, which can dampen the productivity gains from investments, even if they have greater resources overall. As a result, mid-sized firms can capture efficiency benefits from modern practices while remaining agile, giving them a slight productivity edge over larger counterparts.

While the gap is relatively small, it is significant in aggregate: with roughly 16 million people employed by mid-sized businesses, the differential in productivity between mid-sized and large firms translates into an additional £23.0 billion in output.

Table 1: Firm-level estimates of average headcount, GVA and productivity by revenue size[2]

Revenue Class	Average GVA (£, 2025)	Average headcount	Productivity (£, 2025)	Productivity growth (10-year CAGR, %)
Small	£420,000	7	£58,500	0.8
Mid-sized	£31,000,000	430	£72,000	1.9
Large	£85,000,000	1,200	£70,500	2.0

Source: IDBR, ABS, Cebr analysis

1 Organisation for Economic Co-operation and Development. (2024). OECD digital economy outlook 2024 (Volume 1): Embracing the technology frontier. OECD Publishing. https://doi.org/10.1787/xxxxxxx
2 Figures shown in the table are rounded; as a result, dividing the reported GVA by headcount will not exactly reproduce the productivity figures.

£23bn

the differential in productivity between mid-sized and large firms translates into an additional £23 billion in output

1.3 Sector K analysis

For completeness, we extend the analysis to estimate the productivity of mid-sized firms in Sector K (financial and insurance activities). Firms classified as sector K are excluded from the IDBR and ABS datasets. Due to the lack of firm-level revenue data, we use business counts from the Nomis database combined with low-level GDP estimates for the sector.

We first examine the distribution of firms by employment band in sector K and compare it with the non-financial business economy. This shows that sector K has a higher share of low headcount firms (1–9 employees). We leverage this observed discrepancy to produce a scaling factor, which is then applied to GVA estimates by employment band for the non-financial business economy to approximate GVA contributions by employment band in sector K. Using Nomis firm counts, we derive per-firm GVA by employment band.

Next, we apply the mapping between employment bands and revenue classes to estimate firm-level GVA by revenue class. Our results suggest that there are approximately 1,000 mid-sized sector K firms in the UK, with an average GVA of £105 million per firm, yielding an estimated productivity of £222,000 per employee. This comparatively high level of GVA per firm and per employee is consistent with the capital-intensive and high value-added nature of financial and insurance activities, where scale, asset leverage, and the use of advanced digital and analytical systems contribute to elevated productivity metrics relative to most other sectors.

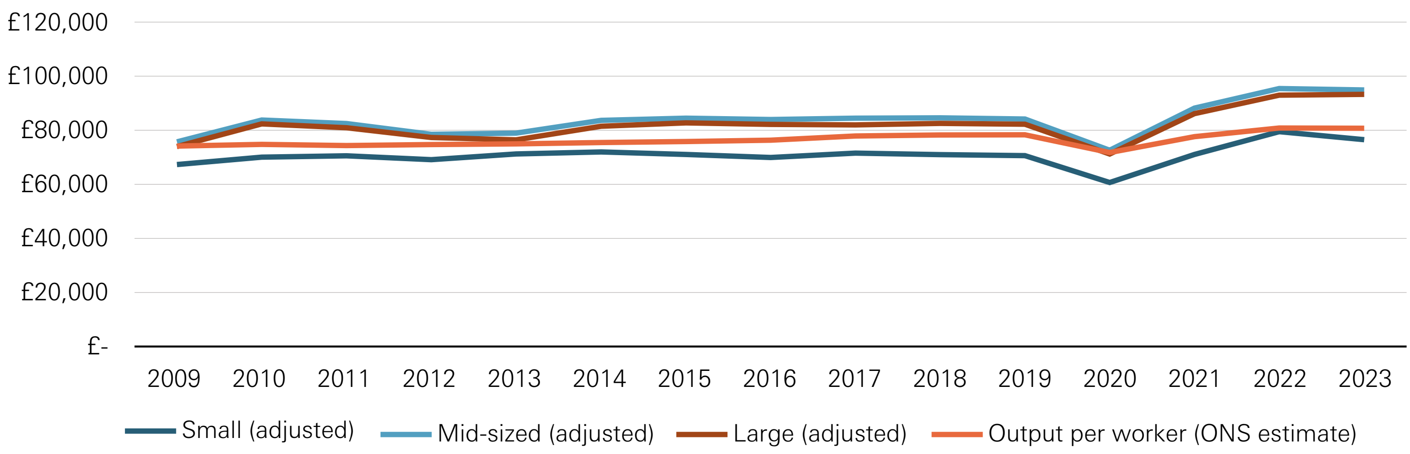
Notably, the differential between mid-sized and small sector K firms is much smaller than those in the non-financial business population. We estimate that in 2023, mid-sized firms were 5.4% more productive than small firms and 1.3% more productive than large firms.

1.4 Robustness test

Our productivity estimates for the non-financial business economy and sector K, measured as GVA per employee, are lower than Office for National Statistics (ONS) figures, which are based on GVA per productive worker. The difference arises because our denominator includes all employees, regardless of hours worked, part-time status, or absence, whereas the ONS measure is based on hours worked by "productive" workers. This methodological distinction naturally produces lower average productivity values in our analysis, driven in part by firms with higher proportions of part-time staff or non-productive time.

As a robustness check, we redefine and re-estimate productivity as GVA per worker, a definition that is consistent with the ONS methodology. To do so we adjust the headcount value based on the historic ratio of headcount to workforce jobs by industry series.[3] The ratio of employment to workforce jobs is relatively stable over the last 15 years, displaying some expected volatility that coincides with the pandemic. Adjusting the productivity measure from GVA per employee to GVA per worker yields estimates closely aligned with those published by the ONS, providing evidence that our results are well-calibrated.

Chart 3: Estimated GVA per worker (2025 prices)



Source: IDBR, ABS, ONS, Cebr analysis

3 Office for National Statistics (ONS). (16 December 2025). "JOBS02: Workforce jobs by industry (seasonally adjusted)".

2. The impact of AI adoption on productivity

2.1 A new engine of growth

In the previous chapter, we highlighted the clear productivity advantage held by mid-sized businesses. We now consider how that advantage can be extended.

Among the available levers, artificial intelligence stands out as the most compelling route to raising their productive potential further. AI is widely described as a general purpose technology (GPT), meaning it is not confined to a single task or sector, but can be applied across functions and industries, reshaping processes and enabling new ways of working over time. For mid-sized firms, this makes AI less a niche innovation and more a foundational capability that can strengthen day-to-day performance and sharpen competitive edge.

We combine secondary empirical evidence on the causal link between AI adoption and firm-level productivity with findings from the Business Insights and Conditions Survey (BICS) longitudinal dataset to quantify the opportunity that AI adoption presents for mid-sized businesses in the UK. We confine our principal analysis of AI adoption to the non financial business economy.

2.2 AI impact modelling

Our analysis relies on the results of a study published by the Bank of International Settlements analysing more than 12,000 European and US firms (2019–2024) to identify the causal impact of AI adoption on firm performance.[4] It finds that adopting AI raises labour productivity (defined as revenue per employee) by 4%, primarily through capital deepening, meaning workers become more productive rather than being replaced, with no negative short-term employment effects.

Productivity gains are found to be concentrated in medium and large firms, while adopters also tend to be more innovative and pay higher wages. Crucially, benefits are significantly larger when firms invest in complementary capabilities such as software, data infrastructure and workforce training. The authors conclude that AI is likely to augment labour and improve firm performance, but risks widening gaps between adopters and non-adopters without supportive investment and policy.

The empirical evidence provided by the BIS study offers one of the few robust estimates of the causal relationship between AI adoption and firm-level labour productivity. Europe has a large, service-oriented SME base, relatively similar regulatory standards, and comparatively moderate digital intensity, making it structurally comparable to the UK. As a result, the study proceeds on the assumption that the estimated productivity effects for EU firms are likely to be broadly representative of UK firms, given their comparable industry composition, firm size distribution, labour market institutions, and technology adoption patterns.

To model the implied AI productivity uplift we model the AI treatment effect identified in the BIS study as a process of gradual diffusion. A large body of evidence from literature shows that productivity gains typically emerge gradually following adoption, as firms undertake complementary organisational and intangible investments. In his seminal comparison of electrification and computing, David (1990) demonstrated that the productivity benefits of electricity materialised only after factories reorganised production processes around the new technology.[5] Firm-level studies of information technology by Brynjolfsson and Hitt (2000, 2003) similarly show that IT's impact on productivity strengthens over time as firms accumulate complementary organisational capital.[6,7] Taken together, this literature suggests that firms typically capture only a minority of the eventual productivity gains in the early years following adoption, with the bulk of the steady-state premium materialising gradually, as learning-by-doing, organisational redesign, and complementary investment accumulate over time.

Drawing on evidence from the technology adoption and productivity literature, we model a transition path in which a firm that adopts AI in Year 0 reaches the full 4% productivity uplift by Year 4. The BIS estimate is interpreted as a level effect on productivity, not an ongoing increase in the annual growth rate. Accordingly, the uplift reflects a one-off improvement in the firm's productivity level once AI is fully embedded, rather than a permanent acceleration in growth.

4% uplift

the impact of adopting AI on labour productivity

There is evidence that technology diffusion and its performance effects can follow different dynamic paths. Some studies document relatively steady, incremental gains consistent with a linear diffusion process.[8] Other studies have identified J-curve effects, in which productivity may stagnate

4 Aldasoro, I., Gambacorta, L., Pal, R., Revoltella, D., Weiss, C., & Wolski, M. (2026). AI adoption, productivity and employment: Evidence from European firms (BIS Working Paper No. 1325). Bank for International Settlements. https://www.bis.org/publ/work1325.pdf
5 David, P. A. (1990). The dynamo and the computer: An historical perspective on the modern productivity paradox. American Economic Review, 80(2), 355–361
6 Brynjolfsson, E., & Hitt, L. M. (2000). Beyond computation: Information technology, organizational transformation, and business performance. Journal of Economic Perspectives, 14(4), 23–48. https://doi.org/10.1257/jep.14.4.23
7 Brynjolfsson, E., & Hitt, L. M. (2003). Computing productivity: Firm-level evidence. The Review of Economics and Statistics, 85(4), 793–808.
8 Nucci, F., Puccioni, C., & Ricchi, O. (2023). Digital technologies and productivity: A firm-level investigation. Economic Modelling, 128, Article 106524. https://doi.org/10.1016/j.econmod.2023.106524

or even decline temporarily due to implementation costs, learning effects, and organisational disruption before rising as integration deepens.[9]

We adopt a linear pathway as our baseline assumption. This reflects three considerations. First, the empirical evidence on AI-specific productivity dynamics remains relatively nascent and does not yet provide robust parameter estimates for curvature or short-run productivity dips across a broad population of firms. Second, a linear transition represents a neutral and transparent assumption that does not impose strong structural claims about early disruption or accelerating returns. Third, for economy-wide modelling purposes, firm-level heterogeneity in adoption paths is likely to average out, making a smooth aggregate transition a reasonable approximation.

Operationally, we model the 4% level uplift as being realised gradually, with an implied productivity increase of approximately 1% in each of Years 1 through 4 following AI adoption by the firm in Year 0. This captures the idea that firms require time to integrate AI into workflows, build complementary skills and data infrastructure, and redesign processes, while avoiding strong assumptions about nonlinear adjustment dynamics.

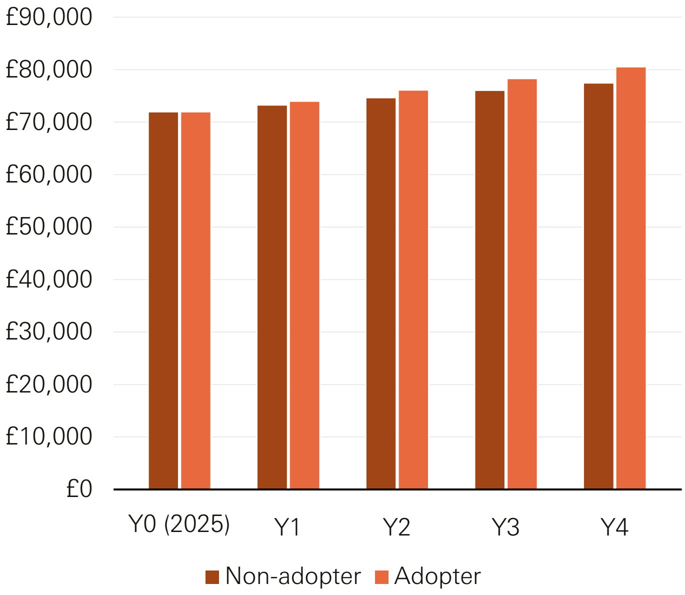
2.3 Firm-level impact

Firm-level impacts of AI adoption are modelled for a typical mid-sized business using the parameters set out in Chapter 1 (turnover of £85 million, headcount of 430 employees). On this basis, a firm that adopts AI in Year 0 is expected to generate an additional £1 million in revenue in Year 1. We estimate GVA as a historical share of firm revenue across all three revenue classes, deriving an average ratio of 0.3 for mid-sized firms. The uplift in revenue is therefore associated with £310,000 in additional output due to efficiency gains.

The gains compound over time. By Year 4, compared with an otherwise similar non-adopting firm, the adopter is projected to generate an additional £4.5 million in revenue and £1.3 million in output.

This uplift represents a significant shift in firm performance. The associated uplift in GVA is equivalent to the firm hiring around 20 additional employees but achieved through higher productivity rather than increased headcount. AI delivers scale benefits without the typical fixed-cost growth, strengthening firms' competitiveness and resilience.

Chart 4: Mid-sized firm productivity forecast (output per employee, 2025 prices)



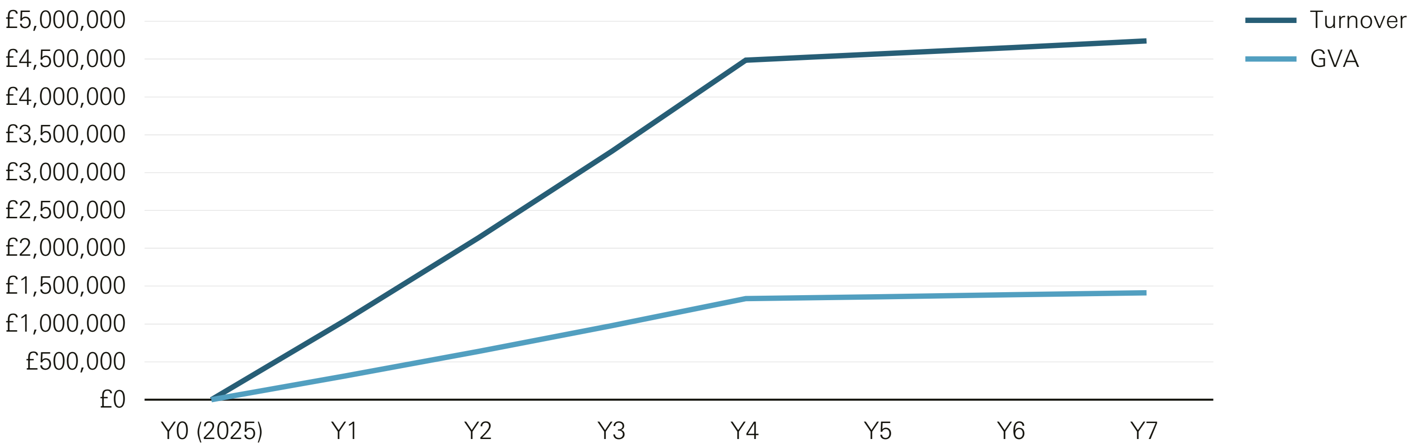
Source: IDBR, Cebr analysis

9 Burnham, K. (2025, July 9). The 'productivity paradox' of AI adoption in manufacturing firms. MIT Sloan School of Management. https://mitsloan.mit.edu/ideas-made-to-matter/productivity-paradox-ai-adoption-manufacturing-firms

£4.5m

The projected revenue gain over the next four years for firms embedding AI into core operations

Chart 5: Projected firm-level output and turnover uplift following AI adoption (2025 prices)



Sources: IDBR, Cebr analysis

2.4 Aggregate impacts

The overall economic effects of AI adoption are modelled by combining the findings from Chapter 1 with data from the Business Insights and Conditions Survey (BICS) to capture the progress of AI adoption among the mid-sized firm population. This longitudinal study includes several questions pertaining to AI adoption with respondents disaggregated by employment band. Using the employment-to-revenue mapping, we draw on BICS data to estimate AI adoption among mid-sized firms and, among adopters, the share of firms using AI to improve business operations.

The manner of AI operationalisation is key. We recognise that AI adoption covers a wide spectrum of activities, and not all uses will generate the same productivity gains. For example, deploying generative AI for drafting emails or internal knowledge searches may save small amounts of employee time, whereas integrating AI into workflow automation, demand forecasting, or customer service operations can materially change output per worker. A downward adjustment is applied to the AI adoption estimate to account for the fact that many firms initially adopt low-impact use cases before progressing to deeper operational integration.

Both the rate of AI adoption and the rate of operationalisation are assumed to follow a logarithmic pathway. We assume that AI adoption occurs gradually over time, reflecting the phased deployment of technology and initial learning within firms. By contrast, the productive application of AI proceeds at a faster pace, as firms leverage operational experience to generate measurable productivity gains.

From the BICS dataset we estimate that 48% of mid-sized firms had adopted AI in some form or another in 2025. These are hence denoted ‘general adopters’. Of those, it is estimated that 50% are doing so for business operations. Drawing on AI’s emergence in the early 2010s and adoption rates from the last 10 waves of the BICS survey (September 2023–December 2025), logarithmic adoption pathways are modelled. General adoption is expected to level off at 95%, reflecting that a small share of firms may never adopt. All adopting firms are assumed to eventually achieve productivity gains.

48%

of mid-sized firms had adopted AI in some form or another in 2025

Multiplying the rate of adoption and operationalisation provides an estimate of the shares of mid-sized firms presently using AI to increase productivity, henceforth described as ‘productive adopters’. In 2025, we estimate that 24% of mid-sized firms used AI to improve business operations. We project a relatively steep increase in this rate over the next five years with the share rising to 65% by 2030 and 93% by 2040.

Applying the projected path of productive AI adoption to the projected growth in mid-sized business population we estimate the number of new productive adopters each year over the next 25 years.

In 2025, we estimate roughly 2,700 mid-sized businesses became productive adopters and would begin to experience productivity benefits. To estimate the economic impact of new productive AI adoption, a multi-year simulation is used to calculate the resulting productivity gains over the following four years. The uplift is calculated as the difference in turnover and GVA generated by productive adopters compared to a non-adopter counterfactual in which productivity grows at the long-term trend rate.

Modelling suggests that by 2030, the 2025 cohort of productive AI adopters will have generated an additional £30 billion in revenue and £9 billion of GVA. Accounting for the additional waves of adoption between 2026 and 2029 we estimate that the overall uplift in GVA by 2030 from productive AI adoption will surpass £100 billion, equivalent to 3.3% of the UK's nominal GDP in 2025.

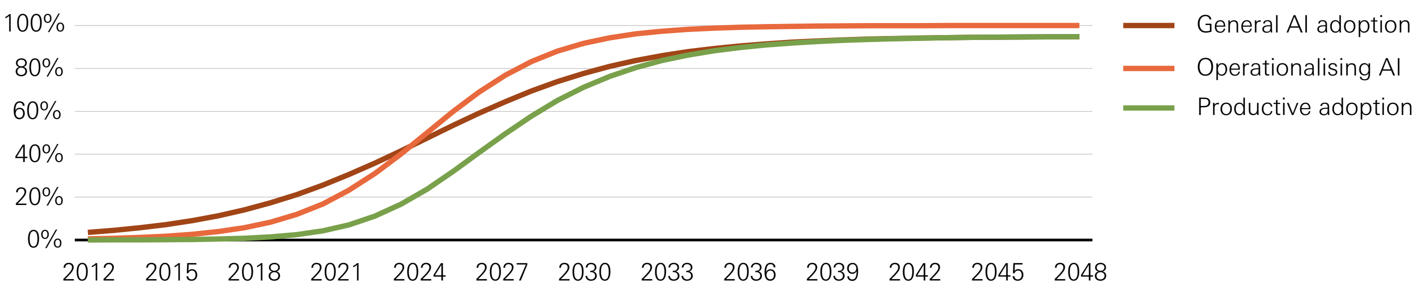
The annual uplift reaches £400 billion in 2030, coinciding with the largest cohort of new adopters. After that, productivity continues to rise, but the number of new adopters grows more slowly as the mid-sized firm population saturates.

The results suggest that even a modest uplift to productivity when applied to already relatively highly productive mid-sized firms can yield significant increases in revenue and GVA. Cumulatively, we estimate that AI-driven productivity improvements could generate over half a trillion pounds in additional turnover by 2050.

24%

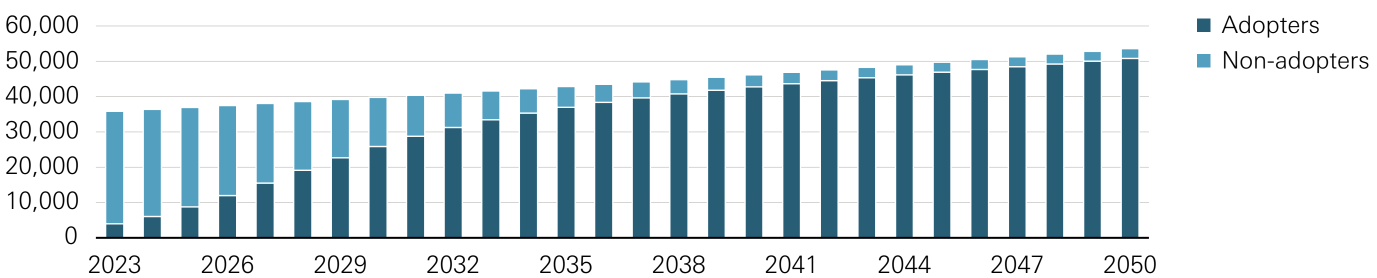
of mid-sized firms used AI to improve business operations in 2025

Chart 6: AI adoption and operationalisation pathways



Sources: BICS, Cebr analysis

Chart 7: Projection of productive AI adoption among mid-sized firms (count)



Source: ABS, BICS, Cebr analysis

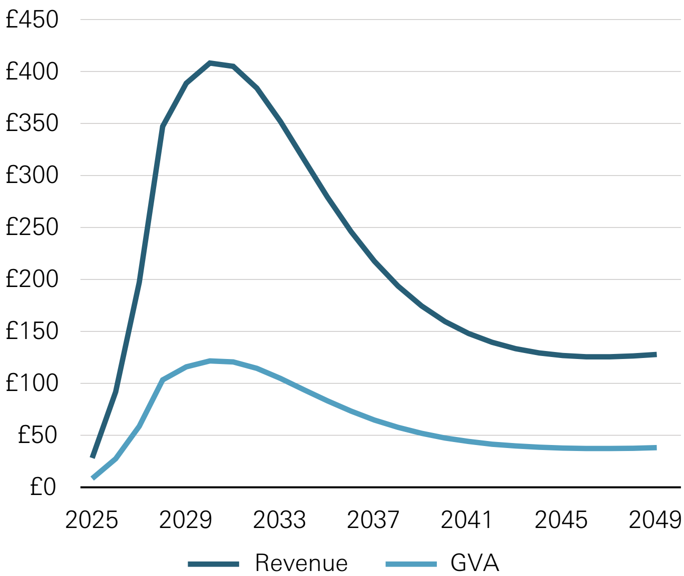
3. AI adoption today

This module uses the Business Insights and Conditions Survey (BICS) and other sources as a base to qualitatively examine trends in AI adoption. AI is expected to bring about a revolution in productivity, with drastic consequences for output, business dynamics, and the labour market. However, even against a backdrop in which technological progress continues to accelerate, adoption and use cases amongst UK businesses appear muted by comparison. That said, continued developments have shown AI's potential for genuine strategic capabilities beyond novelty value.

The analysis in this section will begin by defining AI adoption and examining which AI technologies have been adopted by middle-market enterprises most commonly. Alongside the type of technology used, businesses' use cases will be examined, aiming to identify which departments and roles are most impacted by AI adoption. Finally, workforce and employment impacts, as well as potential barriers to adopting AI, will be identified, before analysing near-term adoption intentions among target firms.

Using the BICS as the primary source can accommodate specific analysis of AI adoption among target firms, as it provides results broken down by firm size. However, firm size is defined in terms of employment, rather than turnover, bands, marking a distinction from the analysis presented earlier in this report. Therefore, the relevant shares of each employment band within the target annual revenue band of between £15 million and £350 million will be used to generate estimated response data for target firms. BICS data offer useful longitudinal insights into firm-level AI adoption, with AI questions integrated in waves spanning back to 2023. As such, the resulting time series can offer meaningful insights into trends in AI adoption among target firms.

Chart 8: Projected annual economic uplift due to productive AI adoption (billions, 2025 prices)



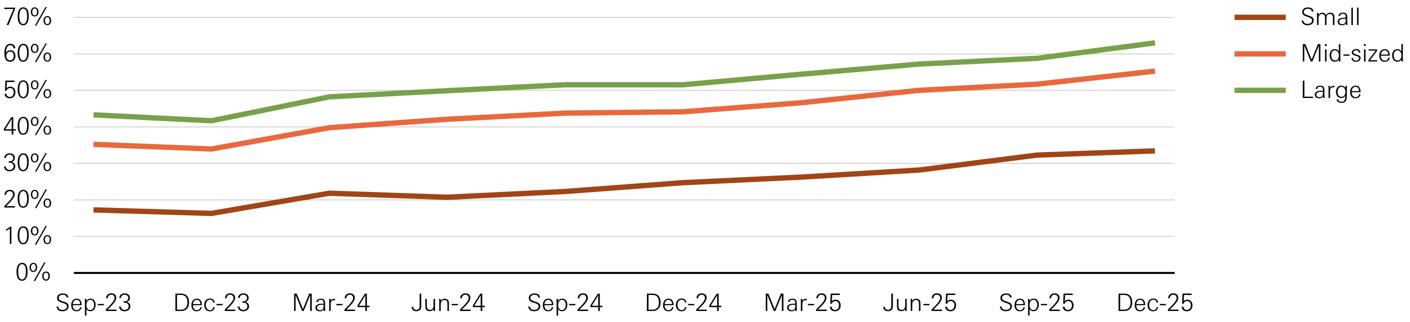
3.1 Assessing the scale of middle-market AI adoption

Across the literature, definitions of AI adoption can vary. For simplicity, this module will utilise an adoption binary from the BICS, that is, either a company is using AI or it is not. This contrasts with the view of adoption along an intensive margin, which measures degree of use. For instance, in a bespoke survey of firms, Massini et al. (2025)[10] evaluate AI adoption via a rudimentary use scale. Among a range of Advanced Digital Technologies (ADTs) AI had the highest proportion of 'low use' among firms of 23%, likely reflecting use of copilot AI systems to assist in existing human tasks, while the proportion of 'high use' was among the lowest at only 6%. The results of Massini et al.'s study point towards AI adoption primarily being on a 'tool' level, reflecting the simple use of AI tools to speed up existing tasks, with more limited adoption to bring about structural process or organisational change through the use of more advanced agentic AI technologies.

Approximately half of mid-market businesses are estimated to be yet to employ AI technologies

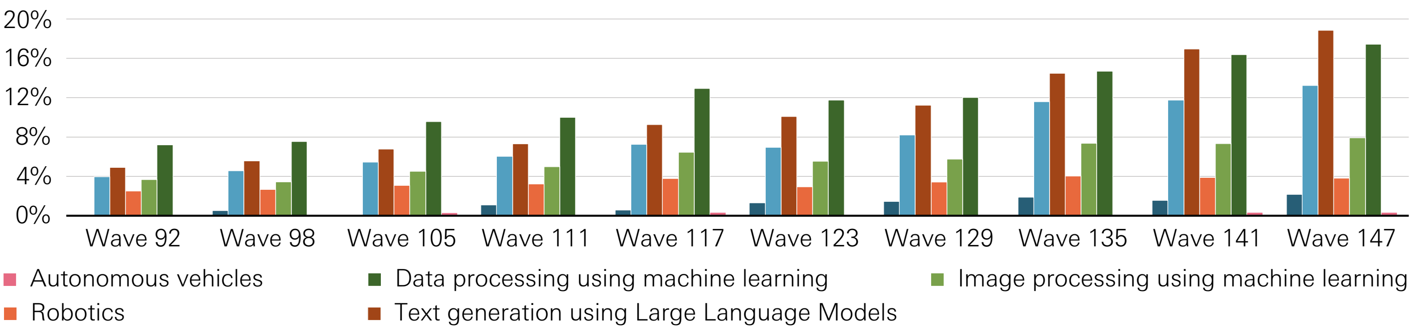
Since BICS Wave 92 in September 2023, the share of businesses reporting that they have adopted AI has risen substantially. Mid-market businesses had an implied adoption rate of 35.2% at the beginning of the time series, which has since risen to 55.2% as of the most recent wave, capturing December 2025. The survey interrogates types of AI adoption, with total adoption rates implied by the response of 'Business does not currently use AI'. The upward trend in usage is intuitive, given advancements both in the capabilities and usability of popular AI tools. It is also reflected across all firm size bands as shown in Chart 9. Middle-market enterprises have lagged slightly behind large enterprises, but adoption has remained considerably above SMEs, of which a far smaller proportion has sought to adopt AI. However, adoption rate estimates can vary across sources. In a survey conducted in early 2025, the Department for Science, Innovation, and Technology (DSIT)[11] estimates total adoption, including firms outside of the target revenue band, at just 16% currently using AI in one or more technology, rising to 36% in large businesses. A Moneypenny[12] survey of 750 decision makers across UK businesses in May 2025 reported 39% of the sample currently using AI.

Chart 9: Implied AI adoption between September 2023 and December 2025 by turnover band



Source: BICS, Cebr analysis

Chart 10: Middle-market AI adoption shares by technology employed



Source: BICS, Cebr analysis

10 Massini, S et al. (2025). Adoption of Advanced Digital Technologies and Platforms: Insights from a UK national survey. The Productivity Institute, Working Paper No.049 https://www.productivity.ac.uk/wp-content/uploads/2025/01/WP049-Adoption-of-Digital-Technologies-and-Platforms-January-2025.pdf

11 Department for Science, Innovation & Technology (2025). AI Adoption Research. https://www.gov.uk/government/publications/ai-adoption-research/ai-adoption-research

12 Moneypenny (2025). The State of AI Adoption in UK Businesses. https://www.moneypenny.com/uk/resources/blog/the-state-of-ai-adoption-in-uk-businesses/

AI adoption has been centred on improving the efficiency of existing workflows rather than process-level reform
The two most frequently used AI technologies outlined in BICS Wave 147 are data processing using machine learning and text generation using Large Language Models, used by 17.4% and 18.9% of target firms, respectively. When asked what these technologies are primarily utilised for, the largest share of businesses stated that they would be used to improve business operations, with far smaller proportions indicating that they would use the technology to develop a new product or service, explore a new market, or provide products or services to customers. The Crusoe 2026 AI Infrastructure Trends Report[13] offers similar evidence, with 69% of surveyed decision makers stating that that improving operational efficiency was a motivation driving AI initiatives. The view that AI is primarily used in a copilot capacity has explanatory power here, with LLM text generation and ML data analysis being often used as time-saving technology within existing workflows. Indeed, Massini et al. (2025)[14] outline that the most frequently cited motivation to adopt AI is to automate tasks performed by workers.

3.2 Reported and expected AI adoption impacts

Mid-market firms look externally for technology but not talent
An important consideration is the pathway towards integrating AI tools and skillsets into a firm's workforce. The largest share (41.2%) of target firms that have adopted some form of AI technology reported adopting it through the purchase of external or ready-to-use software, with a smaller proportion of 26.5% reporting that the technologies were adopted through in-house development. While adopting AI via outsourcing to external providers or third parties was the least popular option, it was still reported by 19.6% of target firms. Unlike in-house development or outsourcing, purchase of external software comes with a significant barrier to entry, being that employees are using AI technologies that they are not creating, leading to a lack of intimate knowledge from first usage. Integration of AI skills into the workforce to extract the full productivity benefits from the technology is therefore a necessity from this approach.

When integrating these AI skills within the workforce, the largest share of firms choose to train or retrain existing staff, at 39.5%. A combined total of 23.1% reported that they would integrate the relevant skillsets in other ways, either through automating or replacing workforce roles, outsourcing roles, or recruiting new staff with AI related skillsets. Bringing AI capabilities in-house has thus been identified as a key strategic objective among mid-market firms, even while firms are far more comfortable looking externally for the technology itself.

54%

of businesses that have adopted AI reported no change in their overall workforce headcount

The 'AI jobpocalypse' may be far milder than feared
AI has long been cited as an employment pressure. The automation of certain tasks would be expected to speed up existing processes but may also highlight potential cost savings on the wage bill. On the other hand, broad-based productivity gains drive growth amongst businesses, which may put upward pressure on hiring sentiment. Analysis of the full effects of AI technologies on the workforce has presented mixed conclusions. In major markets such as the UK and US, the release and subsequent rapid development of important AI technologies such as LLMs have coincided with a broad-based loosening of labour market conditions, but empty desks may be more attributable to cyclical economic conditions than AI.[15] Data from the BICS present a similar conclusion for target businesses, while also giving evidence that some labour market restructuring is ongoing and expected for the future. When asked what impact, if any, AI had on the business's overall workforce headcount, 54.0% of businesses that have adopted AI, the majority, reported no change, with a further 24.0% reporting that the effects of AI on their headcount were unclear. However, when assessing the balance of firms reporting that AI had resulted in an increased or decreased headcount, an estimated 6.9% of mid-market businesses reported that their overall headcount had fallen because of AI adoption, 4.8 percentage points more than those that reported that it had risen.

Mid-sized businesses reported reasonably even coverage for AI-related impacts on roles. Administrative or clerical roles were identified by 28.9%, the largest share of target firms, as being impacted by AI technologies. Data analysis roles were cited by 17.6% of target firms as a key business function to have been impacted, aligning with the increasing efficiency of AI tools in writing data analysis code. AI was reported as least likely to impact skilled, manual or operational roles, sales and customer service roles, or managerial roles.

13 Crusoe (2026). AI infrastructure trends report. https://www.crusoe.ai/resources/learn/2026-ai-infrastructure-trends-report
14 Massini, S et al. (2025). Adoption of Advanced Digital Technologies and Platforms: Insights from a UK national survey. The Productivity Institute, Working Paper No.049 https://www.productivity.ac.uk/wp-content/uploads/2025/01/WP049-Adoption-of-Digital-Technologies-and-Platforms-January-2025.pdf
15 The Economist (2025). "Don't blame AI for your job woes". https://www.economist.com/finance-and-economics/2025/11/06/dont-blame-ai-for-your-job-woes

Business sentiment on how AI implementation will impact the employment outlook signals that greater employment pressures are expected by businesses in future. Overall, 1.8% of mid-market firms expect headcount to rise in the next three months, broadly comparable to those who had seen it rise in the survey wave. However, the proportion that expected headcount to fall as a result of AI adoption was higher, at 13.4% giving a stronger expected net-negative impact on headcount. The largest share of businesses (42.2%) still expected there to be no impact on headcount, though. Survey analysis by DSIT[16] corroborates this, with businesses suggesting that they expect AI to bring about a "redefinition of roles rather than [a] reduction".

3.3 Barriers to AI adoption

Skills gaps are reported as the primary barrier to AI adoption

The relatively muted adoption of AI technologies, with use cases primarily linked to administrative and operations roles in an implied copilot rather than agentic capacity, reflects potential barriers to adoption. However, the largest share of firms within the BICS data (42.4%) reported that there were no reasons for AI adoption to be prevented or delayed. Combined with businesses that reported that AI technology adoption had not been attempted, this covered the majority of mid-market businesses within the survey data. Focusing on those that reported that delays or preventions had occurred, 12.5%, the largest share of mid-market firms, reported that limited technical expertise among staff was a barrier to adoption. The second- and third-most cited were a lack of trust in AI technology's safety and transparency, and a lack of identified use cases, both cited by between 7% and 8% of target businesses. Concerns about regulation and employee concerns about job security or workload were both cited by less than 5%.

12.5%

of firms reported that limited technical expertise among staff was a barrier to adoption

16 Department for Science, Innovation & Technology (2025). AI Adoption Research. https://www.gov.uk/government/publications/ai-adoption-research/ai-adoption-research

Regulatory fears are concentrated on data protection risks and compliance difficulties
An additional question in the BICS asked which regulatory concerns prevented or delayed businesses from adopting AI technologies. While regulations were not listed as a primary barrier to adoption – it was listed as a barrier to adoption by only 3.6% of target firms – intended legislation to regulate AI may bring about new challenges for businesses. 57.4% of those target businesses that had experienced prevention or delay of AI adoption due to regulatory concerns cited exposure to data protection risks as a barrier to AI adoption, while 44.9%, the second highest share, reported that compliance difficulties were a barrier. Legal risks around copyright and intellectual property were also concerns for approximately 31.8% of mid-market businesses, likely relevant to those in creative industries, where product-generating AI tools are trained on work that may be protected by intellectual property laws. Regulation is an ever-expanding and evolving consideration for businesses that are adopting AI technologies, although it has not so far proved to be overly cumbersome.

3.4 AI adoption intentions

Businesses anticipate continuing current integration and adoption trends in the near term
When assessing adoption intentions, the BICS implies that sentiment is more subdued as of January 2026. In response to the question "What does your business plan to adopt artificial intelligence technologies for?", 50.3% stated that they did not plan to adopt artificial intelligence technologies in the next three months. While this proportion has fallen from 59.7% in September 2023, it implies that target firms are still viewing AI adoption as an optional improvement rather than a strategic necessity. That said, adoption intentions are growing; survey-based estimates of investment intentions amongst firms of all sizes from the DSIT valued AI investment between 2023 and 2028 at a baseline of £21.7 billion.

39.8%

of firms stating that they will integrate AI skills via training or retraining existing staff

Business's intended integration approaches largely reflect existing trends, with 39.8% stating that they will integrate AI skills via training or retraining existing staff, and with automating or replacing roles, and recruiting new staff, both being cited by just over 12.0%.

3.5 Conclusion

AI adoption is real but shallow for most businesses. Mid-market businesses tend to have been more restrained in their implementation of AI than would be expected, given the productivity-enhancing potential of the technology. Productivity gains are common but are yet to transfer to concrete revenue gains[17], with process-level adoption lagging behind more fragmented tool-level adoption. Worker inertia might thus be to blame for this, with skills and clarity around use cases still reasonably limited, which prevents widespread process-level implementation. For now, these remain the binding constraints, with the possibility that regulation takes a heavier hand in the future being a downside risk to adoption in the medium term.

17 Department for Science, Innovation & Technology (2025). AI Adoption Research. https://www.gov.uk/government/publications/ai-adoption-research/ai-adoption-research

Whether you're taking your first steps with digital tools or looking to scale more advanced technologies, we can help you access the funding to build the right capabilities.

Activity with our £5bn financing initiative to help UK businesses invest in future-ready capabilities.
Find out more here: HSBC AI & Productivity Financing Initiative

Lending is subject to status. Eligibility criteria, T&Cs, fees, charges and rates apply.