

Statistical bulletin

Management practices in the UK: 2016 to 2023

Review of management practice scores for firms in the production and services industries across the UK in 2023 and Great Britain from 2016 to 2023. These are official statistics in development.

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1 . Main points

- Our third survey of management practices saw higher average scores of 0.57 in 2023, up from 0.51 in 2020, on a scale from 0 (no implementation of structured management practices) to 1 (full implementation); this was driven by an improvement in the scores of firms with management scores below the median.
- Firms in the services sector had higher average management scores (0.58) than firms in the production sector (0.54) in 2023; among services, firms in information and communication services had the highest average management score (0.64) while firms in the transportation and storage services sector had the lowest average score (0.49).
- Across all industries, firms with more employees continued to have higher management practice scores in 2023; firms with more than 250 employees scored on average 0.68 compared with 0.66 for firms with 100 to 249 employees, 0.64 for firms with 50 to 99 employees, 0.59 for firms with 20 to 49 employees, and 0.53 for firms with 10 to 19 employees.
- Almost 9 in 10 (89%) of firms surveyed in 2023 report taking some action to improve management quality; of those, 64% said they consulted employees about areas of improvement and 43% carried out formal training online, 42% in person and 13% participated in government training programmes.
- Firms with below median management scores in 2023 were four times more likely to use little to no analysis to support business decisions.
- One in six (17%) firms in the UK with 10 or more employees said they had tested or adopted some form of artificial intelligence; this was 36% for firms in the top decile of management practices distribution but only 3% for those in the bottom decile.

2 . The importance of management practices in firm performance

This bulletin reports the main findings from the third [Management and Expectations Survey \(MES\)](#), conducted across the UK from November 2023 to March 2024 asking firms about their management practices in 2023. The survey covered firms with 10 or more employees and excluded agriculture, financial services and public sector firms.

Previous surveys – covering Great Britain – were conducted in 2017 and 2020. In 2017, the survey asked respondents about their management practices in 2016 while in 2020, the survey asked respondents about their management practices in both 2019 and 2020. In our analysis we refer to the reference year that firms were asked about (2016, 2019, 2020 and 2023).

Management practice scores used in the MES 2023 have been developed to measure management quality across organisations. Differences in management quality are important to understand, as they are [significantly related to important firm outcomes such as productivity](#). The management practice scores developed in the MES capture four dimensions of management:

- continuous improvement, or how businesses respond to problems
- the use of key performance indicators (KPIs)
- the use of targets
- employment practices relating to promotion, training and employee underperformance

Management practice scores range from 0 to 1. Firms score 0 if they do not respond to ongoing problems, base promotion decisions on factors other than merit, and do not track performance or set targets. Conversely, to score 1, firms need to continuously review their processes with the aim to minimise future challenges, carry out regular performance reviews, train employees, and base hiring and promotion decisions on merit. Management practices are associated with higher productivity and resilience for firms. A more extensive review of the literature can be found in [previous](#) MES articles.

3 . Management practices across the UK, 2023

This section presents the main findings of the Management and Expectations Survey (MES) 2023. On a scale of 0 to 1, the overall mean score for the UK and Great Britain was 0.57, and the median score was 0.61 (Figure 1). This corresponds to a mean score of 0.57 for England (median 0.61), 0.57 for Wales (median 0.60), 0.54 for Scotland (median 0.58) and 0.53 for Northern Ireland (median 0.56).

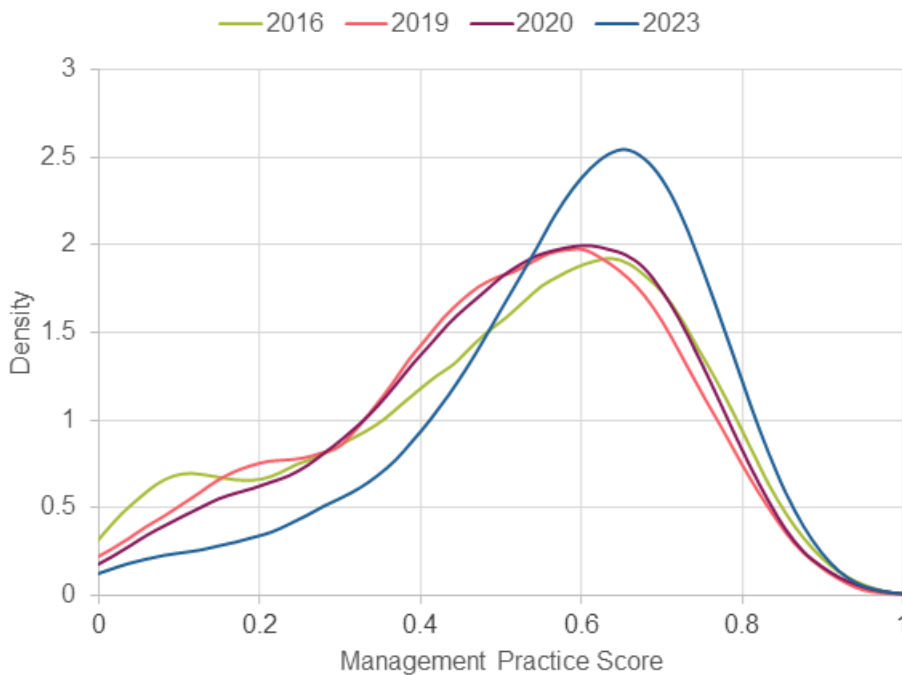
In 2023, the survey sample included Northern Ireland for the first time, whereas the scores for 2016, 2019 and 2020 only corresponded to firms in Great Britain. However, this makes minimal difference to the aggregate management scores.

Overall management practices have improved since 2020. Comparing firms in 2023 in Great Britain to those in the previous wave, management scores have increased since 2020 from 0.51 to 0.57.

Median scores have increased from 0.53 to 0.61. This was driven by an improvement in the scores of firms with management scores below the median. In 2023, firms in the bottom 10th percentile (bottom decile) had scores 51% higher than 2020, compared with only 4% higher for firms in the 90th percentile (top decile).

Figure 1: Overall management practices have improved since 2016

Distribution of overall management practice scores, whole sample, Great Britain and UK, 2016 to 2023



Source: Management practice score

Notes:

1. MES covers businesses in the production and services industries in Great Britain or (for 2023) UK, with employment of at least 10.
2. The 2023 series also includes firms from Northern Ireland. The Great Britain series for 2023 (excluding Northern Ireland) follows an almost identical distribution, which can be found in the accompanying dataset.
3. The MES sample excludes firms in section A (agriculture, forestry and fishing), and sections K (financial and insurance activities) and results were weighted to reflect the population of firms.
4. The 2017 survey asked respondents about their management practices in 2016 while the 2020 survey asked respondents about their management practices in both 2019 and 2020.
5. Whole sample refers to all business that responded in each wave.

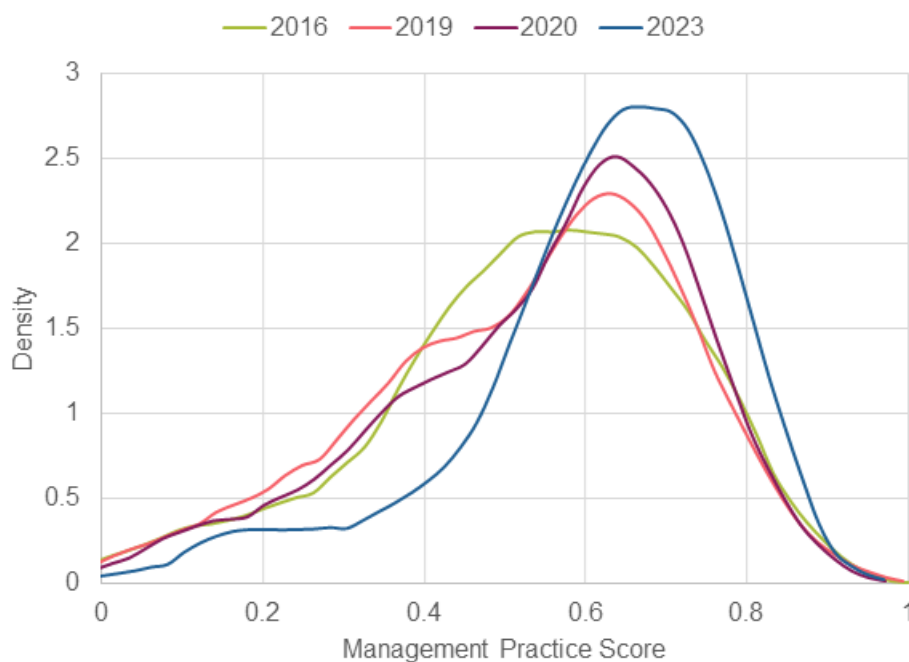
Figure 2 presents the scores of the same firms over time. A linked sample allows us to measure the change in headline management scores for the same firms over time because of improvement in practices.

The average management practice score for these firms increased from 0.55 to 0.61 between 2020 and 2023, while the median shifted from 0.58 to 0.64.

The distribution of management practice scores narrowed in 2023 compared with previous years. This was because of firms with lower scores "catching up". Firms in the bottom 10th percentile (bottom decile) of management score improved their practices by 30% between 2020 and 2023, compared with 4% of those at the 90th percentile (top decile). It was not driven by attrition; firms that dropped out of the linked sample in 2023 were not more likely to come from lower 2020 management score deciles.

Figure 2: Overall management practices for firms that responded to every survey wave have improved over time

Distribution of overall management practice scores, linked sample, Great Britain, 2016 to 2023



Source: Management and Expectations Survey from the Office for National Statistics

Notes:

1. The MES linked sample covers businesses in the production and services industries in Great Britain, with employment of at least 10.
2. The MES sample excludes firms in section A (agriculture, forestry and fishing), and sections K (financial and insurance activities) and results were weighted to reflect the population of firms.
3. Linked sample refers to businesses that have responded to all three waves of the MES (2017, 2020 and 2023). The 2017 survey asked respondents about their management practices in 2016 while the 2020 survey asked respondents about their management practices in both 2019 and 2020.

Across the four categories of management score, continuous improvement continued to have the highest mean score at 0.80, but this was a slight fall on 2020 (0.82). Use of key performance indicators (KPIs) scored the lowest at 0.42, while employment practices saw the greatest improvement since 2020, from 0.52 to 0.64. This was driven by an increase in the number of firms reporting taking action to address underperformance and basing promotion solely on performance and ability.

Figure 3: Employment practices have seen the largest improvement, but key performance indicators are lagging

Average management practices scores by management practices categories, UK and Great Britain, 2016 to 2023

Figure 3: Employment practices have seen the largest improvement, but key performance indicators are lagging

Average management practices scores by management practices categories, UK and Great Britain, 2016 to 2023



Source: Management and Expectations Survey from the Office for National Statistics

Notes:

1. MES covers businesses in production and services industries with employment of at least 10, in the UK for 2023 and Great Britain for 2016, 2019 and 2020.
2. The 2023 series also includes firms from Northern Ireland. The Great Britain series for 2023 (excluding Northern Ireland) have very similar results, which can be found in the accompanying dataset.
3. The MES sample excludes firms in section A (agriculture, forestry and fishing), and section K (financial and insurance activities) and results were weighted to reflect the population of firms.

Notes for: Management practices across Great Britain 2016 to 2023

1. The results for Figures 1, 2, 3 may differ from previous publications because of changes in weighting and rounding as well as corrections made to the response scoring of the "Targets" questions.

4 . Management practices by firm size, industry and region

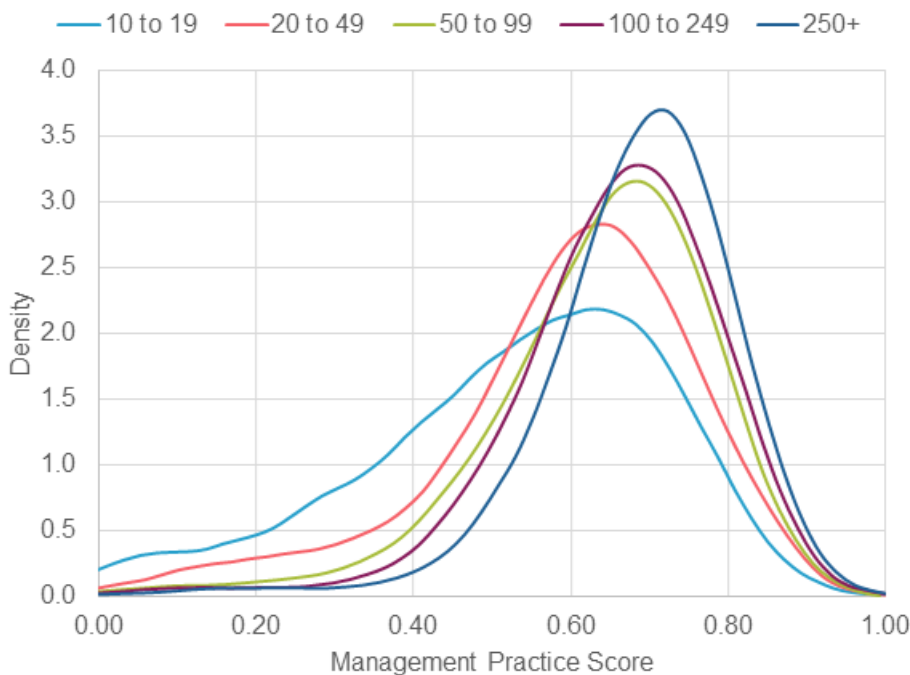
There was significant variation in management scores by firm size, legal status and ownership structure. As was the case in previous surveys, larger firms had higher management practice scores than smaller firms.

Firms with more than 250 employees scored on average 0.68 compared with 0.66 for firms with 100 to 249 employees, 0.64 for firms with 50 to 99 employees, 0.59 for firms with 20 to 49 employees, and 0.53 for firms with 10 to 19 employees.

Differences in means could be driven by differences in large firms' underlying industry, productivity, age, or regional composition. After controlling for other firm characteristics, larger firms still had management scores 0.13 points higher than the smallest firms in our sample, compared with a 0.16-point unadjusted gap.

Figure 4: Management practice scores in large firms remain higher than in small firms

Distribution of management practice scores by employment size bands, UK, 2023



Source: Management and Expectations Survey from the Office for National Statistics

Notes:

1. MES 2023 covers business in the production and services industries with employment of at least 10 in the UK.
2. The MES sample excludes firms in section A (agriculture, forestry and fishing), and sections K (financial and insurance activities), and results were weighted to reflect the population of firms.

Figure 5 shows that firms in the services industries generally scored higher than those in production industries. In 2023, within other services, education had an average score of 0.61, health 0.62, arts and entertainment 0.55 and other activities, such as beauty services, a score of 0.58. Within business services, professional, scientific and technical activities scored 0.63 and administrative support 0.58.

Overall, firms in service sectors had an average management score of 0.58 compared with 0.54 for the production sector. This was because production industries had a longer tail of firms with lower management scores. A firm at the bottom 10th percentile (decile) of the distribution in other services and business services had a score of 0.42 and 0.40, respectively, while the equivalent firm in construction and non-manufacturing production had a score of 0.20 and 0.29, respectively.

Figure 5: Management practice scores were higher in the service industries

Percentile distributions of management practices scores by industry groups, UK, 2023

Notes

1. MES 2023 covers businesses in production and services industries with employment of at least 10 in the UK.
2. The MES sample excludes firms in section A (agriculture, forestry and fishing) and section K (financial and insurance activities), and results were weighted to reflect the population of firms.
3. Key to industry groupings:
 - non-manufacturing production includes sections B (mining and quarrying), D (electricity, gas, steam and air conditioning supply) and E (water supply; sewerage, waste management and remediation activities)
 - manufacturing represents section C (manufacturing)
 - construction represents section F (construction)
 - distribution, hotels and restaurants includes sections G (wholesale and retail trade; repair of motor vehicles and motorcycles) and I (accommodation and food service activities)
 - transport, storage, and communication includes sections H (transportation and storage) and J (information and communication)
 - business services includes sections M (professional, scientific and technical activities) and N (administrative and support service activities)
 - real estate represents section L (real estate)
 - other services includes sections P (education), Q (human health and social work activities), R (arts, entertainment and recreation) and S (other service activities)

Figure 6 shows how management practice scores differ across the regions of the UK. Average management practice scores increased in all regions between 2020 and 2023.

Average management practice scores were highest in London (0.59) and the East of England (0.59) and lowest in Northern Ireland (0.53) and Scotland (0.54) in 2023. The largest regional improvement in 2023 was in the East of England, where the average score increased from 0.50 to 0.59.

These trends reflect a "catch-up" in all regions of firms in lower deciles of management scores. Within all regions, dispersion has fallen over time. However, significant regional differences remain.

The most unequal region was the South West and the most equal the East of England, in 2023. A firm in the 90th percentile (top decile) in the South West had a management score 3.32 times higher than a firm in the 10th percentile (bottom decile), whereas in the East of England it was only 1.8 times.

Figure 6: Management practice scores in London and the East of England lead the rest of the UK

Mean management practice scores by international territorial level (ITL1) region, UK, 2023

Figure 7 explores the significance of differences in management scores between firms when looking at various characteristics together. This helps us control for these characteristics in understanding the differences in conditional management practices scores.

In Figure 7, we show the regression coefficients of productivity, firm size, firm age, ownership, industry and region. Firms with more than 250 employees have higher management scores by 0.13 points compared with firms with 10 to 19 employees even after controlling for other firm characteristics. Differences by region were not always significant, which means they can in part be explained by the differences in industry and size composition of the firms in these regions.

Business services and other services have significantly higher management scores, by 0.05 and 0.08, respectively, compared with non-manufacturing production and [statistically significant](#) higher scores than all other industries apart from real estate. There were diminishing returns in age. While firms 6 to 15 and 16 to 25 years old have higher management scores compared with younger firms, the relationship is not statistically significant for firms 25 years old or more.

Figure 7: Businesses with higher productivity, more employees and foreign ownership have higher management scores on average

Conditional analysis of the relationship between management practices score and individual firm characteristics, UK, 2023

Notes

1. Confidence intervals reported have been calculated using robust (Huber-White) standard errors and standard errors clustered by industry. Bootstrap standard errors were also calculated for robustness. For more information on standard errors see Section 10: Strengths and limitations.
2. MES 2023 covers businesses in production and services industries with employment of at least 10 in the UK.
3. The MES sample excludes firms in section A (agriculture, forestry and fishing), and section K (financial and insurance activities), and results were weighted to reflect the population of the firms.

5 . Improving management practices across firms

Management practices are a significant driver of productivity and firm resilience to economic shocks. In Figure 7, productivity is [statistically significantly](#) related with higher management practice scores. A 1% increase in a firm's labour productivity is correlated with a 0.01 increase in its management practice score. As a result, it is important to understand what firms were doing to improve their management practices.

Management matters to firms; 89% of businesses reported taking some action to improve management quality, 64% of firms consulted employees about areas of improvement, 43% carried out formal training online and 42% carried out training in person. Engaging in government funded training and hiring management consultants (both 13%) were the least common approaches to improving practices.

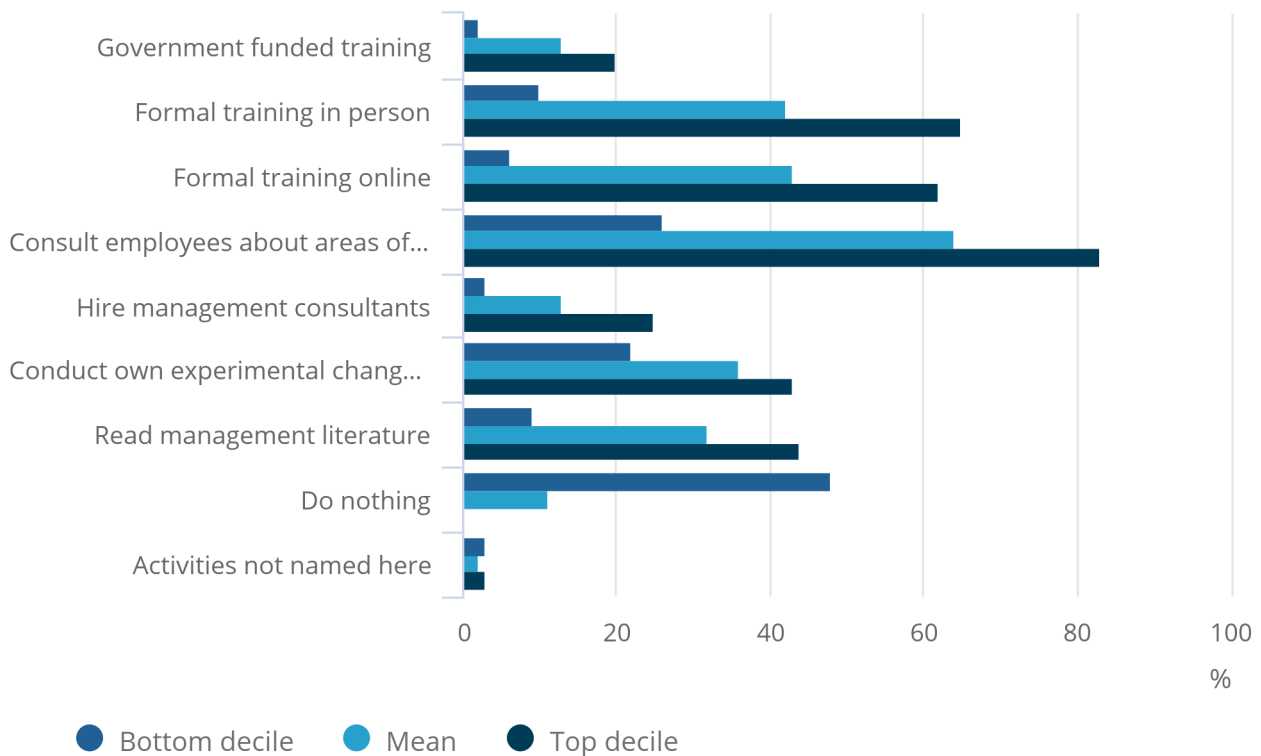
Firms in the bottom 10th percentile of management practices were more likely to report having taken no action to improve and when action was taken, tended to consult internally or conduct their own experimental changes to management, rather than participate in formal training, as shown in Figure 8.

Figure 8: Businesses with higher management scores were more likely to seek formal training

Responses to “What do managers commonly do to improve the way this business is managed?” at the bottom and top deciles of management practices score compared with the average response, UK, 2023

Figure 8: Businesses with higher management scores were more likely to seek formal training

Responses to “What do managers commonly do to improve the way this business is managed?” at the bottom and top deciles of management practices score compared with the average response, UK, 2023



Source: Management and Expectations Survey from the Office for National Statistics

Notes:

1. Bottom and top deciles refer to firms below the 10th percentile of management score and those above the 90th percentile of management score, respectively.

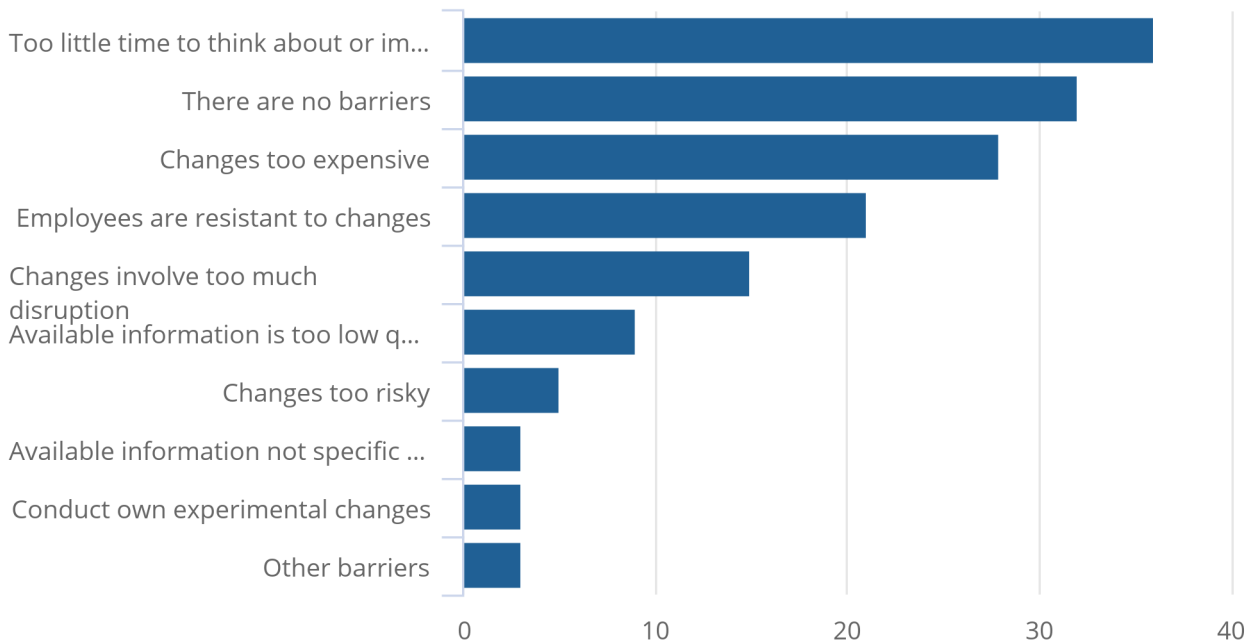
Reported barriers to improve management do not vary significantly between firms with higher or lower management practice scores. Firms most commonly said they have little time to think about the changes required (36%) or that there were no barriers (32%).

Figure 9: Having “too little time to think about or implement changes” was the biggest barrier to improving management practices in 2023

Responses to “What is the main barrier to improving the way this business is managed?”, UK, 2023

Figure 9: Having “too little time to think about or implement changes” was the biggest barrier to improving management practices in 2023

Responses to “What is the main barrier to improving the way this business is managed?”, UK, 2023



Source: Management and Expectations Survey from the Office for National Statistics

6 . Management practices and technology adoption in the UK

A potential driver of productivity differences between firms with higher and lower management practices scores is the ability to adopt new technologies and tools to improve their production processes.

Comparing firms above and below the median management practice score, we find that firms with below median scores were four times more likely to use little to no analysis and three times less likely to use more complex analysis, in particular a statistical or forecasting model.

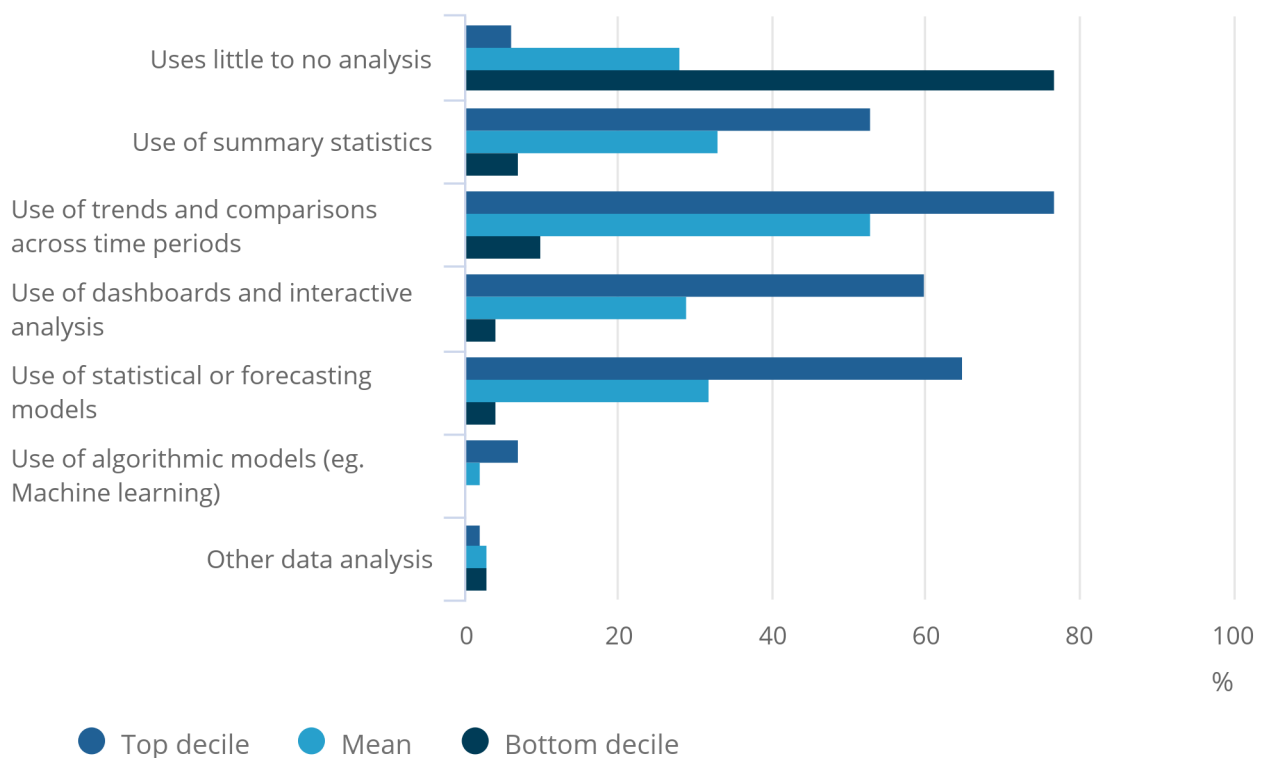
The most common use of data analyses within businesses was the use of trends and comparisons across time periods.

Figure 10: Firms in the bottom decile of management practices scores were most likely to report using little to no analysis to support important business decisions

Percentage of firms in the top and bottom deciles of management practice score using different types of analysis compared with the population average, UK, 2023

Figure 10: Firms in the bottom decile of management practices scores were most likely to report using little to no analysis to support important business decisions

Percentage of firms in the top and bottom deciles of management practice score using different types of analysis compared with the population average, UK, 2023



Source: Management and Expectations Survey from the Office for National Statistics

Notes:

1. Bottom and top deciles refer to firms below the 10th percentile of management score and those above the 90th percentile of management score, respectively.

Management practice scores are an important driver of adopting more advanced technologies in production processes in general. In the UK, 1 out of 6 businesses (17%) with 10 or more employees said they had tested or adopted artificial intelligence (AI). Levels of adoption vary markedly by management practice score. Only 3% of the firms in the bottom decile had tested or used the technology compared with 36% at the top.

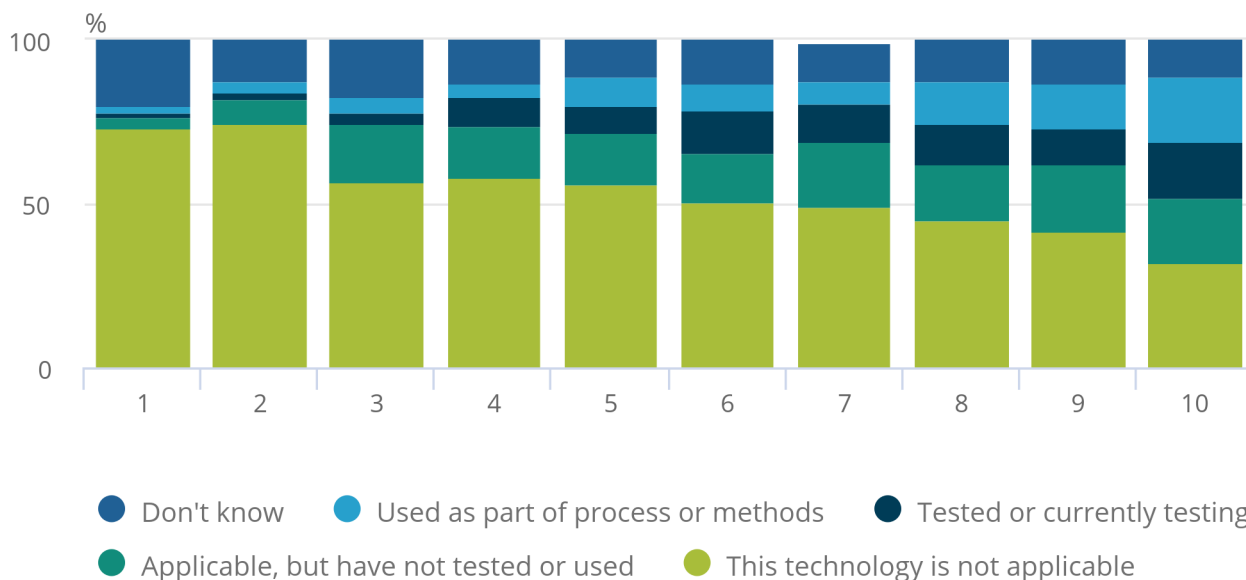
The difference is not only in the likelihood to adopt the technology but also in the likelihood to identify the technology as relevant. Of those firms in the bottom decile of management scores, 7 out of 10 (73%) said the technology is not applicable to them compared with 3 out of 10 (32%) at the top.

Figure 11: Firms with higher management scores were more likely to identify, test and adopt artificial intelligence in 2023

Proportion of firms that have tested, adopted or were considering using artificial intelligence, UK, 2023

Figure 11: Firms with higher management scores were more likely to identify, test and adopt artificial intelligence in 2023

Proportion of firms that have tested, adopted or were considering using artificial intelligence, UK, 2023



Source: Management and Expectations Survey from the Office for National Statistics

Notes:

1. Decile 1 represents the one-tenth of the sample with the lowest management scores while decile 10 represents the one-tenth of the sample with the highest management scores.

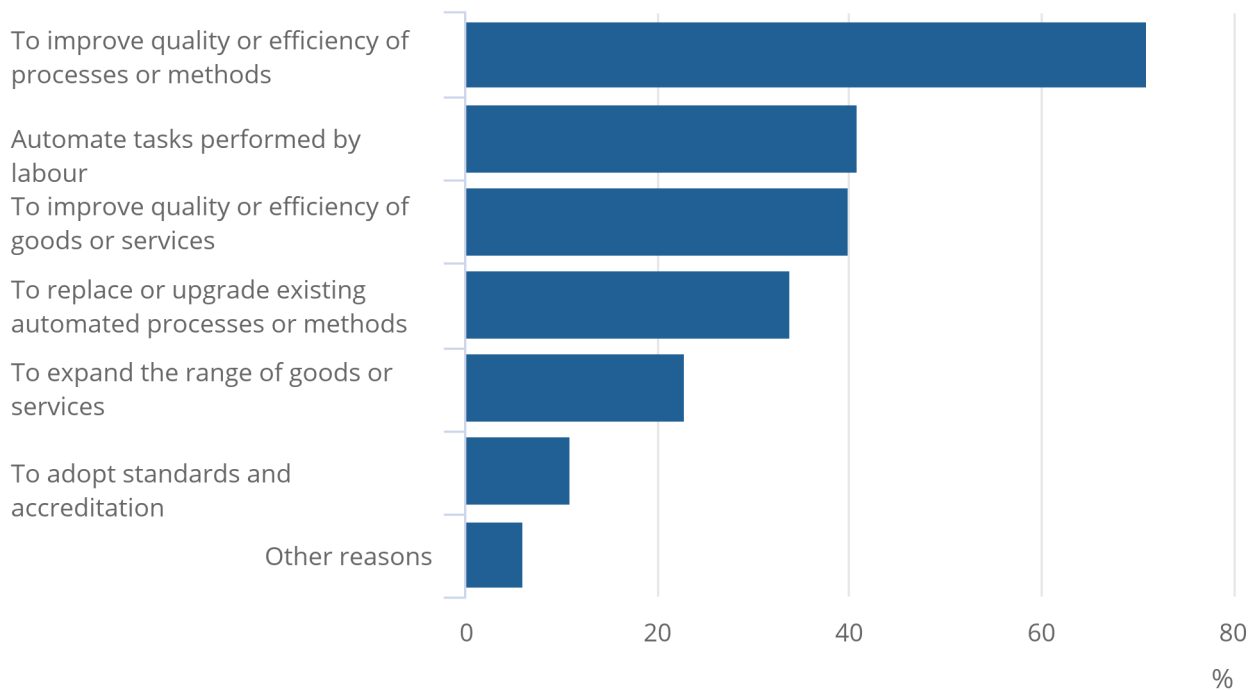
Firms in the UK that have used or tested or intended to use AI report having done so to improve the quality and efficiency of their production. The second-highest quoted reason for AI adoption is automating tasks otherwise performed by labour.

Figure 12: Most firms in the UK that have used or tested artificial intelligence report having done so to improve the quality or efficiency of production processes

Reasons given for firms testing or adopting artificial intelligence, UK, 2023

Figure 12: Most firms in the UK that have used or tested artificial intelligence report having done so to improve the quality or efficiency of production processes

Reasons given for firms testing or adopting artificial intelligence, UK, 2023



Source: Management and Expectations Survey from the Office for National Statistics

7 . Management practices in the UK data

[Management practice scores and distributions by firm characteristics, UK](#)

Dataset | Released 13 May 2024

Review of management practice scores for firms in the production and services industries across the UK in 2023 and Great Britain from 2016 to 2023. These are official statistics in development.

8 . Glossary

Management practices score

The overall management practices score (management score for short) is an average of the scores along the four dimensions of management practices measured: continuous improvement, key performance indicators (KPIs), targets and employment practices.

Artificial intelligence (AI)

Computer programs or machines that can learn from data and perform tasks usually completed by humans. AI is currently used in a variety of ways, including: online product recommendations, facial recognition, self-driving vehicles, medical diagnostic tools, and chatbots that interact in a conversational way and can answer complex questions

9 . Measuring the data

About this survey

This section gives additional detail about the construction of the management practices score as well as the sampling and weighting strategy.

The management practices scores were developed by [Nick Bloom, Raffaella Sadun, John Van Reenen and co-authors \(PDF, 575KB\)](#) across a series of academic projects and consist of four categories:

- continuous improvement – how well firms monitor and adapt to unexpected situations
- key performance indicators (KPIs) – their number and the frequency with which they are reviewed
- targets – how targets are set, tracked and reviewed
- employment practices – processes concerning promotion, management and training of employees

The Management and Expectations Survey (MES) 2023 went out to 53,433 businesses between November 2023 and February 2024. The businesses were drawn from three sources:

- previous MES respondents, to be able to analyse changes over time in the management score and other associated variables
- Annual Business Survey (ABS) 2022 respondents, to investigate the link between management practices and total factor productivity
- the Inter-Departmental Business Register (IDBR) universe to ensure the sample is representative across a range of dimensions of interest, such as industry, region, and size

The MES was sampled over cells consisting of:

- region – 12 NUTS1 regions
- industry – 46 industry groupings, a custom mixture of letter-level section and two-digit industries from the [Standard Industrial Classification 2007](#)
- size (employment) – five size bands (10 to 19, 20 to 49, 50 to 99, 100 to 249, 250 and over)

The MES 2023 sample size was 53,433 and the response rate 27%. This was an increase in the achieved sample size and response rate from the MES 2020, which was 50,714 and 24%, respectively. Meanwhile, the MES 2017 went out to 24,998 firms and achieved a response rate of 38.7%. The linked sample size was made up of 1,200 firms, which have responded to all three surveys.

The MES 2023 asked respondents about their management practices in 2023. However, the MES 2020 asked respondents about their management practices in both 2019 and 2020 while the MES 2017 asked respondents about their management practices in 2016. Throughout the analysis we refer to the reference year that firms were asked about (2016, 2019, 2020 and 2023).

Note also that the MES 2020 collected data between November 2020 and March 2021 but sought information covering the calendar years 2019 and 2020. It is therefore possible that the results show a degree of recall bias.

In line with the previous waves of the MES and established Office for National Statistics practice, design weights were used to account for differences in sampling and response rates and to ensure representativeness. Design weights sum to the total number of firms in the sampling frame, which is the IDBR universe of firms with more than 10 employees and excluding firms in agriculture, financial services and the public sector. Therefore, the MES does not claim to be representative of the whole UK economy.

Official statistics in development

These statistics are labelled as "official statistics in development". Until September 2023, these were called "experimental statistics". Read more about the change in the [Guide to official statistics in development \(opens in a new tab\)](#).

We are developing how we collect and produce the data to improve the quality of these statistics. Once the developments are complete, we will review the statistics with the Statistics Head of Profession. We will decide whether the statistics are of sufficient quality and value to be published as official statistics, or whether further development is needed. Production may be stopped if they are not of sufficient quality or value. Users will be informed of the outcome and any changes.

We value your feedback on these statistics. Contact us at mes@ons.gov.uk

10 . Strengths and limitations

Standard errors

In the regression results provided we tested the robustness of the findings to different assumptions about the variance of the estimates using robust standard errors, standard errors clustered by industry, standard errors clustered by industry and region, as well as standard errors obtained through bootstrapping.

"Robust standard errors" are [standard error](#) estimates obtained using the Huber-White sandwich estimator of the variance and are robust to violations of homoskedasticity (constant variance). Robust standard errors assume observations are independent but not identically distributed. Clustered standard errors are robust also to violations of independence. They allow for observations in a given industry, region, year (or other relevant dimension) to be correlated with one another. Violations of independence mean additional observations within a region or industry do not offer as much new information about the variable of interest as we thought. As a result, [confidence intervals](#) calculated based on clustered standard errors are wider, making it harder to identify significance.

Finally, we test the results to standard errors derived from bootstrapping. Bootstrapping corresponds to estimates obtained through repeatedly resampling the data with replacement, computing the statistic of interest (such as a regression coefficient or a mean) from each resampled dataset and then estimating the standard error distribution of these replicates. The accuracy of bootstrapping depends on the number of draws so we test our estimates are robust for different numbers of bootstrap iterations.

11 . Related links

[Management practices in Great Britain: 2016 to 2020](#)

Article | Released 17 May 2021

Initial results from the Management and Expectations Survey, covering data from 2016 to 2020.

[Management practices, homeworking and productivity during the coronavirus \(COVID-19\) pandemic](#)

Article | Released 17 May 2021

The companion article: using the Management and Expectations Survey 2020 to understand the determinants of good management in British businesses.

[Initial results from Management and Expectations Survey: 2016](#)

Article | Released 6 April 2018

The Management and Expectations Survey gathered information on British management practices and firms' expectations for future growth.

12 . Cite this statistical bulletin

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