Office for National Statistics

Article

Management practices in Great Britain: 2016 to 2020

Initial results from the Management and Expectations Survey, covering data from 2016 to 2020. Part of the Economic Review: May 2021.

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1 . Main points

- The average management practices score across firms in Great Britain was 0.58 in 2019 and 0.60 in 2020, on a scale from 0 (no implementation of management practices) to 1 (full implementation), according to the Management and Expectations Survey 2020.

- This headline number masks significant variation across size bands, industries and regions.

- The mean management score in 2020 varied across industries from a low of 0.55 in real estate to a high of 0.63 in other services.

- Scotland (with the largest improvement since the last wave of the survey in 2016) and the South East both had the highest mean management score in 2020 with 0.62, while Wales had the lowest with 0.57.

- The 2020 mean management practices score represents a substantial improvement of 0.1 over the last wave, collected at the end of 2016.

- This change is mainly driven by the disappearance of a long tail of less well-managed micro-firms.

2 . The importance of management practices

The management practices score used in the Management and Expectations Survey (MES) has been developed to measure real differences in management practices across organisations. These differences are positively related to measures of turnover, profitability and productivity (PDF, 1.67MB), and vary significantly across and within countries.

The management practices score captures 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

To score a 0, a firm would have to ignore ongoing problems, base its promotion decisions on factors other than merit and fail to track important performance metrics or set targets. To score a 1 on the other hand, respondents would need to continuously review processes to minimise future problems, make use of appropriate and regularly reviewed performance measures and targets throughout the organisation, and adopt merit-based practices to hire, promote and continuously train employees.

Previous studies have found that management practices are positively, strongly and significantly related to measures of business success. Using data from the original wave of the MES for 2016, the Office for National Statistics (ONS) found management practices to be positively related to labour productivity even after controlling for many possible confounders. This is consistent with a considerable body of research, which finds a strong and positive relationship between measures of performance (productivity, profitability, survival and so on) and management (PDF, 1.5MB). Much of this relationship appears to be causal, as revealed by research using experimental or quasi-experimental methods. For example, Indian textile firms randomly assigned free management consulting increased their productivity by 17% in the first year (PDF, 1.04MB).

Management practices also [vary widely between and within countries (PDF, 1.34MB)](). Many papers on this topic find that management structure, product market competition and human capital seem to be important drivers of the variation in management practices.

3 . Management practices across Great Britain, 2016 to 2020

This section presents the main findings from the Management and Expectations Survey (MES) 2020, which collected data on firms' management practices in 2019 and 2020. On a scale of 0 to 1, the overall mean score was 0.58 for 2019, and 0.60 for 2020, and median scores were 0.60 and 0.63, respectively. The overall 2020 mean score represents an improvement of 0.1 over the mean management score in the previous wave, MES 2017, which surveyed management practices in 2016.[1]

Across the four categories of management score, continuous improvement not only saw the highest mean score but also the largest change, increasing by 0.06 points between 2019 and 2020[2]. Key performance indicators (KPIs) scored the lowest in both 2019 and 2020. Employment practices saw a modest change from 0.52 to 0.54, whereas targets saw no change over the same years.

Figure 1: Most firms have adopted continuous improvement and targets, but KPIs are lagging

Average management practices scores by management practices categories, Great Britain, 2019 to 2020
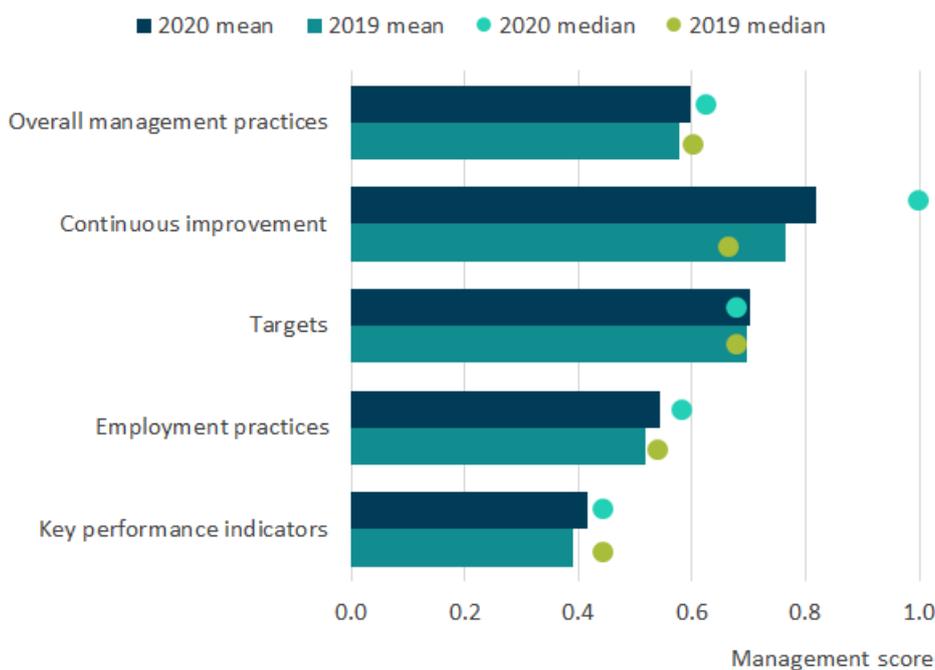
Source: Office for National Statistics – Management and Expectations Survey
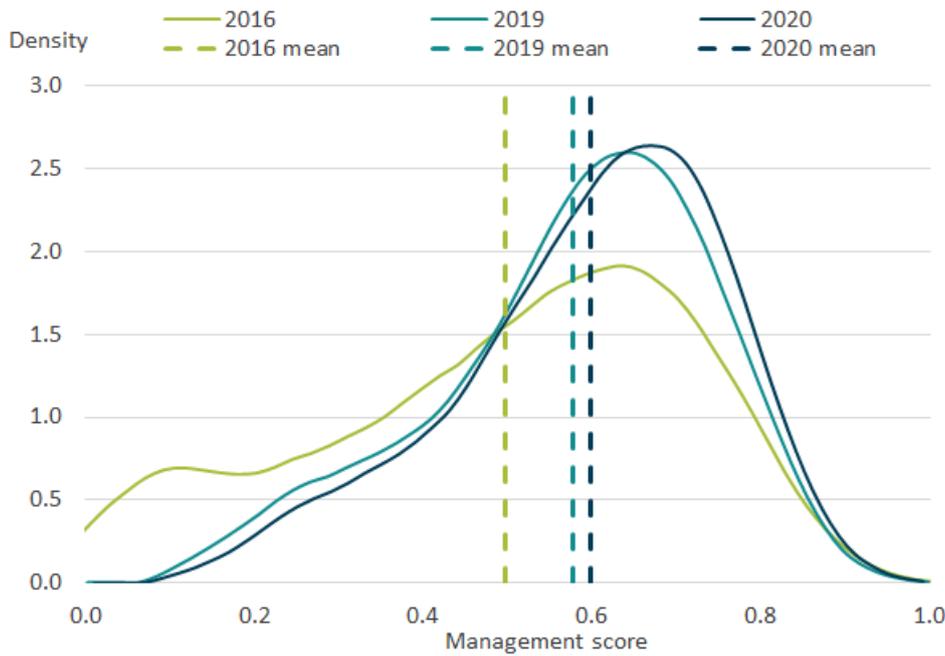
Notes:

1. Our population of interest covers businesses in production and services industries with employment of at least 10, in Great Britain.

2. The MES sample excludes firms in section A (Agriculture, forestry and fishing), and sections K and L (Financial and insurance activities) and results are weighted to reflect the population of firms.

Management scores in 2020 were on average somewhat higher than those surveyed in 2016. This difference of 0.1 between 2016 and 2020 seems to be related to the disappearance of a lower tail of less well-managed firms. Moreover, the fraction of outstandingly well-managed firms is also slightly larger in the latest wave. Figure 2 shows that as a result the distribution of businesses is generally shifted rightward and more concentrated around the mean in 2019 and 2020 compared with 2016.

When comparing the distribution of management scores of firms that responded to both waves of the MES (2017 and 2020), we notice a very similar pattern. The tail of less well-managed firms has shrunk between 2016 and 2020. Because these are firms that are present in both waves of the survey, it suggests that the overall results are driven at least in part by within-firm learning and not exclusively by the changing composition of survey respondents.

**Figure 2: Overall management practices have improved since 2016**

Changes of overall management practices scores, whole sample, Great Britain, 2016 to 2020

Source: Office for National Statistics – Management and Expectations Survey

Figure 2b: Overall management practices have improved since 2016

Changes of overall management practices scores, linked sample, Great Britain, 2016 to 2020
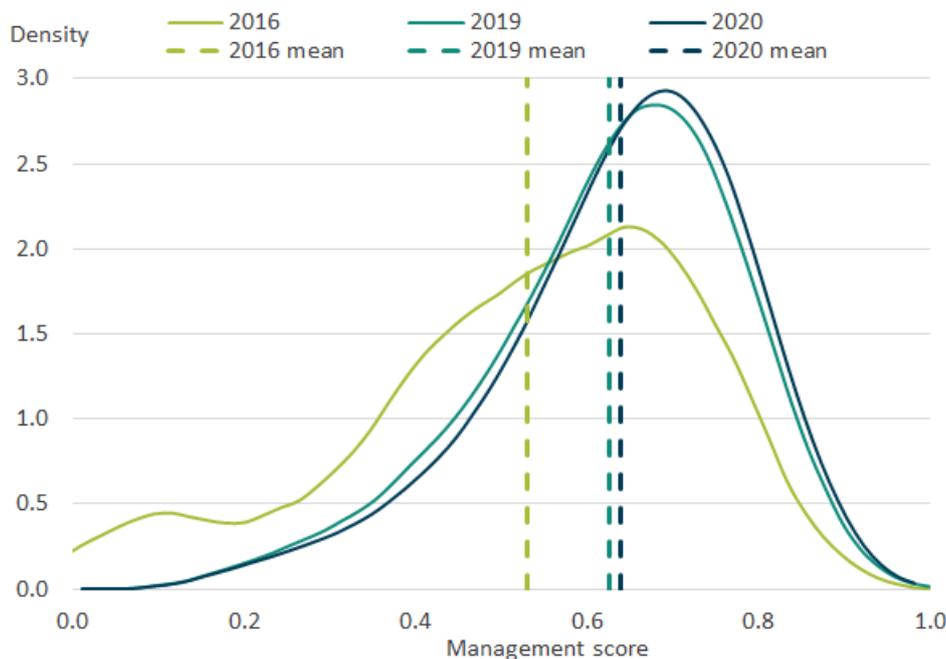
Source: Office for National Statistics – Management and Expectations Survey

Notes:

1. Kernel density bandwidth size = 0.5.

2. Our population of interest covers businesses in production and services industries with employment of at least 10, in Great Britain.

3. The MES sample excludes firms in section A (Agriculture, Forestry and Fishing), and sections K and L (Financial and Insurance Activities), and results are weighted to reflect the population of firms.

4. Whole sample refers to all businesses that responded in each wave. Linked sample refers to those businesses that responded to both the 2017 and 2020 waves.

Notes for: Management practices across Great Britain, 2016 to 2020

1. The result may slightly differ from our previous publication because of rounding.

2. The continuous improvement section of the survey only asks one question, with scores ranging from 0 to 1. The median and mode is 1 as a result.

4 . Management practices by firm size, industry and region

The headline management scores mask significant variation across size bands, industries and regions. When comparing changes across size bands over time, it becomes clear that the overall improvement in management score is driven in large part by the disappearance of a large tail of less well-managed small firms (employment: between 10 and 49). Region and industry scores also vary consistently, but these differences are relatively stable over time.

Across all years, large firms (250 or more employees) are better managed than small firms, although there is a sign of catch-up among the smallest firms since 2016. Figure 3 shows the distribution of firms by management score for different size bands and years using kernel density estimation. The distribution of smaller firms has a more pronounced lower tail consisting of a group of firms with considerably less structured management practices. On average, the pervasiveness of structured management practices increases across each size band, with large firms concentrated more in the upper tail of the distribution – consistent with the literature and our previous analysis.

Figure 3: Improvements in small firms are behind the overall improvement in management score

Distribution of management practices scores by employment size bands, Great Britain, 2016 to 2020

Notes:

1. Kernel density bandwidth size = 0.5.

2. Our population of interest covers businesses in production and services industries with employment of at least 10, in Great Britain.

3. The MES sample excludes firms in section A (Agriculture, Forestry and Fishing), and sections K and L (Financial and Insurance Activities), and results are weighted to reflect the population of firms.

Download the data

.xlsx

Management scores also vary across industries. Firms in other services (in private education, health and arts) perform most strongly (mean score of 0.63 in 2020) and firms in real estate perform the worst (mean score 0.55 in 2020). In all industries except real estate, the median firm lies above a score of 0.6[1]. These comparisons across industries do not control for differences across industries in the size or ownership structure of firms, and therefore in part reflect compositional effects. Our accompanying analytical article Management practices, homeworking and productivity during the coronavirus (COVID-19) pandemic uses regression analysis to correct for differences in these observable factors.

Figure 4 shows the percentile distribution of firms for broad industry groups in 2020 using a box and whisker plot. The dispersion of management scores for the better-performing industries is notably different from those of the worst-performing ones. While the upper tail of the distributions look similar across industries, the fraction of firms at the lower end of the distribution varies considerably from industry to industry. The size of this lower tail of less well-managed firms therefore drives the average differences in management practices score across industries.

Figure 4: Average differences in management practices score between industries come mostly from laggards

Percentile distributions of management practices scores by industry groups, Great Britain, 2020

Source: Office for National Statistics – Management and Expectations Survey

Notes:

1. Key - Line: 10th and 90th percentiles, Upper box: Difference between 50th and 25th percentiles, Lower box: Difference between 75th and 50th percentiles, Light dots: mean score, Dark dots: 5th and 95th percentiles.

2. Our population of interest covers businesses in production and services industries with employment of at least 10 in Great Britain.

3. The MES sample excludes firms in section A (Agriculture, Forestry and Fishing), and section K (Financial and Insurance Activities), and results are weighted to reflect the population of firms.

4. Key to industry grouping:

- Non-manufacturing production equals B (Mining and quarrying), D (Electricity, gas, steam and air conditioning supply) and E (Water supply; sewerage, waste management and remediation activities)

- Manufacturing equals C (Manufacturing)

- Construction equals Section F (Construction)

- Services: Distribution, hotels and restaurants equals Sections G (Wholesale and retail trade; repair of motor vehicles and motorcycles) and I (Accommodation and food service activities).

- Services: Transport, storage, and communication equals Sections H (Transportation and storage) and J (Information and communication).

- Services: Business equals Section M (Professional, scientific and technical activities) and Section N (Administrative and support service activities)

- Services: Real estate equals Section L (Real estate)

- Services: Other equals Sections P (Education), Q (Human health and social work activities), R (Arts, entertainment and recreation) and S (Other service activities).

Finally, the data show significant variation across large regions (NUTS1), as seen in Figure 5. In 2016, London had the highest mean score of 0.54 whereas Scotland and the North East had the joint lowest mean score of 0.44. In 2020, the ranking has changed considerably: Scotland has seen the biggest improvement and now holds the joint highest mean score of 0.62 with the South East. On the other end of the scale, Wales has the lowest mean score of 0.57. The overall spread between regional averages narrowed between the first and second wave of the Management and Expectations Survey.

Figure 5: The South East and Scotland lead the rest of Great Britain on management practices scores

Mean management practices score by NUTS1 region, Great Britain, 2020

Notes:

1. Our population of interest covers businesses in production and services industries with employment of at least 10 in Great Britain.

2. The MES sample excludes firms in section A (Agriculture, forestry and fishing), and sections K and L (Financial and insurance activities), and results are weighted to reflect the population of firms.

Download the data

.xlsx

Notes for: Management practices by firm size, industry and region

1. "Other services" consists of section P (Education), section Q (Human health and social work), section R (Arts, entertainment and recreation) and section S (Other service activities). Only private sector firms are sampled and analysed.

5 . Investigating selective response rates during the pandemic

The overall response rate in the sample was 24%, but response rates varied across size bands, industries and regions. The largest firms were least likely to respond, with a response rate of 16%, whereas medium-sized firms had the highest response rate at 30%. This is consistent with the previous wave of the Management and Expectations Survey (MES)[1] and its forerunner, the Management Practices Survey.

In terms of industries, those such as private healthcare, online retail and hospitality that saw the largest changes to their business model because of the 2020 coronavirus (COVID-19) pandemic had the lowest response rates. In contrast, retail, wholesale and construction had the highest response rate at 32%. Geographically, response rates varied from a low of 20% (London) to a high of 27% (South West and South East).

To ensure that the results of MES 2020 were not driven solely by differential response rates, we investigated the degree to which observable characteristics of the firm could explain response rates. Columns 1 to 3 in Table 1 show that for the full sample, observables explain a small fraction of the variation in response rates, with an R-squared close to zero.

However, the underlying concern is that better-managed firms respond to the survey at different rates than less well-managed firms. For the subsample of linked firms that already responded to MES 2017, we can verify this directly. Columns 4 and 5 in Table 1 show that while firms with a higher score in 2016 were more likely to respond to MES 2020, we still can only explain a small fraction of the variation in response rates. This suggests that at least some of the changes we observe in the distribution of management scores are likely to be genuine.

Table 1: Observable characteristics predict a small share of the variation in response rates
Ordinary least squares regression of Management and Expectations Survey response rate on observable firm characteristics, Great Britain, 2020

Variables	Response to MES (1)	Response to MES (2)	Response to MES (3)	Response to MES (4) (linked firms)	Response to MES (5) (linked firms)
Employment (scaled by 100)	-0.000540***	-0.000487**	-0.000535***		-0.000128**
	(0.000205)	(0.00195)	(0.000194)		(0.0000609)
Turnover (scaled by 1000)	-0.000***	-0.0000107**	-0.000**		-0.000
	(0.000)	(0.000)	(0.000)		(0.000)
Foreign Ownership			-0.0285***		
			(-0.00559)		
Score 2016				0.317***	0.316***
				(0.00549)	(0.00550)
Observations	50,712	50,712	50,712	14,896	14,896
R-squared	0.001	0.006	0.007	0.17	0.17
Industry fixed effect	No	Yes	Yes	Yes	Yes
Region fixed effect	No	Yes	Yes	Yes	Yes

Source: Office for National Statistics – Management and Expectations Survey

Notes

1. Standard errors in parentheses.

2. Stars after coefficients denote significance at conventional significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

3. Figures are rounded to three significant figures.

4. Where we have included fixed effects, these are at the two digit (division) level, based on the 2007 Standard Industrial Classification.

5. Our population of interest covers businesses in production and services industries with employment of at least 10, in Great Britain.

6. The MES sample excludes firms in section A (Agriculture, forestry and fishing) and sections K and L (Financial and insurance activities), and results are weighted to reflect the population of firms.

Notes for: Investigating selective response rates during the pandemic

1. MES 2017 had an overall response rate of around 39%. However due to the nature of the paper questionnaire, not all responses were suitable for analysis.

6 . Glossary

Confounder

A variable that is associated with both a dependent and an independent variable, and which may explain some of their apparent relationship or may cause two not directly related variables to appear related. For example, the size of businesses affects both management practices and labour productivity.

Human capital

Human capital refers to the skills, abilities and knowledge of individuals – a form of intangible asset embodied in the firm's workers. Employees with higher human capital are generally thought to be more productive.

Linked sample

The linked sample consists of businesses that responded to both MES 2017 and 2020 waves. It is a short panel dataset, measuring the same businesses at multiple points in time.

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.

Design weights

Design weights are primarily used to compensate for factors that may make the sample unrepresentative of the population it was drawn from. Two important reasons to weigh the sample are non-random sampling (for instance, to ensure adequate coverage of specific segments of the British business population) and differential survey response rates.

7 . Data sources and quality

This section gives additional detail about the construction of the management practices score as well as the sampling and weighting strategy, and discusses important caveats when interpreting the results.

The management practices scores were developed by [Nick Bloom, Raffaela 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) went out to 50,000 businesses between November 2020 and March 2021 – twice the number of businesses from the previous wave. The businesses were drawn from three sources:

- previous MES 2017 respondents, to be able to analyse changes over time in the management score and other associated variables

- Annual Business Survey (ABS) 2020 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

MES was sampled over cells consisting of:

- region – 11 NUTS1 regions (excluding Northern Ireland)

- industry – 46 industry groupings, a custom mixture of letter-level section and two-digit industries from 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 analysis in this article uses data on 2019 and 2020 from MES 2020, and data on 2016 from MES 2017.

In line with the previous wave of 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.

When using the results in this publication, a few caveats apply. First, the sampling frame for MES excludes Northern Ireland as well as certain industries and can therefore not claim to be representative of the whole UK economy. Second, data collection took place over two national lockdowns and responses may therefore be selective. While our analysis of response rates and comparisons of the full and linked samples do not suggest this is the case, more subtle forms of response bias cannot be excluded. Third, 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.

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8 . Related links

[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

[Homeworking hours, rewards and opportunities in the UK: 2011 to 2020](#)
Article | Released 19 April 2021
Working from home in the UK between 2011 and 2020, including the impact of the coronavirus (COVID-19) using the Annual Population Survey. Looking at indicators of productivity and work success such as pay, hours worked, bonuses, promotions and more.