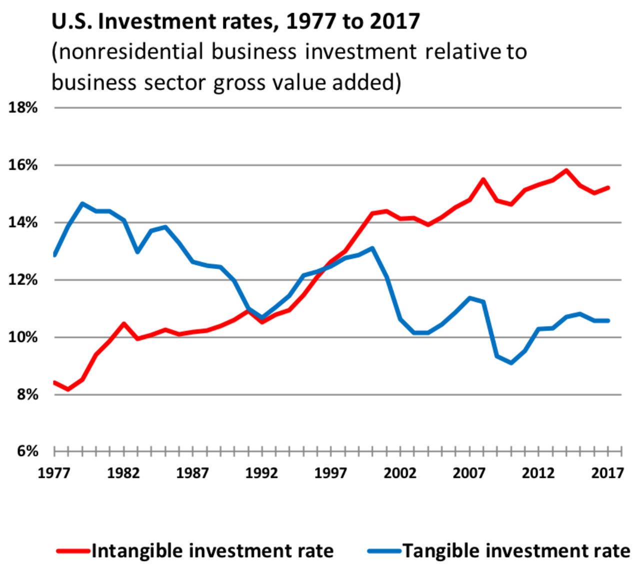
Managing to succeed: what we know, and what we don't, about management in Great Britain

Jakob Schneebacher[1]

If you close your eyes and picture a firm a hundred years ago, you most likely picture something like this: a vast factory hall, filled with looming, loud machines, the scent of oil and iron, conveyor belts and manual labourers busily running back and forth. These days, that picture would likely be different: a row of computers in an open-plan office, the clacking noise of fingers on keyboards, conversations on headphones with colleagues across the country. The typical UK firm is in services (or service-heavy manufacturing) and a large part of its capital is the knowledge, the training, and ideas inside its employees' heads.

Figure 1: Investment in intangible capital has been rising steadily in the last fifty years



Source: Corrado et al. (2017), INTAN-Invest

This trend has been one of the most astonishing developments in advanced economies in the last fifty years. Investment in tangible capital – buildings, vehicles, machinery – has been falling, while investment in intangible capitals – innovation, branding and organisational know-how – has risen steadily (see Figure 1). With this change comes increasing complexity, and the need to manage and organise processes, knowledge, and people to translate

[1] Jakob Schneebacher is an economist at the Office for National Statistics (ONS). This article is based on research with numerous ONS colleagues and co-authors from the Economic Statistics Centre of Excellence (ESCoE), all of whom are named in the linked articles. The author gratefully acknowledges funding from ESRC grant ES/S012729/1. The views expressed in this article are the author's own and do not necessarily represent those of the Office for National Statistics.

intangible capital into outputs and ultimately profit. Organisational capital is key to this change, and the UK has been at the forefront of it. More than 12% of UK jobs, the OECD estimates, are managerial, and a further 14% have managerial elements. The UK government and independent bodies are betting heavily on management as a driver of innovation and growth, be that through schemes like Help to Grow: Management, Be the Business or Innovate UK.

But what do we really know about management practices in Great Britain? How many businesses use modern, structured management practices? Are laggards able to catch up with firms at the frontier, or do differences widen ever further? What channels do businesses in different competitive niches have to bring new management know-how into the firm? And crucially, how is management related to the ultimate outcomes that businesses and policymakers care about, like productivity, innovation, and growth?

Until recently, these important questions had gone unanswered. However, novel data and analysis with colleagues in the Office for National Statistics (ONS) and co-authors in the Economic Statistics Centre for Excellence (ESCoE) reveal six facts about management in Great Britain:

1. Management practices vary widely across the economy, but most variation is within-industry and within-location, rather than across. (This has implications for understanding the drivers of change, and for policy design.)
2. There seems to have been a genuine increase in the quality of management practices over the last few years, mainly driven by catch-up by the long tail of previously less well-managed micro-firms. Differences between firms may be important, but perhaps not insurmountable.
3. Businesses have a variety of ways of bringing managerial know-how into the firm (through hiring, capital investment, training, learning or consultancies) and may choose a particular mix to suit their competitive niche.
4. It is those firms who already have the best management practices that are most keen to engage with free management training – a possible hurdle for policy design.
5. In the pandemic, better-managed firms mitigated turnover loss better than comparable firms. They did so with more agile adaption to homeworking and online sales, and a range of accompanying innovations.
6. Better managed firms are more innovative, see the future more clearly, and are ultimately more productive.

Measuring management (in a pandemic)

Measuring management is complicated. While the number of employees in a business or the sales figures for a given year can be read off the company accounts (with some caveats), constructing a management practices score relies on intimate knowledge of what organisational practices are important across sectors, how to rank practices within categories and how to aggregate them. The Office for National Statistics (ONS) therefore decided to enlist a who-is-who of academic collaborators via the Economic Statistics Centre of Excellence (ESCoE): among others, Nick Bloom and John Van Reenen who pioneered work in this area internationally, with the world Management Survey and the US Management and Organizational Practices Survey; Rebecca Riley who has written extensively on the topic of UK firms and productivity; and Paul Mizen who had faced similarly tricky survey design challenges with the Bank of England's Decision Maker Panel. Together, ONS and ESCoE produced the Management and Expectations Survey (MES). Across two waves so far (as well as a small, manufacturing-only pilot) MES collects detailed information about firms' management practices, expectations about the future, and other characteristics of the business. The overall management practices score combines information from dozens of questions across four broad areas of management: employment practices, the use of targets, key performance indicators (KPIs) and processes to implement policies of continuous improvement.

In its latest wave, MES 2020 received responses from roughly 12,000 British businesses. By design, some of these businesses already responded to MES 2016, allowing us to observe changes in management practices in the same firm over time. Some also answered other ONS business surveys, enabling us to combine information on management practices with other actions and outcomes of the firms, such as their productivity growth, their investment patterns, or whether they engaged in R&D or broader types of innovation.

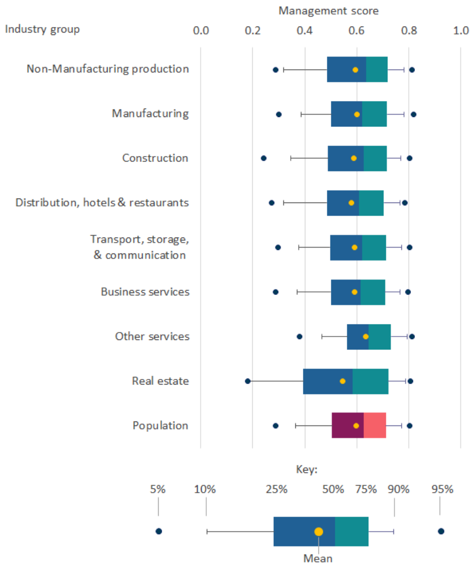
Management at the frontier, and in the long tail

Now, what does the data we collected tell us about management practices in the pandemic? First, firms across Great Britain vary widely in the degree to which they have adopted structured management practices. If we assign a 1 to firms that have processes for actively anticipating problems before they appear, that monitor and communicate a wide range of targets throughout the business, that track key performance indicators and that use best practices to hire, promote and train employees, and a 0 to firms that follow none of those practices, on average British firms score a 0.60. Nevertheless, Figure 2 shows that many firms differ from this average by wide margins: in many industries, more than 5% of firms score lower than 0.3, and a similar number score above 0.8.

This variation is also associated with observable characteristics of the firm to a significant degree. Bigger firms tend to use more structured management practices; as do younger firms, and those under foreign ownership. Likewise, firms with higher human capital (as proxied by the share of managers or non-managers with degrees) have better management practices. Of course, disentangling cause and effect is more difficult: do foreign owners impose better management practices on their firms, or are better-managed firms simply more likely targets of acquisition?

Changes over time are just as interesting. Figure 3 shows that since 2016, Great Britain has seen a modest increase in the average level of management practices, driven mainly by increased adoption of structured management practices by a previously sizeable tail of small and medium enterprises with less structured management. In the underlying ONS article, we show that this is likely a real effect, and not driven by differential response rates in the pandemic: the same pattern holds when we look at changes within firms (holding the sample constant), and firm characteristics (including previous management scores) do not meaningfully predict whether a firm responds to the survey.

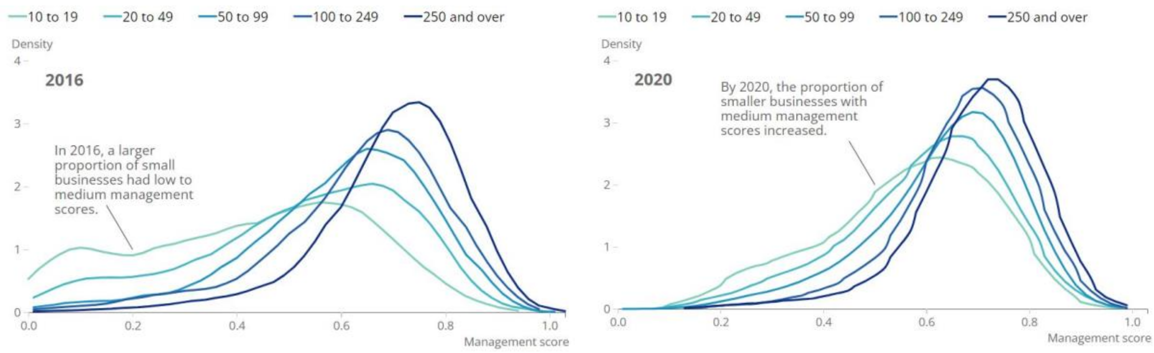
Figure 2: There is wide variation in the adoption of structured management practices



Source: [ONS (2021a)]()

The data also allows us to provide a detailed picture of the variance across regions and industries. Most of the variation in management practice scores across industries is driven by differences in the lower tails – well-managed firms look quite similar across industries. Overall, region and industry seem to play a relatively small part in explaining differences between firms, compared to within-region and within-industry differences. This has implications for learning, and the barriers to adoption: if some businesses in an industry can adopt structured management practices, why can others not?

Figure 3: Improvements in small firms are behind the overall changes in MES scores



Source: [ONS (2021a)]()

Management learning – who changes, and why?

Firms have many ways of bringing innovative management know-how into the firm: they can hire new employees that possess this knowledge (not always necessarily managers), they can train their existing employees, they can invest in software that makes management easier, or they can hire management consultants to advise. Often, firms can even improve their management practices without making any outright investments – by learning from competitors, suppliers, customers or industry bodies and relevant non-profit organisations.

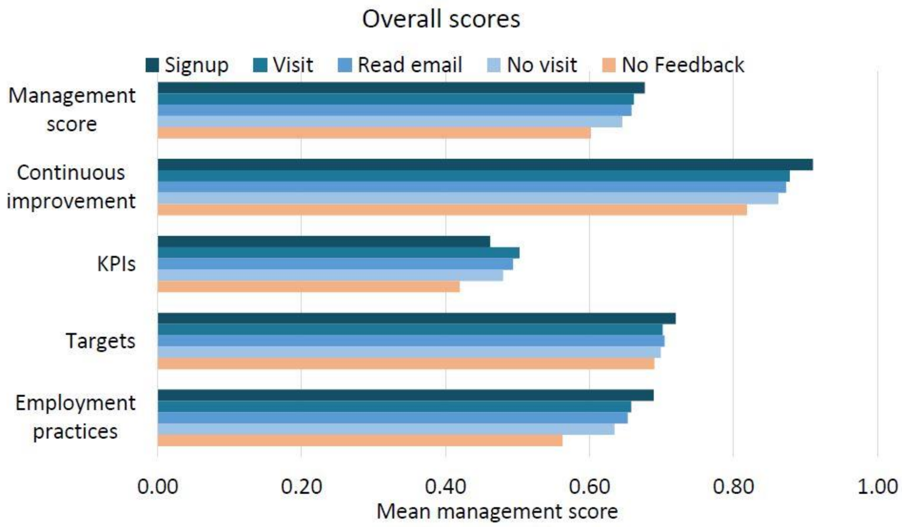
But figuring out what UK firms are actually doing is tricky: no single data source collects information on all the channels through which managerial know-how can enter the firm, and where we do have information, we cannot usually say how those investments contribute to the stock of managerial knowledge. In a forthcoming ESCoE Discussion Paper, we bring together information from a variety of UK business surveys – the Annual Purchases Survey, the UK Innovation Survey, the Ecommerce Survey, the Annual Survey of Hours and Earnings and others (alongside the Management and Expectations Survey) to fill this gap.

Across industries and size bands, firms choose distinct strategies to address their managerial know-how needs. Manufacturing firms are more likely to use software that facilitates management, whereas businesses in professional services often rely on a larger share of senior managers and higher per-capita managerial pay to reach the same management practices score. Businesses in information and communication often get around the need for hierarchy by employing highly skilled non-managers, and management consultancies provide another path for (often larger) firms.

But many firms do not have very structured management practices. So, what do we know about which firms improve, and why? Ongoing work with ESCoE co-authors Charlotte Meng, Paul Mizen and Rebecca Riley tries to tackle this question. First, we show that holding constant other characteristics of the firm, firms with lower management practices in the one year show the largest improvement in the next (this is true whether we define 2016 or 2019 as the base year). In other words, there is some evidence of catch-up growth by firms far from the frontier. But this is not everything we know about who improves their management practices: after completing the survey, firms were also given an option to request feedback on their management practices. As one might expect, those firms that selected the option improved their management significantly compared to similar firms that did not – however this holds true even for MES 2016, when for various logistical reasons no feedback was ever sent to firms!

This suggests that at least part of what is at play is a selection effect: some firms simply are more determined than others to learn and improve. A final piece of the puzzle from MES 2020 sheds additional light on this. On the back of the survey, ESCoE built a website to provide businesses with personalised feedback and offer free management mentoring. Two lessons can be learnt from this: first, business leaders' attention is scarce. Along each stage of the process towards the free mentoring, about two thirds of businesses drop out, leaving only a tiny fraction of the original 12,000 respondents ready to take up the mentoring programme. This is a common feature of business support programmes, and one that so far has stumped policymakers. Secondly, at each stage of the process, it is the already best-managed firms that proceed further (see Figure 4). In other words, take-up of this free management mentoring programme is positively selected: those firms most in need of management mentoring will not be reached by it.

Figure 4: Firms select positively at each stage of a free business mentoring programme



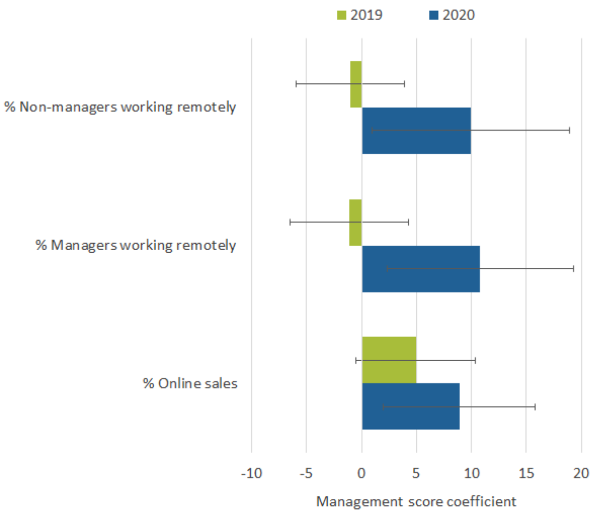
Source: *[ONS (2021b)]*

How to manage in a pandemic

Management practices, we have established, are different across firms, and change over time. Firms choose different strategies for bringing them into the business, and there is evidence that those most in need of improvements fail to make them. But does this matter at all? Do management practices help firms achieve better outcomes when it really counts?

Arguably, there was no greater challenge for business in our lifetime than the Covid-19 pandemic. Virtually overnight, the traditional office became unviable. Retail footfall traffic came to a halt. Headline GDP fell by 9.9% in 2020. Yet amid this turmoil, some businesses were quick to adapt. They adopted homeworking and hybrid working. They shifted to online sales. They made a myriad other small changes to their business model, and often managed to maintain or even grow their turnover. So, what made these businesses special? In one ONS article, we show that better-managed firms were no more likely to make use of homeworking and online sales than other comparable firms before the pandemic, but significantly more likely to adopt these practices in 2020. This is true both in the raw data and when we compare firms in the same industry and region, controlling for size and firm characteristics (see Figure 5). In ongoing work with colleagues Wei Li, Paul Mizen and Rebecca Riley, we show in much more detail how management practices facilitated these and other adaptations, and how those adaptations underpin the differential performance of firms with different sets of management practices in the pandemic.

Figure 5: Management practices are correlated with remote working, but only in 2020

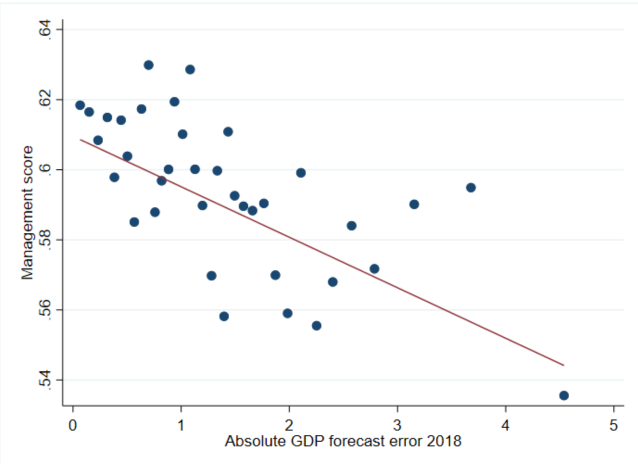


Source: ONS (2021c)

The fruits of good management

But even beyond the outsized challenge of the pandemic, structured management practices are correlated with positive business outcomes. Better-managed firms have higher productivity, they are able to more accurately predict the future and they are more likely to innovate and contribute to research and development (R&D). Exploiting the "Expectations" section of the Management and Expectations survey, ESCoE researchers Nick Bloom, Takafumi Kawakubo, Charlotte Meng, Paul Mizen, Rebecca Riley, Tatsuro Senga and John Van Reenen show that better-managed firms are better able to forecast a range of firm-level and economy-level variables (over a one-year or two-year) horizon.

Figure 6: Better-managed firms are better able to predict GDP one year ahead

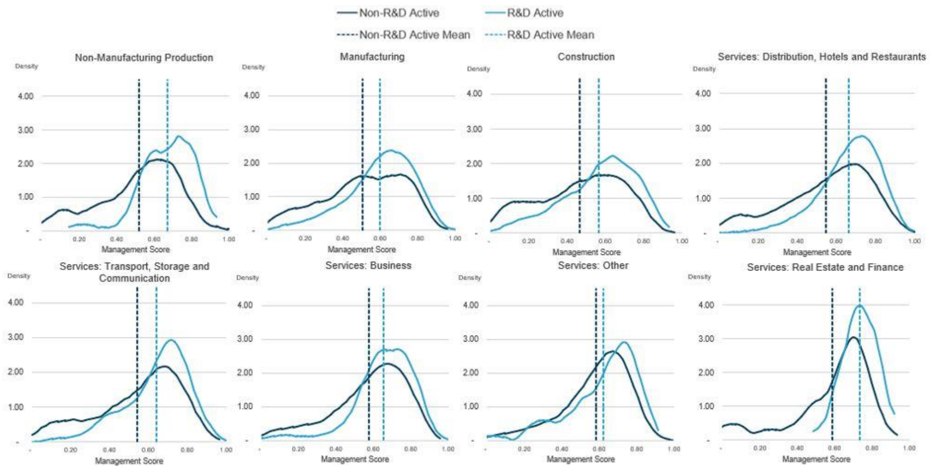


Source: Bloom et al. (2021)

For instance, Figure 6 shows the relationship between a firm's management practices and the forecast error for GDP, one year out. This result (and the others in this section) are merely correlational, but it illuminates a potential channel for the link between management practices and adaptability we have seen in the pandemic.

Differences in innovative activity are another possible channel. To study this link, we bring together data on R&D activity and innovation at the firm level from the UK Innovation Survey (UKIS), the Business Enterprise Research and Development (BERD) survey and the MES. Figure 7 shows a striking picture: across all industries, firms engaged in R&D are those with more structured management practices.

Figure 7: Across industries, R&D-active firms have more structured management practices



Source: [ONS (2021d)]

Moreover, this relationship is surprisingly robust: it holds for R&D as well as wider measures of innovative activity and is not affected by the inclusion of a whole battery of firm-level characteristics (in fact, in the regressions, the coefficient barely budges as the controls included change). Better-managed firms also invest larger amounts in R&D and are slightly more likely to secure private-sector funding to pursue it. All in all, the evidence suggests that good management practices are inseparably tied to success in a modern, intangible-heavy economy.

What we know, and what we don't – yet

Compared with a hundred years ago, management has become simultaneously more important and more difficult. The large factory full of machines and conveyor belts we pictured earlier may have tried to emulate Henry Ford and Frederick Taylor's theory of scientific management; but managers today need to understand how to motivate and coordinate highly specialised knowledge workers, often across multiple offices, intricately integrated in value chains that span the globe. Whereas the assets managers had to put to productive use a hundred years ago were standing around in a factory hall, now they are often inside peoples' heads.

Thanks to the Management and Expectations Survey, and the research it has enabled, we now know more than ever about the state of management in Great Britain. We know that there is wide dispersion in the adoption of structured management practices across and within industries, regions, and firm types. We also know that SMEs have been moving towards larger firms at the frontier. We know that there are different paths to good management practices, and firms in different industries may choose different paths to fit their business practices. We know that nonetheless, many firms use less structured management practices, even though doing so might mean forgoing productivity gains. We know that it is often the firms with the most out-of-date management practices that show the least interest in improving, creating a challenge for business support programmes. We also know that management is a powerful tool: better-managed firms have adapted better to homeworking and online sales and seen higher productivity in the pandemic as a result. We know that even before the pandemic, better managed firms were disproportionally represented among innovators across all industries and had higher productivity and turnover. These new insights, and future research that builds on them, can be crucial not just for managers, but for policymakers, economists, and statisticians too. It will determine whether we can understand, and ultimately address, the challenge of faltering productivity, economic dynamism and living standards in the UK.

But there is still much we do not know: What fraction of the productivity difference between firms at the frontier and laggards can be causally attributed to the management practices they choose? What is stopping the laggard firms from adopting more structured management practices? How can public policy help them? How are management practices, and their relationship with productivity, changing as some parts of the economy adapt permanently to hybrid forms of working? And what positive externalities might arise from joint investment in management and other forms of intangibles? With any luck, future waves of the Management and Expectations Survey, and the research they enable, may yet give us the answers someday.