Department for Education

Employer Skills Survey 2019: Skills Needs

Research report

November 2020 (Updated November 2024)

Authors: Mark Winterbotham, Genna Kik, Sam Selner, Rebecca Menys, Sam Stroud and Sam Whittaker

Government Social Research

Contents

List of figures

List of tables

Executive summary

Introduction

The Employer Skills Survey (ESS) has run biennially since 2011, providing a vital source of intelligence on the skills issues employers face. ESS traditionally has an inward-looking focus assessing the current skills position and skills needs of employers. It has sat alongside the Employer Perspectives Survey, which is primarily outward-looking, covering provision engagement with the wider skills system. In ESS 2019, the two surveys were, in effect, merged, by incorporating EPS questions as modules.[1] In total, 81,013 respondents across England, Northern Ireland and Wales responded to the survey.

This report focuses on findings relating to skills needs, focusing upon skill-shortage vacancies and skills gaps in the current workforce. It assesses where these skills needs are most keenly felt by employers, which skills in particular are lacking in the workforce and recruitment pool, how employers attempt to address these skills needs as well as considering anticipated future skills needs.

Where are the current skills bottlenecks?

Overall, 5% of employers reported that they had skill-shortage vacancies (vacancies which are hard to fill because of a lack of the required skills, qualifications or experience) and 13% of employers reported that they had skills gaps among their workforce. These figures were in line with levels in 2017 regarding skills gaps (13%), but represented a slight decrease since 2017 regarding skill-shortage vacancies (6%).

Despite a decrease in the number of vacancies compared with 2017, there was an increase in the number of skill-shortage vacancies, with these skill-shortage vacancies comprising a larger proportion of all vacancies than in 2017 (24%, up from 22%). Similarly, the proportion of the workforce that were considered to be lacking in full proficiency (i.e. to have a skills gap) had also risen, albeit slightly, since 2017 (4.5%, up from 4.3%). This marks a reversal of the gradual decrease in skills gap density from 2011 to 2017 (the figure was 5.5% in 2011). These slight increases in skill-shortage vacancy and skills gap densities were driven by rises in England.

[1] Prior to the 2019 survey, the ESS survey, along with its sister survey the UK EPS ran across the UK on alternate years. This means that comparisons over time refer to different survey years depending on whether the measure being referred to originated from the ESS or EPS survey prior to 2019. The report commonly refers to the last two waves of these surveys (i.e. ESS 2015 and 2017 and EPS 2014 and 2016).

In terms of where these skills needs are felt more sharply, skill-shortage vacancy density (the proportion of vacancies hard to fill because of skill shortages in applicants) was highest in the Construction and Manufacturing sectors, where 36% of vacancies were proving hard-to-fill because of applicants lacking the appropriate skills, qualifications or experience (compared to the 24% average). By occupation, employers faced the greatest challenges in finding suitably skilled candidates for Skilled Trades positions, with nearly half of vacancies in these roles being skill-shortage vacancies (48%). This occupational group also had the largest increase in skill-shortage vacancy density compared with 2017 (up 6 percentage points).

Skills gap density remained highest among the Hotels and Restaurants and Manufacturing sectors (6.9% and 5.8% respectively), with both having similar skills gap densities to levels seen in 2017 . In terms of occupation, Elementary Staff experienced the greatest increase in skills gap density compared with 2017 (a 1.7 percentage point increase) and were the occupations with the highest skills gap density (8.0%).

Current skill demands

A wide range of skills were lacking among applicants. Nine in ten (89%) skill-shortage vacancies were at least partially caused by a lack of technical or practical skills (similar to the 88% figure in 2017); often a lack of specialist skills or knowledge needed to perform the role (67%). Seven in ten (70%) skill-shortage vacancies were at least partially caused by a lack of people and personal skills, lower than in 2017 (75%). The most common skill of this type lacking was the ability to manage one's own time and prioritise tasks (47%). Just under a third (31%) of skill-shortage vacancies involved a lack of digital skills.

Skills lacking among the existing workforce tended to match those discussed as lacking among recruits. In terms of technical and practical skills, specialist skills or knowledge required to perform the job role was the most prevalent specific skill lacking among staff (a factor in 53% of all skills gaps). The same proportion of skills gaps were partly due to a lack of operational skills (53%), while a lack of proficiency in complex analytical skills contributed to just under half of all skills gaps (47%). All three of these were most likely to be cited as skills deficiencies within the Financial Services sector. The most common people and soft skills lacking were related to self-management skills (72% of all skills gaps), including the inability among staff to manage their own time or prioritise tasks (60% of all skills gaps) or to manage their feelings and the feelings of others (49%). A lack of management and leadership skills were also a factor for approaching three-fifths (57%) of skills gaps. A lack of digital skills was a factor in around two-fifths of skills gaps (38%).

There was wide variation in the skills lacking among applicants and the current work-force by sector and occupation, reflecting very different skills challenges.

Addressing skills shortages

Although transient factors (such as staff having been recruited who are not yet fully trained or experienced in their new role) regularly contributed to skills gaps (79%), they were rarely the exclusive cause of them (20%). Consequently, skills gaps were not exclusively caused by factors that would be expected to alleviate over time, and this was reflected in the fact that many employers actively took issues to address skills needs.

Unsurprisingly, the key difference in terms of the way that establishments tried to address skill-shortage vacancies and skills gaps related to the direction that employers looked when trying to address them: generally action was directed externally to address skill-shortage vacancies, and internally to address skills gaps. Consequently, the most common actions taken to overcome skill-shortage vacancies was to utilise new recruitment methods or channels (37%) or to increase advertising or recruitment spend (37%). Contrastingly, establishments tried to overcome skills gaps in their workforce most often by increasing training activity (64%), supervising staff more (55%), conducting more appraisals (46%) or implementing a mentoring scheme (45%).

New analysis for 2019 shows employers with skill-shortage vacancies tended to place more emphasis on each factor that they considered when recruiting staff than those that did not have skill-shortage vacancies, and were also more likely to utilise each different recruitment method and strategy during their recruitment process. Similarly, employers with skills needs were more likely to indicate that they had engaged with national skills policy initiatives, including taking on apprentices, trainees, expressing interest in offering work placements through the T-Levels scheme.

Future skills requirements

Around two-thirds of employers anticipated the requirement to develop the skills of their workforce in the coming year (64%). The most common reasons for expecting to need to upskill their staff were in response to new legislative or regulatory requirements (42%), because of the introduction of new technologies or equipment (41%), the development of new products and services (35%) and the introduction of new working practices (35%).

The profile of skills that employers anticipated needing to develop was broadly similar to the profile of skills lacking among applicants and the current workforce. One key difference however was digital skills: these skills were more prominently a part of employers anticipation of upskilling requirements, perhaps reflecting the pace of change of digital skills requirements. The most common skills that were identified by employers as requiring upskilling were grouped as operational skills (52%), specialist skills or knowledge (50%), self-management skills (49%), management or leadership skills (48%) and digital skills (47%).

1. Introduction

Background to the Employer Skills Survey

From 2010-2017, the Employer Skills Survey (ESS) sat alongside the Employer Perspectives Survey (EPS) to produce insights that complemented each other, with the two surveys run in alternate years (EPS was last conducted UK-wide in 2016). The focus of the Employer Perspectives Survey was primarily outward-looking, covering engagement with the education and skills system, whereas the Employer Skills Survey had a more inward-looking focus assessing the current skills position and skills needs of employers. For ESS 2019, the two surveys were in effect merged. The 2019 iteration of ESS is the fifth in a series conducted biennially since 2011.[2] For the 2019 iteration, the survey covered England, Wales and Northern Ireland rather than the whole UK as in previous years.

A separate 'core' report covers the key ESS measures including recruitment and skill-shortage vacancies, skills challenges among the workforce; and training and workforce development activity. This report specifically explores employer skills needs and provides a more in-depth examination of some of the factors reported in the core report. This report covers the skills lacking in applicants and within the existing workforce, the causes of these skills challenges, the ways that employers have tried to address them, and an indication of potential future skills challenges.

It should be noted that the results presented in the report relate to employer skills needs prior to the Covid-19 pandemic: while the findings still provide an important source of labour market intelligence, clearly the economic landscape has changed significantly since survey fieldwork was conducted.

[2] The 2011, 2013 and 2015 editions of the survey were commissioned by the UK Commission for Employment and Skills (UKCES). Responsibility for the ESS series transferred to the Department for Education following the closure of UKCES in 2016. The government has conducted employer surveys on skills and training since 1990, starting with the Skill Needs in Britain surveys. See Appendix B for more details on related predecessor surveys.

Policy background

The period immediately prior to the fieldwork period for ESS 2019 was marked by continued economic growth,[3] and high levels of job creation, with the employment rate at the end of the second quarter of 2019 at 76.1%, at that time the joint highest since records began.[4] Another key characterisation of the UK economy during this period was its productivity gap relative to international competitors (Taylor, M., 2017). According to the most recent ONS estimates, the UK had the lowest productivity rate of all G7 countries except Italy.[5] In the second quarter of 2019 output per hour fell by 0.5%, the largest quarterly fall in productivity in five years.[6]

Workplace skills as a driver of economic growth, and productivity growth specifically, remain central to government policy. As we enter a period of economic and labour market uncertainty, ensuring the workforce has the right skills will be more important than ever to aid recovery. While skills are recognised as a key contributor to productivity growth, it is widely held that (prior to the Covid-19 pandemic) the UK had a skills deficit. The Department for Education's 'Technical education reform: the case for change' (July 2016) reported that 'it is increasingly evident from international surveys that our current skills system is failing to fully meet the country's needs across a range of skills', including numeracy and literacy skills, and intermediate skills. It cited the OECD's forecast that the UK would fall to 28th out of 33 OECD countries for intermediate skills by 2020. The report also discussed how skills shortages were posing significant challenges to employers, but argued that at the same time there was a lack of employer engagement and investment in education and training.[7]

These aspects of government policy and the broader understanding of the skills landscape in the UK act as crucial context for ESS 2019. This report considers the current skills needs of employers by considering skill levels in the workforce and among applicants to vacancies, as well as skills areas that employers believe they will need to upskill among their workforce in the near future. This analysis sheds light onto the current and future skills challenges that employers were facing pre-pandemic, as well as the types of action that employers were pursuing to address these issues.

[3] 2.7% growth in UK gross domestic product (GDP) between 2017 Q2 and 2019 Q2. Source: ONS, *Quarterly National Accounts time series dataset March 2020*, (2020).
[4] ONS, *Labour Market Overview: June 2019* (2019)
[5] ONS, *International comparisons of productivity: 2016* (2018)
[6] ONS, *Labour productivity, UK: April to June 2019*, (2019)
[7] DfE, *Technical Education Reform: the case for change* (2016)

Methodological overview

This section briefly summarises the key features of the methodology for ESS 2019, further detail of which can be found in the published technical report on the gov.uk website. As in previous iterations of ESS, the survey was carried out in two parts, both of which were conducted by telephone: a core survey of establishments and a follow-up survey looking at the investment employers had made in providing training to employees in the previous 12 months (the "Investment in Training Survey").[8] This report does not present findings from the Investment in Training Survey.

Sampling

The population covered by the survey comprised employers with at least two staff on the payroll in England, Northern Ireland and Wales. The survey is conducted at the establishment level (rather than at an organisational level)[9]. Sole traders with a single person on the payroll were excluded.

The survey covered all sectors of the economy (the commercial, public and charitable spheres). The profile of this population was established through Office for National Statistics (ONS) data from the March 2018 Inter-Departmental Business Register (IDBR), the most up to date business population figures available at the time that sampling was conducted for the survey.

The sample of establishments was primarily sourced from the commercial data supplier Market Location. This was supplemented by records supplied directly through the IDBR to improve coverage of establishments in specific sectors and parts of sectors that are underrepresented in Market Location's database.

Quotas for the main survey were set by size within sector separately for Wales, Northern Ireland and eight English regions, while in one region, the West Midlands, a slightly different approach was adopted. In this region a Random Probability Sampling method was trialled, with no quotas and instead interviews were attempted with all sample records loaded.

[8] More information about the methodology for the Investment in Training Survey can be found in the 'Training and Workforce Development' thematic report that will be published alongside this report.
[9] i.e. multiple sites (or premises) of a larger organisation were in scope for the research and were thus counted separately for sampling purposes. This was in recognition of the influence that local labour markets have on skill issues and the fact that skills issues are felt most acutely at the site level.

Questionnaire

ESS 2019 was designed to merge the ESS and EPS surveys to provide greater efficiency and to enhance the potential for cross analysis. The surveys were required to be combined in such a way that interview length stayed below 25 minutes: a longer survey would have impacted on response rates and the quality of information provided. To avoid an excessively long questionnaire the merger of two surveys required more extensive modularisation of the questionnaire than undertaken previously.

Questions that were included in the merged questionnaire were designed to be as consistent as possible with previous versions of the same question in order to ensure comparability over time.

Fieldwork

Fieldwork for the core survey was undertaken between May and December 2019 and involved 81,013 interviews. Fieldwork was conducted by three research agencies (IFF Research, BMG Research and Ipsos MORI). An overall response rate of 41% was achieved for the main survey.

Weighting

Findings from the core survey have been weighted and grossed up to accurately represent the total population of establishments in England, Northern Ireland and Wales with at least two people on their payroll, calculated using the March 2019 IDBR population statistics. This has been done on a size, sector and geographic basis. Separate weights were generated which allow findings to be presented (a) based on the number of workplaces reporting a particular experience, and (b) based on the number of employees and/or job roles affected by different challenges. For questions that were modularised (i.e. only asked of a random selected sample of respondents), modular versions of the workplace and employee weights were created.

Report coverage

This report covers:

- Where there are ‘bottlenecks’ and particular pockets of skills shortage, including a comparison of the incidence, volume and density of skill shortages and how these differ by geography, sector and occupation;
- Specific skills that are lacking in the currently available labour market, as well as internally among the workforce, considering the types of skills that are in demand by employers;

- The causes of skill shortage vacancies and skills gaps (including the types of skill lacking) as well as the steps employers have been taking to address them;
- Whether employer recruitment strategies help or hinder the occurrence of skill-shortage vacancies, and the extent to which employers with skills needs engage with skills policy initiatives (e.g. apprenticeships, traineeships, etc.); and
- A view on potential skills needs over the coming 12 months (from the time at which the survey was conducted), including areas where employers anticipated future requirements to upskill their workforce.

Reporting conventions

The terms “establishment”, “employer” and “workplace” are used interchangeably throughout this report to avoid excessive repetition.

Throughout the report unweighted base figures are shown on tables and charts to give an indication of the statistical reliability of the figures.

Prior to the 2019 survey, the ESS survey, along with its sister survey the UK EPS ran across the UK on alternate years. This means that comparisons over time refer to different survey years depending on whether the measure being referred to originated from the ESS or EPS survey prior to 2019. The report commonly refers to the last two waves of these surveys (i.e. ESS 2015 and 2017 and EPS 2014 and 2016).

In tables, “zero” is denoted as a dash (“-“); and an asterisk is used (“*”) if the figure is larger than zero but less than 0.5%.

Throughout the report, figures with a base size of fewer than 30 establishments are not reported (a double asterisk, “**”, is displayed instead), and figures with a base size of 30 to 49 are italicised and should be treated with caution.

The scale and scope of data collected in ESS 2019 means that it is a valuable research resource supporting detailed and complex statistical analysis of the inter-relationships between employer characteristics and their practices and experiences. The findings presented in this report reflect a descriptive exploration of the data. All differences referred to in the text are statistically significant at the 95% level of confidence. Significance testing on employer measures use the unweighted respondent base, while employment measures, and density measures such as the proportion of the workforce with skills gaps and skills-shortage vacancy density, have been calculated on the basis of the unweighted employment (or vacancy) base. Further statistical information can be found in Appendix E.

Usually survey data on occupations are discussed at one-digit standard occupational classification (SOC) level. However, on occasion to aid analysis, the report discusses occupations at a broader classification of high-skill, middle-skill, service-intensive and labour-intensive roles, as shown in Appendix D.

2. Where are the current skills bottlenecks?

Chapter summary

Overall, 5% of employers reported having skill-shortage vacancies at the time of the interview and 13% reported that there were skills gaps in their workforce.

Despite an overall fall in the number of vacancies compared with 2017, the number of skill-shortage vacancies in 2019 was higher than at any point since 2011. Almost a quarter (24%) of all vacancies were skill-shortage vacancies (up from 22% in the 2013 to 2017 period).

The proportion of the workforce that employers considered to be lacking full proficiency (i.e. had a skills gap) had also risen since 2017, albeit a relatively slight increase (from 4.3% to 4.5%). This did, however, mark a reversal of the gradual decrease observed from 2011 to 2017 (from a high of 5.5% in 2011).

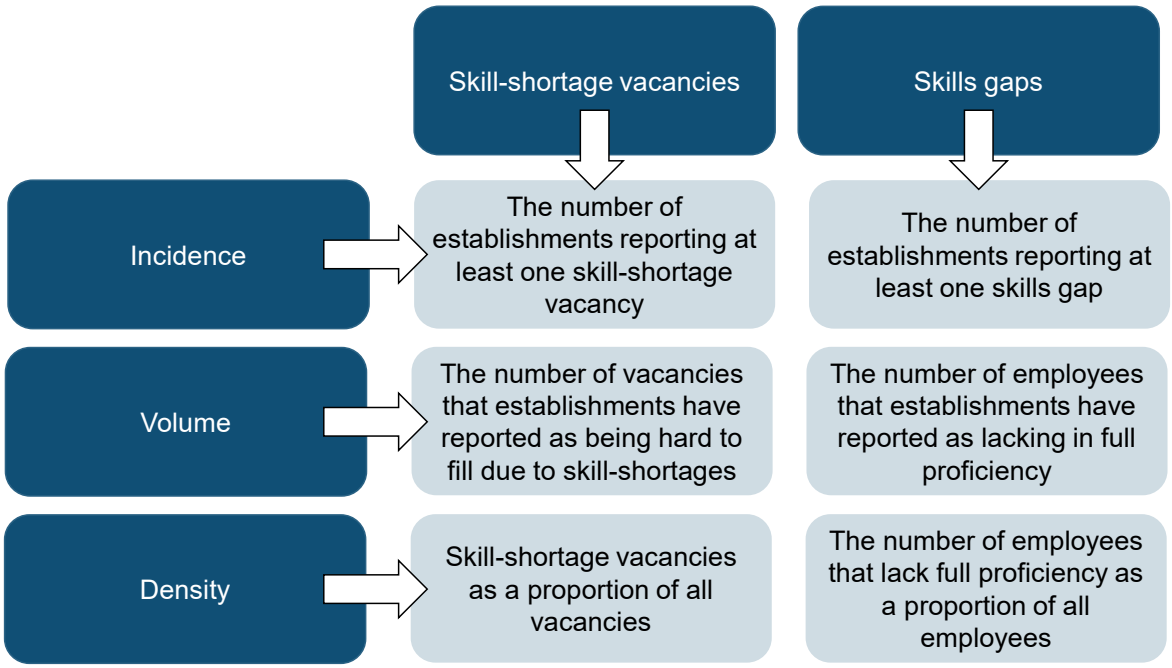
In terms of the geographic profile of skills challenges, increases in skill-shortage vacancy density and skills gap density were predominantly driven by increases in England, where both figures rose compared with 2017. At a more disaggregated level there were highly localised pockets of skills bottlenecks, highlighting that these pressures can be felt in very specific areas of the country. In some instances, local areas with very challenging skills needs bordered areas with relatively low levels of skill needs.

Skills needs were particularly prevalent in certain sectors. Skill-shortage vacancy density was highest in the Construction sector (36%, the same as in 2017) and in Manufacturing (36%, a large increase from 29% in 2017, indicating growing skill-shortages in this sector). Skill-shortage vacancy density was lowest in the Public Administration and Financial Services sectors (13% in each case). The sectoral profile of skills gap density has remained relatively consistent over time, remaining highest in the Hotels and Restaurants sector (6.9% of the workforce were considered to have a skills gap) and lowest in the Education sector (2.8%).

By occupation, Skilled Trades roles have historically had the highest skill-shortage vacancy density; this continued in 2019. Such roles also saw the biggest increase in skill-shortage vacancy density since 2017 (48% up from 42%). Elementary occupations experienced the greatest increase in skills gap density compared with 2017 (1.7 percentage points) and were the occupational group with the highest skills gap density (8.0%), while managerial occupations had the lowest (2.2%).

Introduction

ESS 2019 provides a detailed understanding of the level and nature of employer demand for new staff and the ability of the labour market to meet this demand, particularly in relation to applicants having the skills and qualifications employers require. In addition to this, it provides understanding of the proportion of the current workforce that employers consider to be fully proficient. These two key measures represent the current skills needs bottlenecks in the labour market and workforce. The key measures used in this chapter and throughout this report are:



Skill-shortage vacancies are defined within ESS as any vacancies that are proving hard to fill due to a lack of skills, experience or qualifications among applicants. ESS measures skill-shortage vacancies that employers are aware of. It would not include hard-to-fill vacancies that receive no applicants which could be the result of a skill shortage, especially where the job description has clearly stated high requirements. Equally, a reported skill-shortage vacancy – i.e. one which attracts applicants but none with the right skills – may be caused by relative unattractiveness of the role to a pool of potential applicants *who do* possess the right skills. Aspects of the role which influence would-be applicants, such as pay or working conditions, may not be recognised by the employer and therefore may not be represented in these findings.

Skills gaps are defined as occurring when employees within a company do not possess all of the required skills to be fully proficient at their job. These can arise as a result of not being able to find suitably skilled applicants, or intentionally taking on recruits who are not fully experienced in order to train them up to the employer's way of working, but can also arise for a host of other reasons such as the skills needed within an establishment changing. Some skills gaps may be by their nature temporary, for example where new staff have been recruited who are not yet fully trained or experienced in their new role: in this report these causes of skills gaps are considered to be 'transient'. However, others can be more persistent and a result of under-investment in training and development, staff reluctance to develop existing skills or develop new ones, or high staff turnover. Persistent skills gaps can hinder an establishment's ability to function effectively and harm its productivity, profitability and ability to innovate in terms of internal processes and regarding new products or services.

It is worth bearing in mind that the survey only captures the skills gaps that employers are aware of and report. Arguably, employers that pay little attention to their employees' skills and the needs of their establishment may be less likely to report skill gaps. Some commentators have termed these 'latent skill gaps'.[10]

This chapter explores the incidence of skill-shortage vacancies and skills gaps within the existing workforce at an overall level, by sector and by geography, focusing on areas of the current employer landscape with skills challenges that may be considered bottlenecks.

Overall picture – skill-shortage vacancies and skills gaps

Only a relatively small minority reported that they had skill-shortage vacancies at the time of the interview (5%) or had any staff that were not fully proficient at their job (13%). Very few employers reported that they had both skill-shortage vacancies and skills gaps (2%).

Slightly fewer establishments had skill-shortage vacancies in 2019 (5%) than in 2017 (6%). As shown in Figure 2-1, this represents a break from the trend of generally increasing incidence of skill-shortage vacancies since 2011. Conversely, the proportion of employers who reported that at least some of their staff were not fully proficient has remained stable since 2017 (13%), following a gradual decline since 2011 (17%).

[10] Terence Hogarth, Rob Wilson, *Skills Matter: a Synthesis of Research on the Extent, Causes and Implications of Skill Deficiencies* (2001)

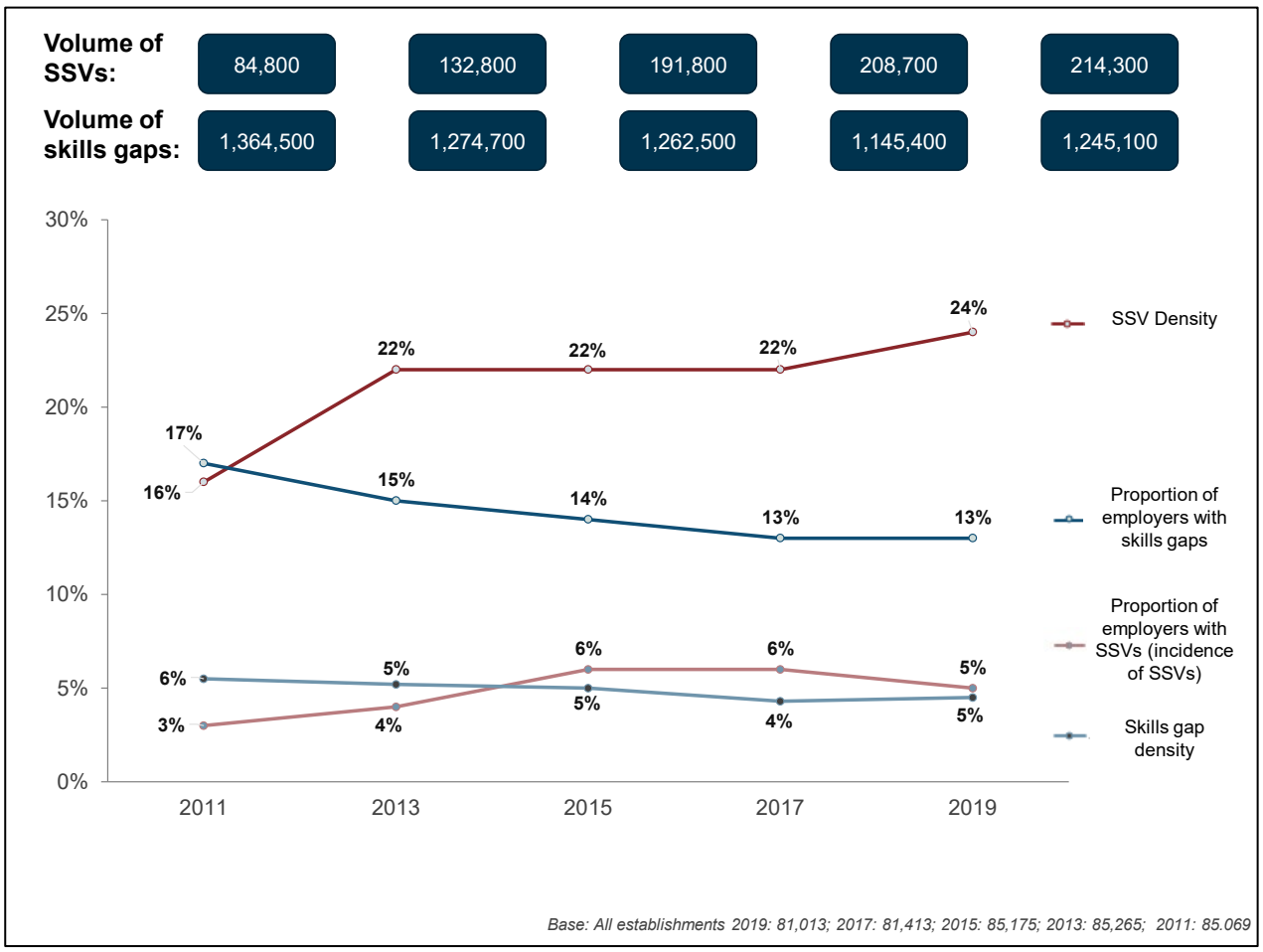
Despite total vacancies falling (from 932,000 in 2017 to 877,000 in 2019), there was a small increase in the volume of skill-shortage vacancies (from 209,000 to 214,000). The combination of these factors saw skill-shortage vacancy density – the proportion of vacancies which are skill-shortage vacancies – increase to 24% (from 22% in 2017). This represents an nine percentage-point increase since 2011, when only 16% of vacancies were proving hard to fill due to difficulties in finding applicants with appropriate skills, qualifications or experience. This sustained increase in skill-shortage vacancy density is likely to reflect the tightening labour market (prior to Covid-19),[11] both in terms of a continued reduction in unemployment and reduced access to migrant labour since 2016.

Skills gap density (the proportion of the workforce lacking full proficiency) also rose, marking the first increase in skills gap density since 2011, albeit a relatively slight increase. Skills gap density had decreased during the period 2011 to 2017 (from 5.5% to 4.3%), while the figure rose slightly to 4.5% in 2019.

Across England, Northern Ireland and Wales there were in total 214,300 skill-shortage vacancies (an increase compared to 208,700 in 2017), while 1.25 million employees were felt to be lacking proficiency (an increase compared to 1.15 million in 2017).

[11] Less freely available labour – i.e. continued falls to unemployment and increases in employment, source: ONS, *UK Labour Market: February 2020* (2020), and a sustained reduction of work-related migration, source: ONS, *Migration Statistics Quarterly Report: February 2020* (2020)

Figure 2-1 Incidence, density and volume of skill-shortage vacancies and skills gaps over time



The likelihood that an establishment had a skill-shortage vacancy increased with size, from 2% of employers with 2 to 4 employees to 25% of those with 250 or more employees. In the same way, the proportion of establishments that reported any skills gaps among their staff increased with size: from 5% of establishments with 2 to 4 employees to around two-fifths (39%) of those with 250 or more employees. These changes are perhaps unsurprising, given that larger workforces offer more opportunity for skills gaps to occur and tend to correlate with greater recruitment activity and therefore offer a higher likelihood of skill-shortage vacancies too.

Although smaller employers were less likely to experience skills-shortage vacancies, as in 2017 the density of skill-shortage vacancies was higher among small establishments than large establishments. Over a third of vacancies in establishments with fewer than five employees were proving hard-to-fill due to skill-shortages (34%), compared to a fifth (20%) among establishments with 100 or more employees. The density of skills gaps was lower among smaller establishments. Establishments with 2 to 4 employees reported a smaller proportion of their workforce as not fully proficient (2.2%) than those with 5 to

24 employees (4.3%) or 25 or more employees (4.9%). This was a similar pattern to findings in 2017 (2 to 4 employees: 2.4%, 5 to 24: 4.2% and 25 or more: 4.6%).

Table A.2.7 and Table A.2.8 in Appendix A provide a full breakdown of the incidence, number and density of skills gaps by size of establishment and sector. Table A.2.9 in Appendix A provides the density of skills gap by country.

Pockets of skill-shortage

Skills needs by country

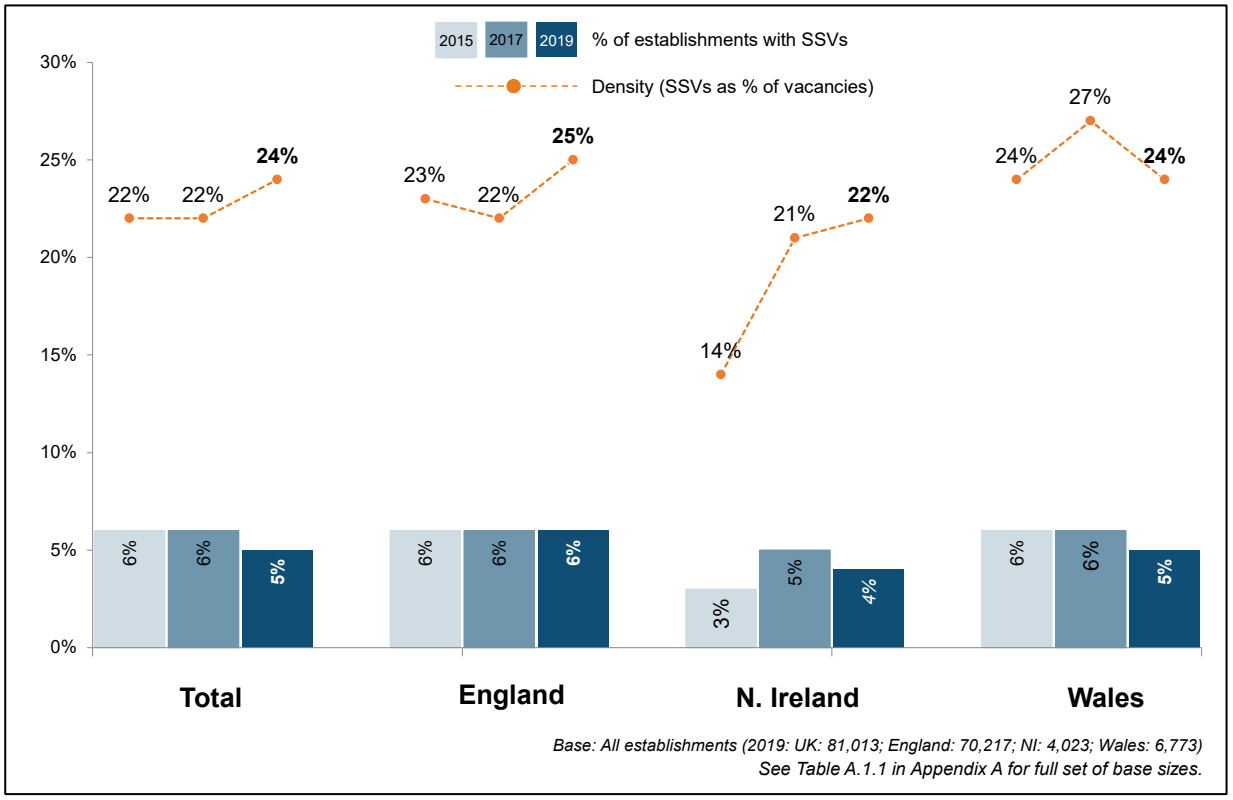
It was more common for employers to report that they had skill-shortage vacancies or skills gaps in England (17%) or Wales (17%) than Northern Ireland (13%).

As demonstrated in Figure 2-2, the fall in skill-shortage vacancy incidence was driven by changes in Northern Ireland and Wales, where the incidence of skill-shortage vacancies decreased from 5% to 4% and 6% to 5% respectively. In England, the incidence of skill-shortage vacancies remained unchanged, at 6%.

In terms of skill-shortage vacancy density, the picture is not uniform: while the density of skill-shortage vacancies increased in England and Northern Ireland compared with 2017, it fell in Wales (where the number of skill-shortage vacancies remained relatively constant while the total number of vacancies increased).

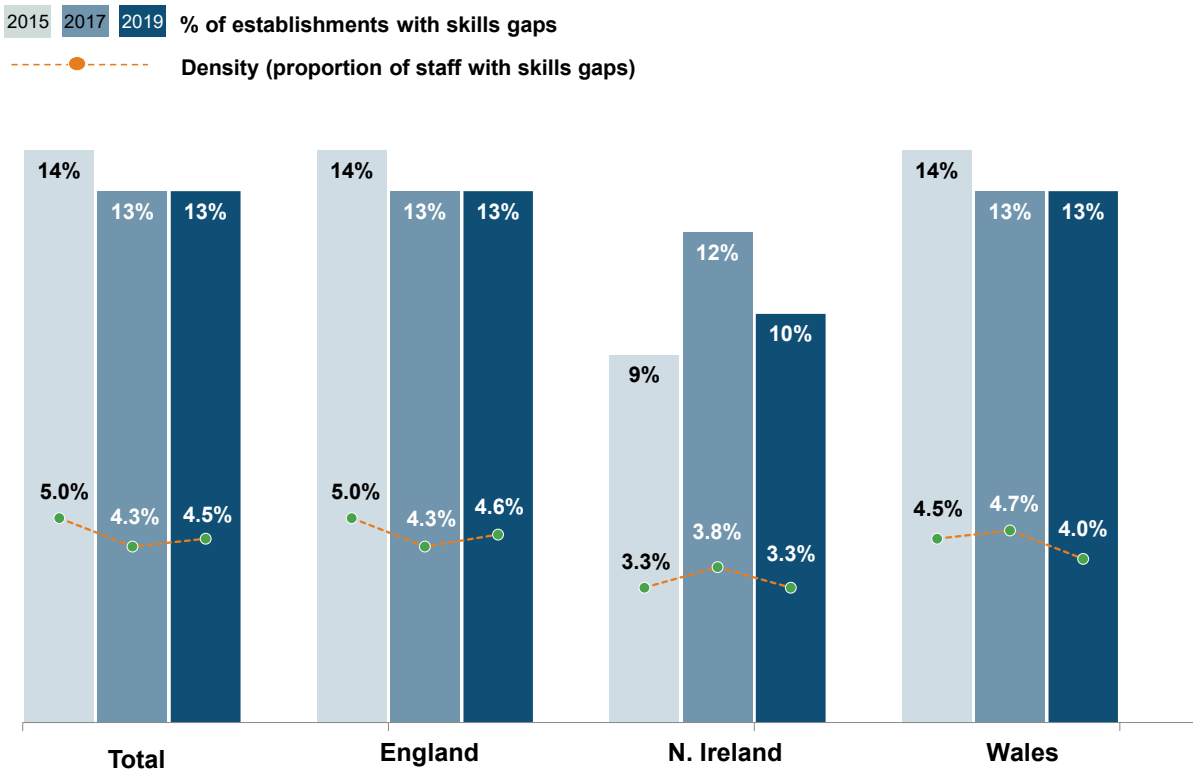
In Northern Ireland, the skill shortage pressures that were building in 2017 were sustained. While historically employers in Northern Ireland have found vacancies much less hard to fill than the rest of the UK, in 2019 the density of skill-shortage vacancies in Northern Ireland were broadly in line with the average (22% compared with 24%).

Figure 2-2 Incidence and density of skill-shortage vacancies (SSVs), by country



Unlike with skill-shortage vacancies, the slight increase in skills gap density since 2017 was driven by changes in England. Although there were falls in skills gap density between 2017 and 2019 in Northern Ireland (from 3.8% to 3.3%) and Wales (from 4.7% to 4.0%), the overall picture was driven by the slight rise in in England (from 4.3% to 4.6%). In each nation skills gap density is lower or at the same level in 2019 than in 2015, as shown in Figure 2-3.

Figure 2-3 Incidence and density of skills gaps over time, by country



Base: All establishments (2019: total: 81,013; England: 70,217; Northern Ireland: 4,023; Wales: 6,773)
See Table A.1.1 in Appendix A for full set of base sizes.

Skills needs by Local Area

A key advantage of the ESS survey with its large sample size is that skills needs can be examined at a local level – either at the Local Authority (referred to as "local areas") or Local Enterprise Partnership (LEP) level.[12] By considering this local data it is possible to identify specific areas of the country where employers have reported greater skills needs, and to allow local areas gain a better understanding of the specific skills challenges in their area to allow a targeted local policy response. This section illustrates the type of local level data available and some of the wide variations in skills needs around the country. The detailed data tables and slide packs published alongside the ESS reports can be used to do more in-depth analysis of specific areas.[13]

The local areas with the highest density of skill-shortage vacancies were Lambeth, Luton, Middlesbrough and Poole, in each of these areas nearly half (48%) of all vacancies were proving hard to fill due to skill-shortages. The areas with the lowest density of skill-shortage vacancies were Walsall and Wokingham, where in each case just 7% of vacancies were skill-shortage vacancies.

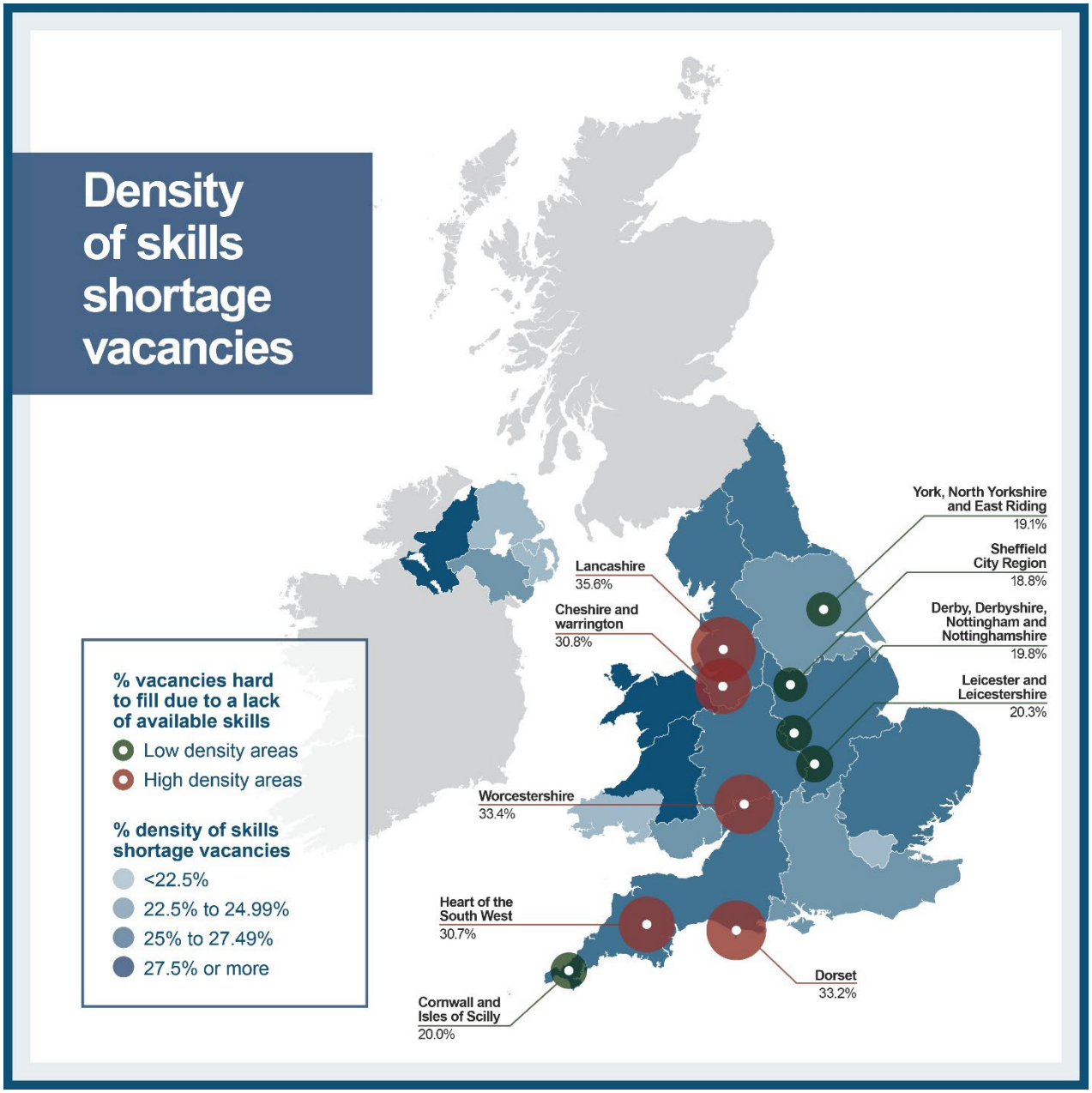
The extent to which variation in skill-shortage vacancy density can exist at a local level is highlighted by the fact that Hartlepool, which is adjacent to Middlesbrough – with one of the highest skill-shortage vacancy densities in England – has a skill-shortage vacancy density of only 14%, significantly below the English average. Table A.2.13 in Appendix A demonstrates the 10 LEAs with the highest and lowest skill-shortage vacancy densities.

Turning to Local Enterprise Partnerships (LEPs), the LEP with the highest density of skill-shortage vacancies was Lancashire, where more than a third (36%) of vacancies were skill-shortage vacancies. The LEPs with the lowest density of skill-shortage vacancies were Sheffield City Region (19%); York, North Yorkshire and East Riding (19%); Cornwall and Isles of Scilly (20%); Derby, Derbyshire, Nottingham and Nottinghamshire (20%); and Leicester and Leicestershire (20%). Table A.2.14 Appendix A lists the 10 LEPs with the highest and lowest skill-shortage densities. The 5 highest and lowest skill-shortage vacancies at an LEP level are presented on a map below (Figure 2-4), with additional colour coding to show regional skill-shortage vacancy density.

[12] Due to low base sizes, some of the very small Local Authorities have been merged with larger adjoining LAs. Although no longer technically in use operationally, as in previous years, "Local Education Authority" definitions have been used to guide this merging.

[13] Despite base sizes at a local level being large enough to allow for robust subgroup analysis, it is worth exercising slightly more caution with results at a local level as some of the more stark differences could relate to smaller base sizes. Any data based upon base sizes below 30 has been suppressed throughout this section of the report.

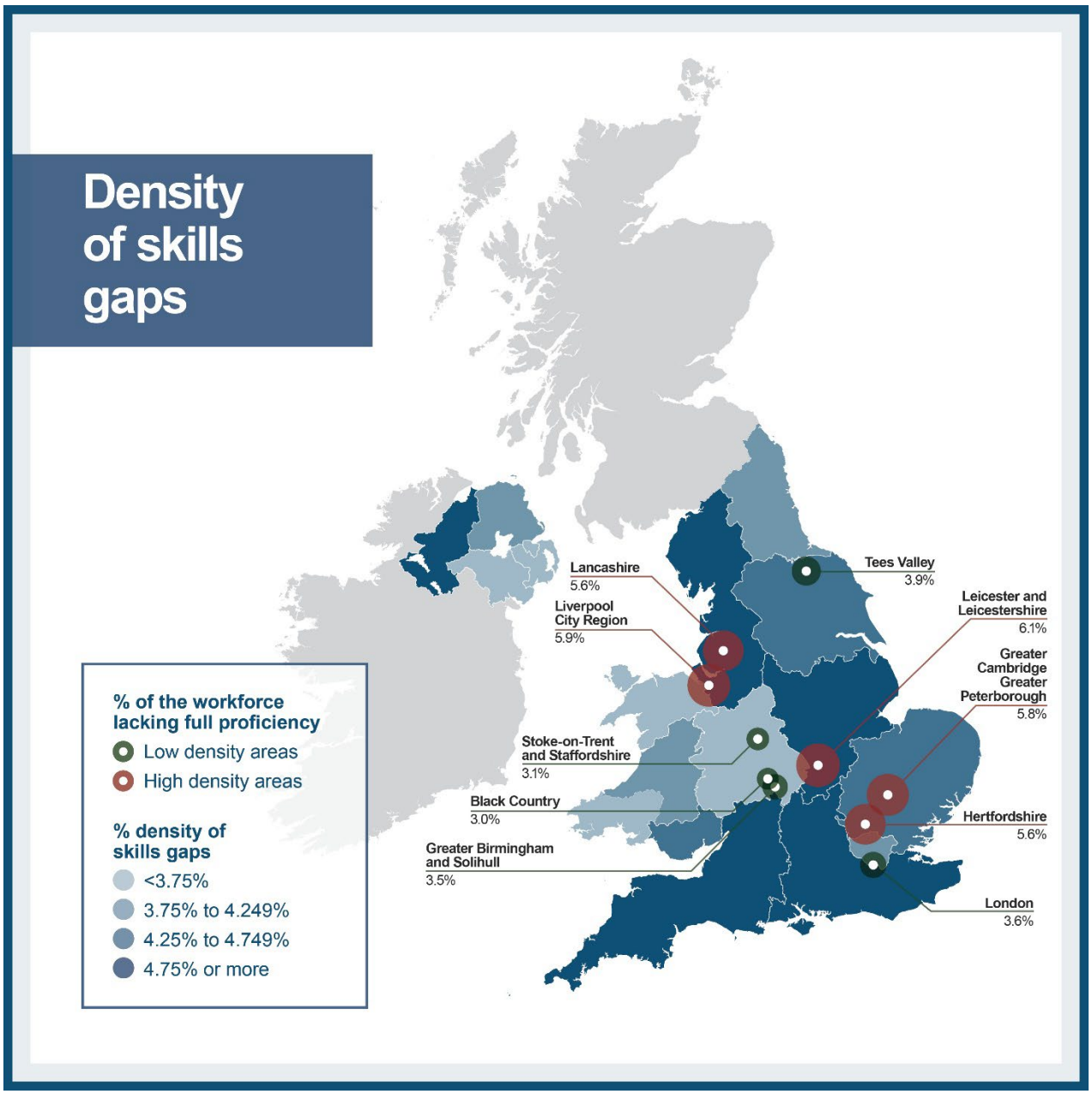
Figure 2-4 Map of LEPs in England with particularly high or low skill-shortage vacancy densities



Considering skills gaps among the existing workforce at a local level, three local areas stood out as having particularly high skills gap density figures: Blackburn with Darwen (11.3%), Knowsley (10.1%) and Reading (8.9%). Conversely, three local areas were found to have fewer than 2% of their workforce lacking in full proficiency: Wokingham (1.5%), Tower Hamlets (1.8%) and Hartlepool (1.9%). Again, strong localised variation in skills gap density can be demonstrated by the fact that Reading and Wokingham, neighbouring areas, were found to have among the highest and lowest skills gap density figures in England. Table A.2.15 in Appendix A demonstrates the 10 LEAs with the highest and lowest skills gap densities.

When analysing skills gap density by LEP, three had densities that stood out as being substantially higher than average: Leicester and Leicestershire (6.1%), Liverpool City Region (5.9%) and Greater Cambridge and Greater Peterborough (5.8%). Conversely, four LEPs stood out as having particularly low skills gap density figures: Black Country (3.0%), Stoke-on-Trent and Staffordshire (3.1%), Greater Birmingham and Solihull (3.5%) and London (3.6%). Table A.2.16 in Appendix A lists LEPs, highlighting those with the highest and lowest skills gap densities, while the 5 highest and lowest are presented on a map, with additional colour coding to demonstrate regional skills gap density levels, in Figure 2-5 below.

Figure 2-5 Map of LEPs in England with particularly high or low skills gap densities



Sectoral distribution of skills needs

As well as looking locally, the data allows us to look at the sectoral distribution of skills needs (the accompanying ESS data tables also allow an analysis of sectoral needs within local areas). When considering the proportion of employers that had skill-shortage vacancies or skills gaps, employers classified as within the Primary Sector and Utilities and Information & Communications sectors were the least likely to have either skill-shortage (both 11%). Contrastingly, the highest proportion of establishments reporting either skill-shortage vacancies or skills gaps were found in the Public Administration (25%), Hotels & Restaurants (23%), Manufacturing (22%) Education (21%) and Health & Social Work (21%) sectors.

Table 2-1 below shows the proportion of employers within each sector that reported each type of skills shortages.

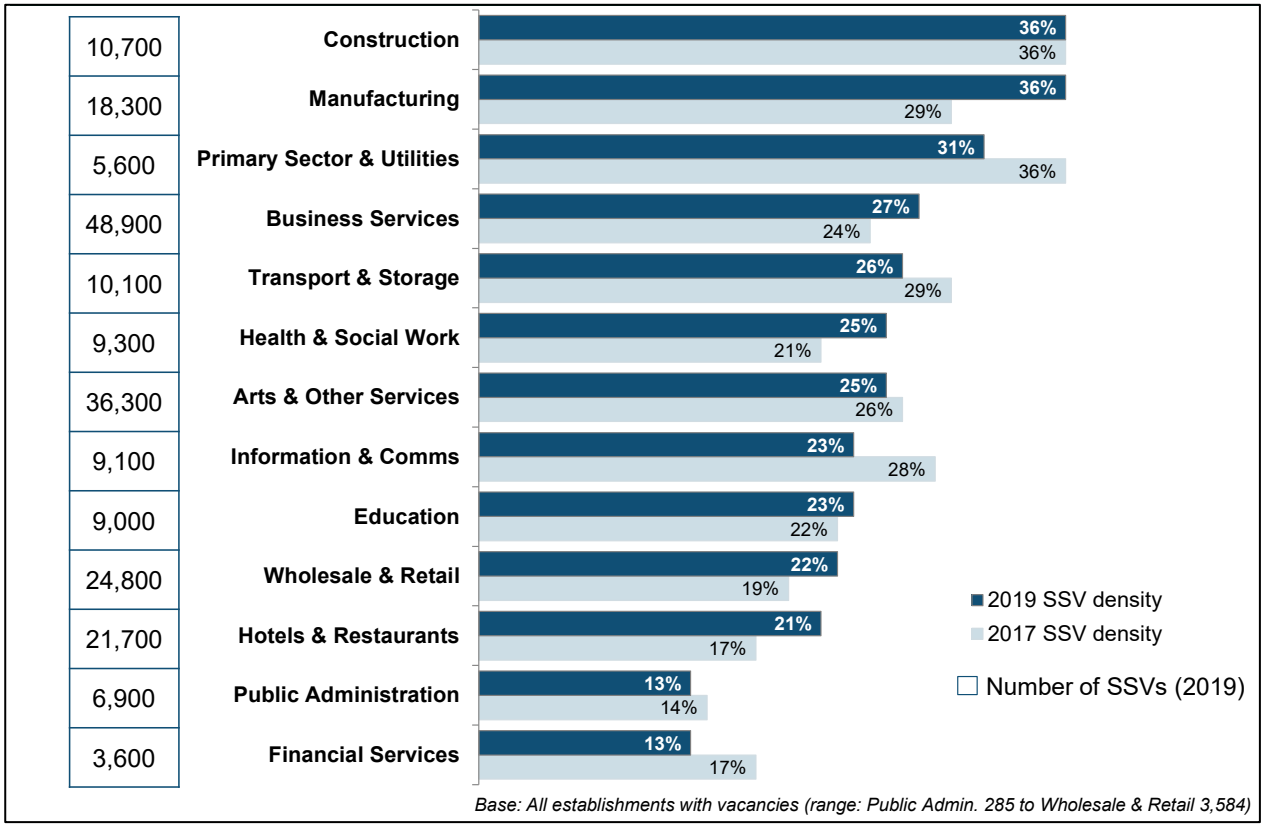
Table 2-1 Skills needs by sector

	Base	**Has a skill-shortage vacancy**	**Has a skills gap**	**Has both skills needs**	**Has either skills need**	**Has no skills needs**
	(n)	(%)	(%)	(%)	(%)	(%)
Total	***81,013***	**5**	**13**	**2**	**17**	**83**
Sector						
Primary Sector & Utilities	*2,952*	3	9	1	11	89
Manufacturing	*6,234*	8	17	3	22	78
Construction	*5,249*	4	10	1	13	87
Wholesale & Retail	*17,503*	5	15	1	18	82
Hotels & Restaurants	*7,594*	7	19	4	23	77
Transport & Storage	*2,330*	6	12	2	15	85
Information & Communications	*2,511*	5	8	1	11	89
Financial Services	*1,577*	5	16	2	19	81
Business Services	*15,490*	5	11	2	14	86
Public Admin.	*840*	7	21	3	25	75
Education	*5,012*	7	17	3	21	79
Health & Social Work	*8,092*	9	16	3	21	79
Arts & Other Services	*5,629*	5	12	1	15	85

The experience of skill-shortage vacancies varied by sector. Reflecting the relative size of the sectors in employment terms, skill-shortage vacancies were most numerous in the Business Services and Health and Social Work sectors. Skill-shortage vacancy density, however, was highest in the Construction and Manufacturing sectors, where over a third

of vacancies were proving hard to fill due to difficulties in finding applicants with appropriate skills, qualifications or experience (36%).

Figure 2-6 Number and density of skill-shortage vacancies (SSVs), by sector



The sectoral pattern of skill-shortage vacancy density, in terms of the ordering of sectors from highest to lowest density (as in Figure 2-6, above) was broadly similar to both 2017 and 2015: Construction and Manufacturing remained among those most affected by skill-shortage vacancies, and Public Administration and Financial Services remained among those least affected (despite Public Administration seeing proportionately the largest increase in the number of overall vacancies, indicating that the increased volume of vacancies in this sector had not at the time of interview led to significant challenges in terms of finding applicants with suitable skills).

There were, however, some notable changes in the density of skill-shortage vacancies within sectors, with increased densities in:

- Manufacturing (from 29% in 2017 to 36%);
- Health and Social Work (from 21% to 25%);
- Business Services (from 24% to 27%);
- Wholesale and Retail (from 19% to 22%); and
- Hotels and Restaurants (from 17% to 21%).

The sectors with the biggest decreases in skill-shortage vacancy density since 2017 were Primary Sector and Utilities (from 36% to 31%), Information and Communications (from 28% to 23%), and Financial Services (from 17% to 13%).

Table A.2.1 in Appendix A provides a detailed breakdown of skill-shortage vacancies by country, size of establishment and sector.

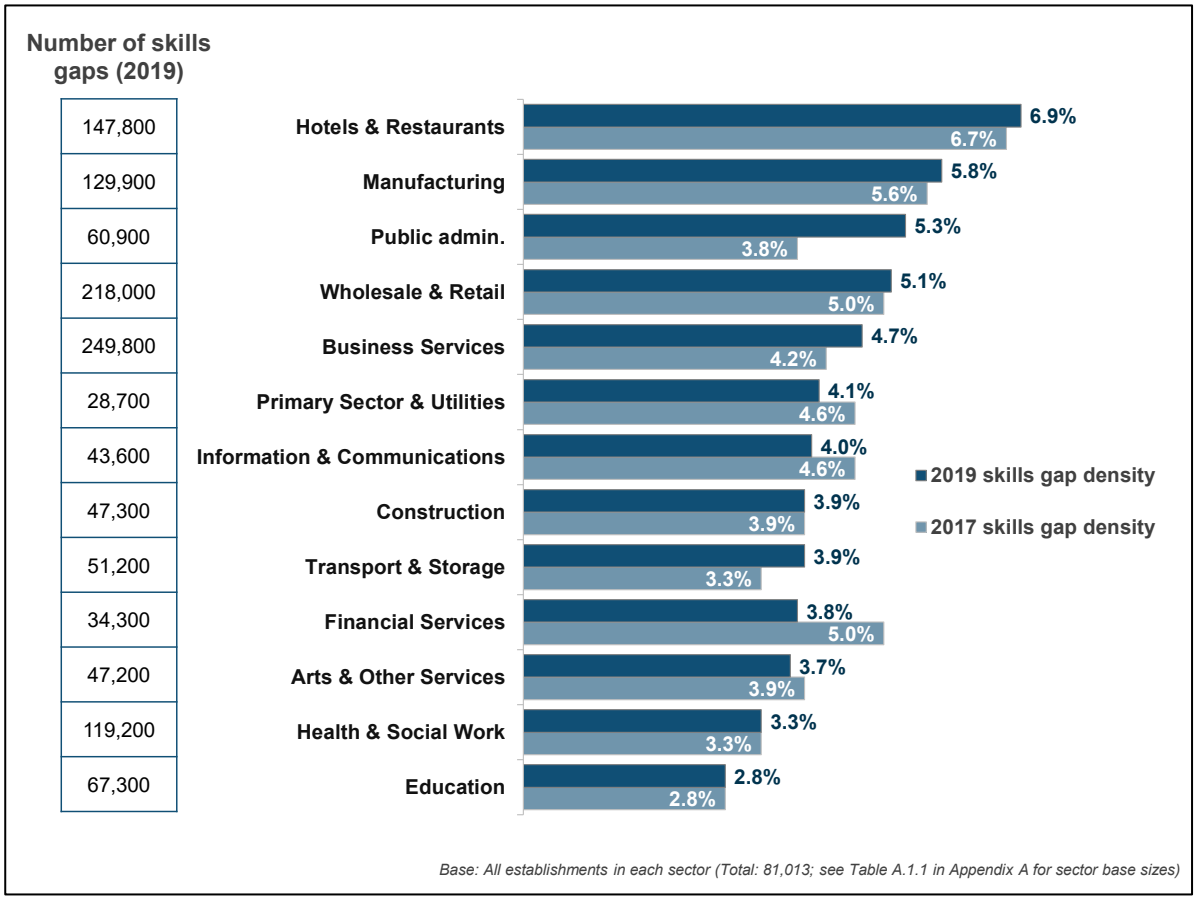
Turning to skills gap density, it is clear that there is a different pattern when comparing sectors with high skill-shortage vacancy and those with skills gaps densities; sectors with particularly high skill-shortage vacancy densities did not necessarily have particularly high skills gap densities. As well as this, the slight overall increase in the proportion of the workforce that was not fully proficient from 2017 to 2019 was broadly reflected across sectors, as shown in Figure 2-7. The sectors with the highest and lowest skills gap densities were broadly consistent with findings in 2017. Hotels and Restaurants (6.9%) and Manufacturing (5.8%) remained the two sectors with the highest proportions of their workforces lacking full proficiency, with the skills gap density in both increasing slightly since 2017, while Health & Social Work (3.3%) and Education (2.8%) remained the sectors with the lowest skills gap densities.

Two sectors saw particularly noteworthy changes in their skills gap densities:

- Public Administration saw a particularly large increase in skills gap density from 3.8% in 2017 to 5.3% of the workforce, although this was still lower than in 2015 (6.9%).
- In contrast, the Financial Services sector saw a marked decrease in skills gap density, falling from 5.0% in 2017 to 3.8% in 2019. This was accompanied by a 2% contraction in workforce size, and it may be the case that this reduction in employment has disproportionately affected staff lacking full proficiency (i.e. fully proficient staff were more likely to be retained).

Although skills gap *density* was highest in the Hotels and Restaurants and the Manufacturing sectors, the highest *number* of skills gaps existed in the Business Services sector (249,800) and the Wholesale and Retail sector (218,000 skills gaps). Together these two sectors accounted for 38% of all skills gaps, slightly more than their combined share of total employment (35%).

Figure 2-7 Number and density of skills gaps by sector



Despite having the lowest skills gap density overall, Northern Ireland had a particularly high density of skills gaps in the Manufacturing sector (8.3%). In Wales too, Manufacturing had the highest skills gap density (8.3%) although the figure was also high in the Hotels and Restaurants sector (7.2%).

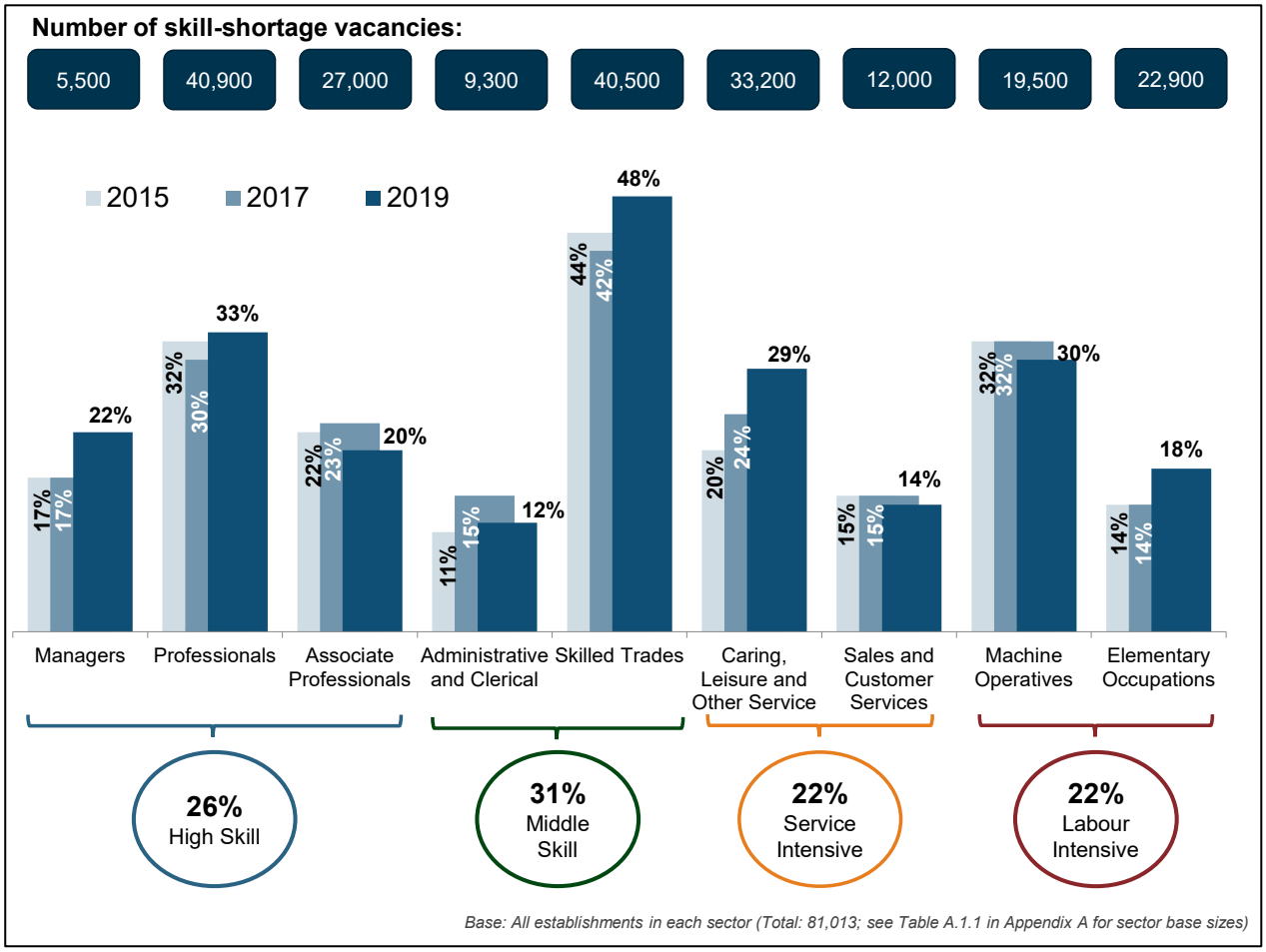
Table A.2.7 Table A.2.8 and Table A.2.9 in Appendix A provide a detailed breakdown of skills gaps broken down by country, size and sector.

Occupational distribution of skills needs

By occupation, employers were most likely to have experienced skills-related difficulties in recruitment when recruiting for Skilled Trades positions. Nearly half of vacancies for such roles were proving hard to fill for skills-related reasons (a skill-shortage vacancy density of 48%). This occupation has had the highest density of skill-shortage vacancies in all previous iterations of the ESS series, and the skills situation has intensified in 2019, with skill-shortage vacancy density increasing by the highest amount of all occupation groups (from 42% to 48%).

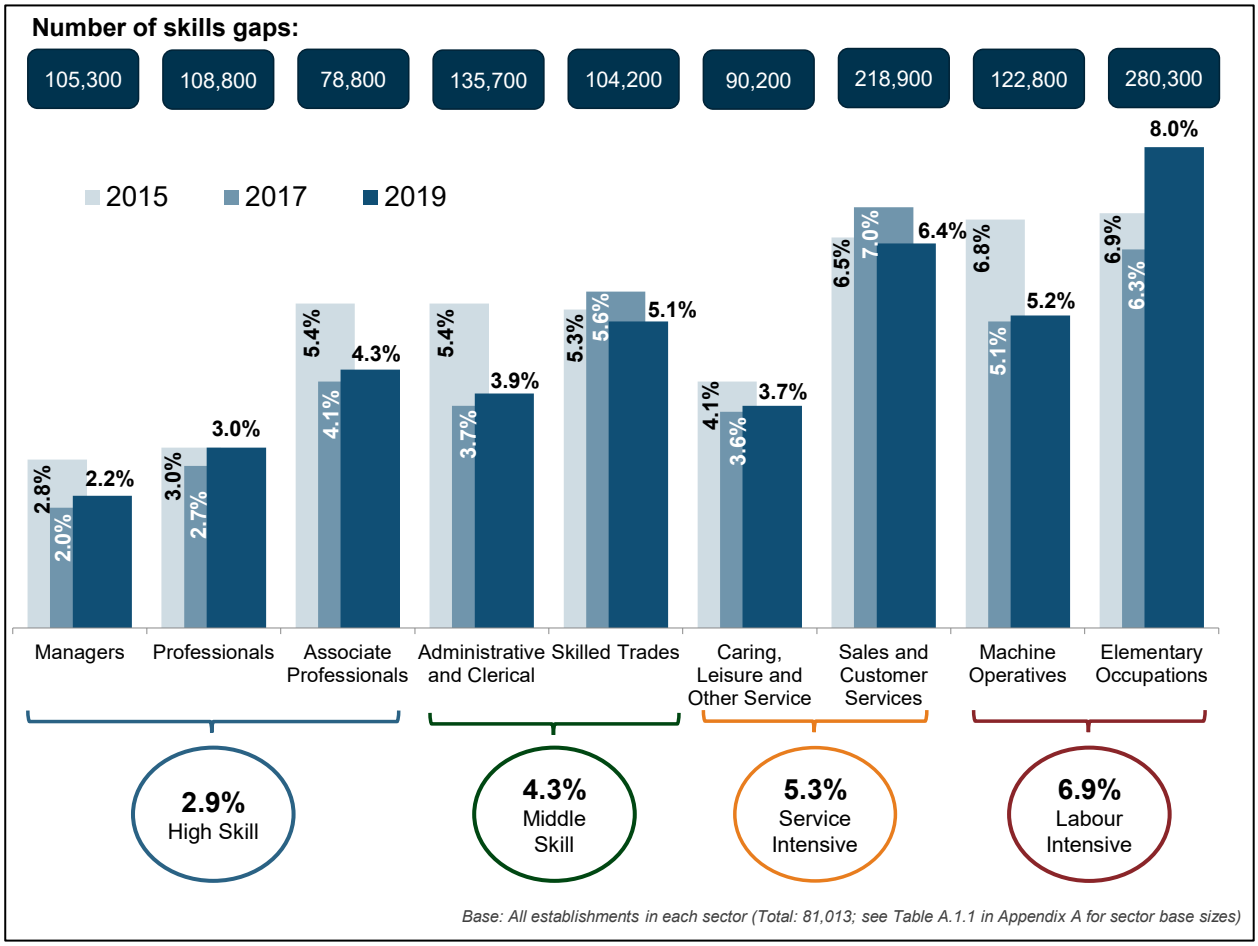
The pattern of skill-shortage vacancy density by occupation was broadly the same as in 2015 and 2017 (see Figure 2-8), though the density had increased among Professionals (from 30% in 2017 to 33%), Caring and Leisure Services (from 24% to 29%), Managers (from 17% to 22%), and Elementary (from 14% to 18%) roles (as well as for Skilled Trades, as already discussed).

Figure 2-8 Density and number of skill-shortage vacancies (SSVs), by occupation



As with sectors, the specific occupations that had particularly high skills gap densities were not necessarily the same as those that had particularly high skill-shortage vacancy densities. In terms of skills gaps, most occupations saw a slight increase in the proportion of staff lacking full proficiency from 2017 to 2019, with the exceptions of Skilled Trades and Sales and Customer Services occupations. Elementary Occupations saw a particularly large increase in skills gap density, rising from 6.3% of the workforce in 2017 to 8.0% in 2019. This was the only occupational group where skills gap density in 2019 exceeded the level in 2015.

Figure 2-9 Number and density of skills gaps by occupation



Base: All establishments in each sector (Total: 81,013; see Table A.1.1 in Appendix A for sector base sizes)

The overall increase in skills gaps density compared to 2017 was mainly the result of an increase within Labour-intensive occupations (+1.0 percentage point); in other occupational groups there was either a slight increase (+0.3 percentage points in the High-skill grouping), or modest decreases (Middle-skill -0.1 percentage points, Service-intensive -0.3 percentage points).

At a national level, skills gap density was lower than the overall average in Northern Ireland for Elementary occupations (4.9% in Northern Ireland compared to 8.0% overall) and Caring, Leisure and Other Service occupations (1.6% in Northern Ireland compared to 3.7% total). In general, skills gap density was lower in Northern Ireland (3.3%) than at the overall level (4.5%).

In Wales, the two key differences in terms of skills gap density by occupation were that Elementary Staff in Wales had a lower skills gap density than the overall average (5.9% compared to 8.0%) while Machine operatives had a higher skills gap density than the average (7.0% compared to 5.2%).

Skill-shortage vacancies by job role

It is also possible to examine skill-shortage vacancies in terms of detailed, specific job roles (using 4-digit Standard Occupational Classification code level)[14] rather than the broad classifications used to date in this report.

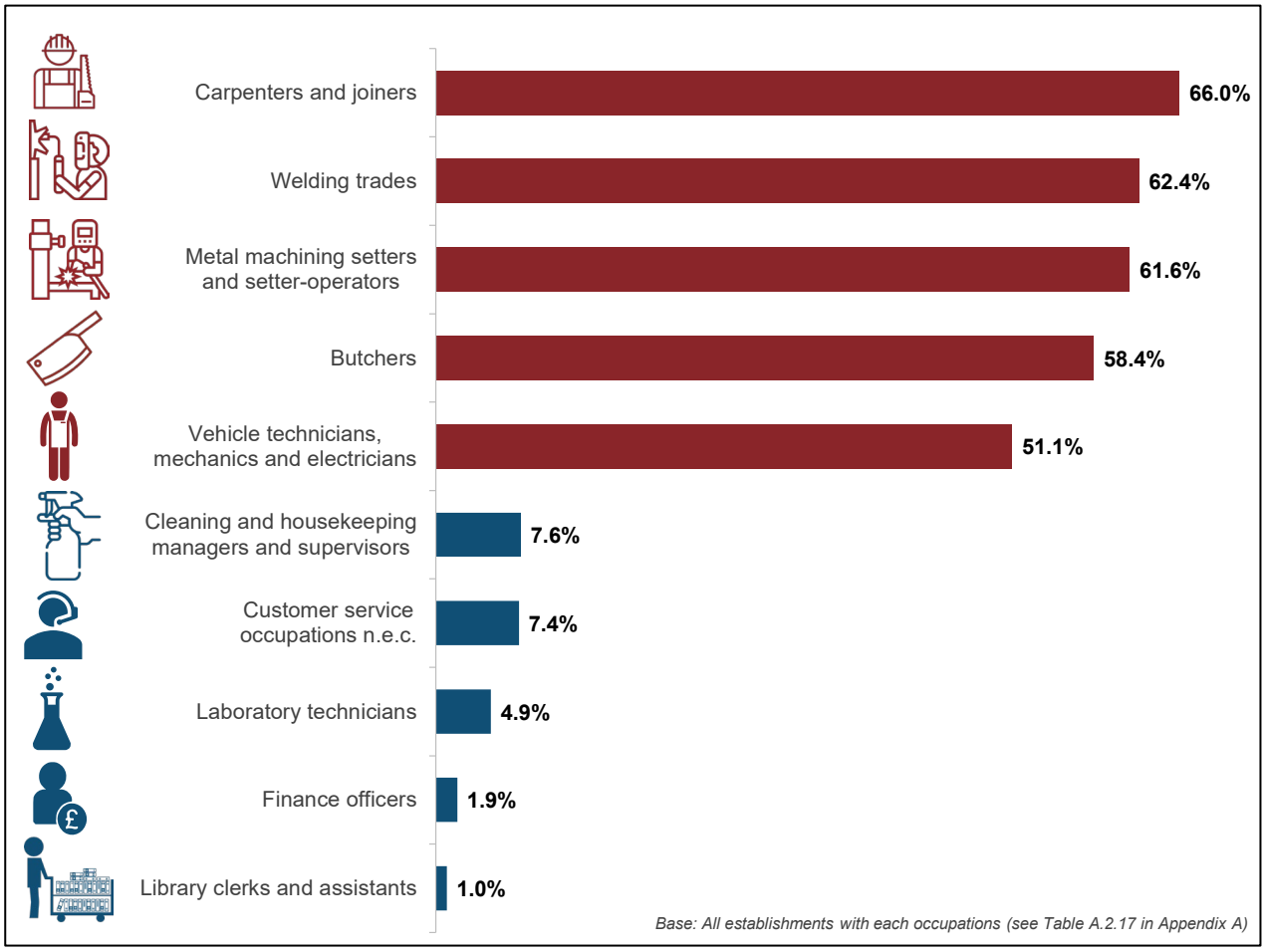
The specific job role with the highest volume of skill-shortage vacancies was care workers and home carers, with 15,300 skill-shortage vacancies, constituting 7.1% of all skill-shortage vacancies. This largely reflects the very high level of vacancies in this job role, as the proportion of care workers and home carers vacancies which are linked to skill-shortages is only slightly higher than average, at 27%.

The job role which made up the second highest volume of skill-shortage vacancies was nurses, with the 9,100 skill-shortage vacancies for nurses comprising 4.3% of all skill-shortage vacancies. Skill-shortage vacancies made up a higher proportion of nursing vacancies: over one-third (37%) of nurse vacancies were linked to skill shortages. In the light of the pivotal role played by both care workers and nurses in the response to COVID-19, the significant proportion of skill-shortage vacancies in these roles – with over one-in-ten skill-shortage vacancies relating to either care work or nursing – is of particular significance.

The job role with the highest skill-shortage vacancy density was classified as carpenters and joiners, for which two-thirds of vacancies were proving to be hard-to-fill due to skill-shortages (66%). Figure 2-10 below shows the five job roles with the highest and lowest skill-shortage vacancy densities, while Table A.2.17 in Appendix A provides the 10 specific job roles with the highest and lowest skill-shortage vacancy densities as well as the bases for these findings.[15]

[14] It is not possible to do conduct such granular analysis regarding skills gaps, as the survey grouped occupations at a one digit level in this section.
[15] The job roles that are provided in Figure 2-10 only include those for which we had a base size of 50.

Figure 2-10 The job roles with the highest and lowest skill-shortage vacancy densities



Skills needs by occupation within sector

The previous section looked at the density of skill-shortage vacancies by sector and occupation separately. Exploring the density of skill-shortage vacancies by occupations *within* sectors provides a more detailed picture of where employers struggle to recruit the skills they need.

Though care should be taken not to over-extrapolate because of the relatively small base sizes in places, Table 2-2 details the skill-shortage vacancy density by occupation within sector. Many of these pockets of skill shortages have proved to be persistent over time. The much higher than average density of skill-shortage vacancies for Skilled Trades has been evident in a number of sectors (such as Manufacturing, Construction and Primary Sector and Utilities) across the ESS series.

Skill-shortage vacancy density has also remained high for Machine Operatives in the Construction and Transport and Storage sectors; for Professional occupations in Construction, Manufacturing, Information and Communications, and Health and Social Work; and for Elementary Staff in Primary Sector and Utilities.

Table 2-2 Density of skill-shortage vacancies by occupation within sector[16]

Those where density was 40% and over

Those where density was 30% and over (but less than 40%)

Those where density was 22% and over (but less than 29%)

Those where density was less than 22%

	Total	Skilled Trades Occupations	Professionals	Machine Operatives	Caring, Leisure and Other Service Staff	Managers	Associate Professionals	Elementary Staff	Sales and Customer Services Staff	Administrative / Clerical Staff
Total	24%	48%	33%	30%	29%	22%	20%	18%	14%	12%
Manufacturing	36%	61%	36%	33%	**	27%	26%	12%	20%	12%
Construction	36%	43%	35%	37%	**	42%	43%	29%	*10%*	15%
Primary Sector & Utilities	31%	46%	*42%*	*27%*	**	**	*31%*	39%	**	*21%*
Business Services	27%	51%	33%	35%	40%	29%	23%	29%	13%	15%
Transport and Storage	26%	*54%*	**	35%	3%	*13%*	34%	14%	21%	9%
Health and Social Work	25%	24%	38%	*12%*	25%	21%	19%	10%	6%	6%
Arts and Other Services	25%	35%	9%	**	41%	12%	17%	14%	15%	9%
Information and Communications	23%	30%	36%	**	**	**	22%	**	9%	9%
Education	23%	*12%*	25%	**	29%	*8%*	26%	14%	**	8%
Wholesale and Retail	22%	54%	27%	25%	**	25%	27%	15%	14%	21%
Hotels and Restaurants	21%	45%	**	14%	17%	25%	18%	16%	10%	12%
Financial Services	13%	**	*32%*	**	**	**	11%	**	*16%*	10%
Public Administration	13%	**	25%	**	**	**	13%	**	**	10%

Base: *establishments with vacancies in each type of occupation, by sector* (see Table A.2.4 in Appendix A)
** denotes a figure not shown because of a low base size (fewer than 30 establishments)
Figures in italics denote a base size between 30 and 49 establishments

[16] For the volumes of skill-shortage vacancies by occupation and sector, please see Table A.2.3 , in Appendix A.

Some pockets of skill-shortage vacancies are either newly emerging, or have sharpened since 2017:[17]

- Skilled Trades in the Manufacturing sector (including job roles such as 'Machine setters / tool makers') is now the highest density pocket of skill-shortage vacancies, with over three-in-five (61%) vacancies in this sector proving hard-to-fill for skills related reasons (up from 40% in 2017);
- Professionals in Health and Social Work ('Doctors' and 'nurses'), which has increased to 38% from 32% in 2017 – a trend which is reflected in reports of recruitment difficulties within the NHS which have been acknowledged by NHS Improvement;[18] and
- Associate Professionals in the Construction sector ('Building and engineering technicians'), up to 43% from 27% in 2017.

There are a small number of occupations within sectors where the density of skill-shortage vacancies has fallen compared to 2017, most notably: Machine Operatives within Primary Sector and Utilities (from 48% to 27%), including job roles such as 'Agricultural machinery drivers'.

There were also some particularly marked occupational patterns within sectors regarding skills gap density, as shown in Table 2-3.

Skills gap density among Elementary Staff was the highest of all occupations, peaking within this group among staff in the Business Services (12.3%) and Manufacturing (10.7%) services. These are pockets of particularly high skills gap densities that are unique to 2019, having been much lower in findings during the 2017 ESS (6.6% and 5.9% respectively). In 2017, the highest skills gap density was found in Sales and Customer Services staff within the Primary Sector and Utilities sector (19.8%), which had fallen to below average skills gap density in 2019 (3.4%).

Table A.2.9 Table A.2.8 in Appendix A provide detailed breakdowns of skills gap density by occupation within country and sector respectively.

[17] Only 'pockets' where the total number of skill-shortage vacancies is over 1,000 are discussed in this section.
[18] NHS Improvement, *Quarterly performance of the NHS provider sector: quarter 4 2018/19* (2019)

Table 2-3 Density of skills gaps by occupation within sector (percentage of staff not fully proficient)[19]

Those where density was 10% and over

Those where density was 7% and over (but less than 10%)

Those where density was 4.5% and over (but less than 7%)

Those where density was less than 4.5%

	Total	Elementary Staff	Sales and Customer Services Staff	Machine Operatives	Skilled Trades Occupations	Associate Professionals	Administrative/clerical Staff	Caring, Leisure and Other Service Staff	Professionals	Managers
Total	4.5%	8.0%	6.4%	5.2%	5.1%	4.3%	3.9%	3.7%	3.0%	2.2%
Hotels & Restaurants	6.9%	8.7%	8.2%	6.3%	5.3%	3.1%	5.8%	4.6%	6.7%	3.0%
Manufacturing	5.8%	10.7%	5.1%	6.9%	5.4%	4.9%	3.6%	*7.9%*	2.4%	2.7%
Public admin.	5.3%	7.5%	2.3%	6.8%	8.2%	6.6%	5.9%	4.8%	5.0%	2.0%
Wholesale & Retail	5.1%	6.3%	6.4%	4.9%	5.4%	6.0%	4.0%	3.4%	3.2%	2.5%
Business Services	4.7%	12.3%	6.3%	4.8%	4.9%	4.7%	3.7%	4.4%	3.8%	1.9%
Primary Sector & Utilities	4.1%	4.9%	3.4%	7.0%	3.8%	4.1%	3.9%	6.1%	3.8%	1.4%
Information & Communications	4.0%	6.1%	9.7%	6.9%	4.9%	3.4%	3.7%	**	2.4%	2.2%
Construction	3.9%	9.1%	5.3%	4.9%	5.6%	3.6%	2.9%	**	2.2%	1.3%
Transport & Storage	3.9%	9.3%	5.7%	2.8%	4.2%	3.8%	3.9%	0.7%	3.4%	2.4%
Financial Services	3.8%	3.8%	5.8%	**	*0.6%*	4.5%	3.9%	**	1.5%	3.2%
Arts & Other Services	3.7%	6.2%	4.7%	**	4.0%	3.0%	3.0%	**	2.3%	1.6%
Health & Social Work	3.3%	3.2%	5.5%	1.4%	2.8%	2.2%	3.6%	3.6%	3.1%	2.6%
Education	2.8%	3.8%	7.5%	2.0%	2.4%	2.7%	3.5%	3.3%	2.1%	1.7%

Base: All establishments employing each occupation, by sector (see **Table** A.2.6 in Appendix A)
** denotes a figure not shown because of a low base size (fewer than 30 establishments)
Figures in italics denote a base size between 30 and 49 establishments

[19] For the volumes of skills gaps by occupation and sector, please see Table A.2.5 , in Appendix A.

3. Which skills are lacking among applicants and the workforce?

Chapter summary

A wide range of skills were lacking among applicants. Nine in ten (89%) skill-shortage vacancies were at least partially caused by a lack of technical or practical skills (similar to the 88% figure in 2017); specifically a lack of specialist skills or knowledge needed to perform the role was a partial cause of two-thirds (67%) of skill-shortage vacancies. Overall, 31% of skill-shortage vacancies were caused at least in part by a lack of digital skills.

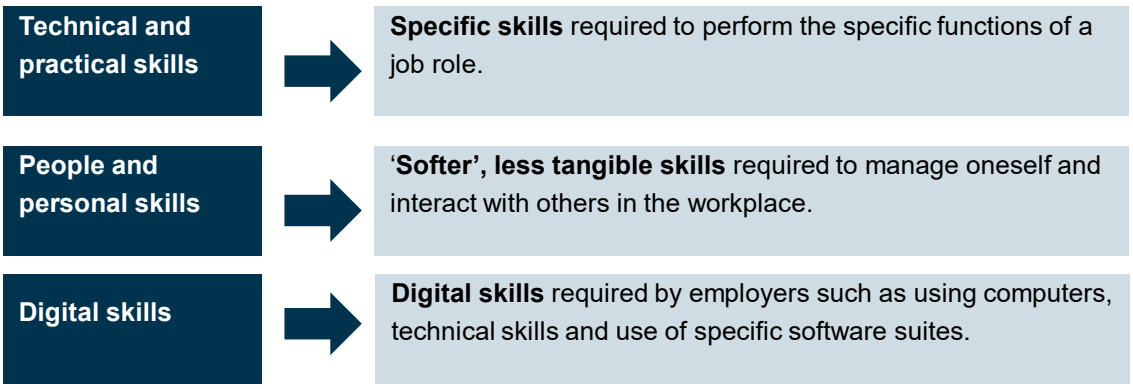
Seven in ten (70%) skill-shortage vacancies were at least partially caused by a lack of people and personal skills, lower than in 2017 (75%). The most common skill of this type lacking was the ability to manage one's own time and prioritise tasks. However, as with most people and personal skills, the proportion of skill-shortage vacancies at least partially attributed to this (47%) was lower than in 2017 (50%).

The skills lacking among employers within the existing workforce remained relatively consistent with findings in previous years, with skills relating to self-management remaining the most prevalent (72%). The most commonly lacking skills were the ability to manage their own time and to prioritise tasks (a factor in 60% of skills gaps), specialist skills or knowledge needed to perform the role (53%) and team working (50%). Digital skills were a factor in around two-fifths of skills gaps (38%), with the most common skill lacking being basic digital skills (47% of digital skills gaps related to basic digital skills).

When looking at sectors and occupations, there was unsurprisingly a wide variance in the kinds of skills lacking among applicants and the workforce. Some of these findings were more expected than others, such as sales and customer service skills being a key skills gaps among Sales and Customer Service occupations, while others were perhaps more surprising such as the extent to which complex analytical skills contributed to skill-shortage vacancies among Primary Sector and Utilities employers.

Introduction

This chapter focuses upon which skills are currently in demand among employers either because of a perceived lack of availability in the current labour market or within their current workforce. The skills that are considered can be broadly grouped into three categories:



The individual skills within these broader groupings are also grouped into smaller, more thematic groupings, as defined in Table B.1 Table B.2 Table B.3 in Appendix B

This chapter considers each skill and the level at which they can be considered lacking among applicants and the current workforce, before considering the profile of the same factors (internally and externally) by sector and occupation.

Skills lacking in the available labour market

Employers with skill-shortage vacancies were read a list of skills and asked, for each occupation in which they reported skill-shortage vacancies,[20] which skills were lacking. The specific skills that employers perceive to be lacking among applicants have been broadly grouped into the three categories outlined in the introduction to this chapter: technical and practical skills, people and personal skills and digital skills.

Technical and practical skills lacking among applicants

Looking first at technical and practical skills, 89% of skill-shortage vacancies were at least partially caused by a lack of technical or practical skills in applicants, similar to the 88% figure in 2017. Of the specific technical and practical skills lacking, a lack of specialist skills or knowledge needed to perform the role was the most commonly reported skill shortage. In line with 2017, this was mentioned as being at least a partial cause of around two-thirds of skill-shortage vacancies (67%).

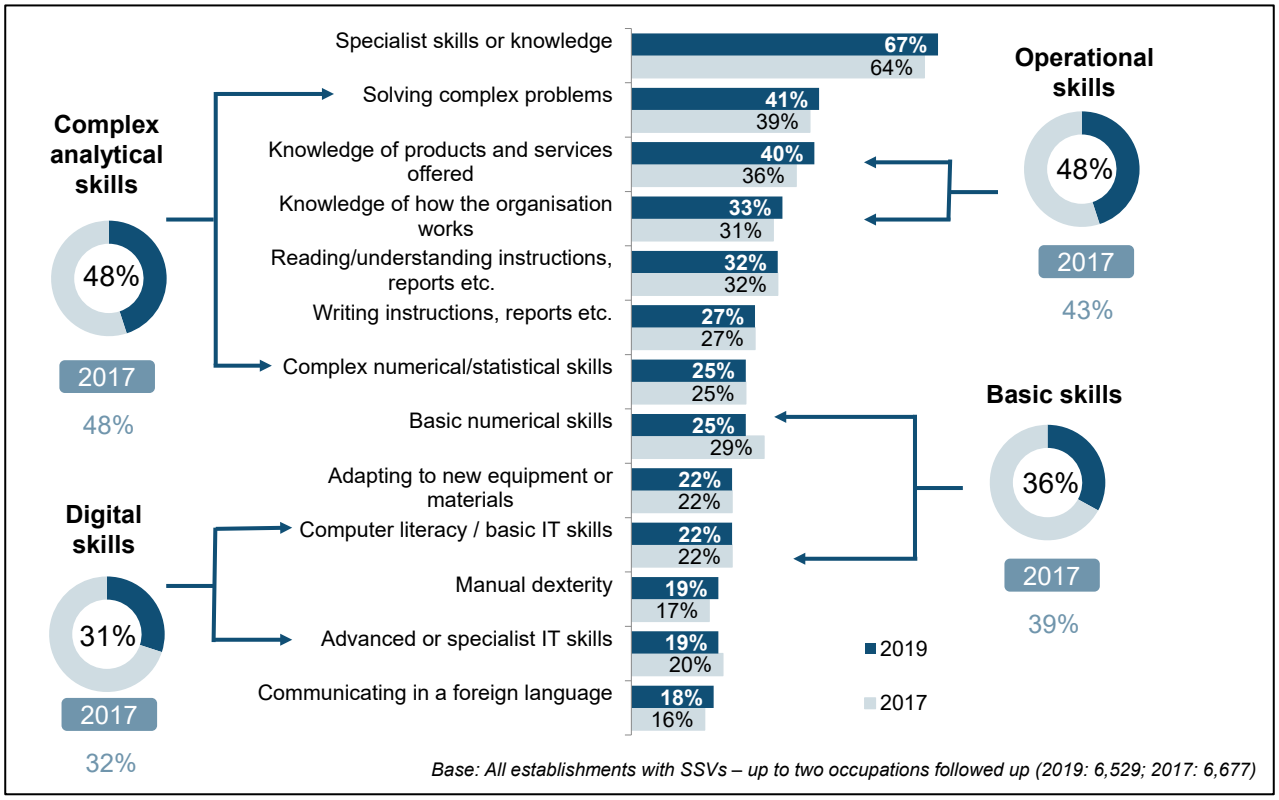
[20] Up to a maximum of two occupations chosen at random.

Among the other technical and practical skills lacking, it is possible to group some of the skills. A lack of ‘operational skills’, including knowledge of products and services offered and/or knowledge of how the organisation works, has become relatively more prevalent, being at least partially responsible for 48% of skill-shortage vacancies (compared with 43% in 2017). As in 2017, shortages of such skills were especially prevalent among employers in the Wholesale and Retail (at least partially responsible for 55% of skill-shortage vacancies), Information and Communications (55%) and Financial Services (54%) sectors. The results for Information and Communications and Financial Services represent increases from 39% and 42% respectively in 2017).

A lack of ‘complex analytical skills’ was also at least partly responsible for around half (48%) of skill-shortage vacancies, unchanged from the 2017 result. Within this grouping, the most prevalent was a lack of complex problem-solving skills (41%). A lack of complex analytical skills was most prevalent in the Public Administration and Information and Communications sectors, where they contributed to close to two-thirds of skill-shortage vacancies (64% and 63% respectively).

A lack of basic level skills, defined here as basic numerical or basic IT skills, contributed to more than a third of skill-shortage vacancies (36%), representing a slight decrease from 2017 (39%). These skills contributed to a larger proportion of skill-shortage vacancies for the following groups of employers: those in Northern Ireland (47%, compared to 40% in Wales and 35% among those in England); smaller employers (42% among employers with 2 to 4 employees compared to 35% among large establishments with 100 or more staff); and employers in Transport and Storage (46%) and Primary Sector and Utilities (42%).

Figure 3-1 Technical and practical skills found difficult to obtain from applicants



People and personal skills lacking among applicants

Turning to people and personal skills, 70% of skill-shortage vacancies were at least partially caused by a lack of people and personal skills. This represents a decrease from 2017 (75%). Technical and practical skill shortages were already more prevalent than people and personal skill shortages in 2017, and in 2019 this difference became more pronounced.

As was the case in previous waves of ESS, the most common people and personal skill lacking among applicants was the ability to manage one's own time and prioritise tasks – however the proportion of skill-shortage vacancies at least partially attributed to this has dropped since 2017 (from 50% to 47%).

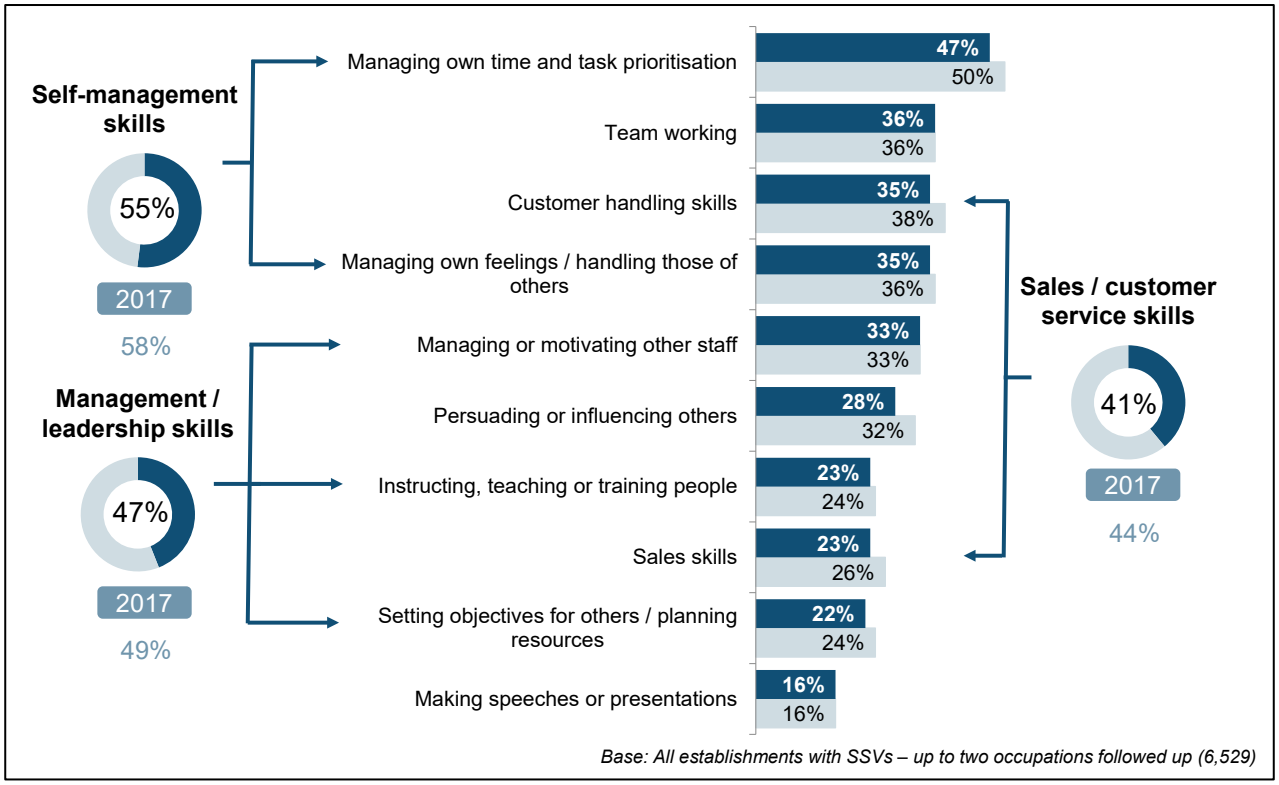
When time management and task prioritisation skills are combined with the ability to manage one's own feelings and handle the feelings of others – which was cited as a skill lacking for 35% of all skill-shortage vacancies – over half (55%) of skill-shortage vacancies were at least partly caused by a lack of 'self-management skills'. As in 2017, a lack of self-management skills was particularly prevalent for employers in the Hotels and Restaurants sector (a factor for 69% of all skill-shortage vacancies in the sector).

Around half (47%) of skill-shortage vacancies were at least partially attributable to a lack of 'management and leadership' skills, such as managing or motivating other staff, persuading and influencing others, and setting objectives and/or planning resources.

Again, in line with 2017, a lack of management and leadership skills was most prevalent for employers in the Hotels and Restaurants sector (57%).

Another group of people and personal skills that were commonly lacking were 'sales and customer skills' – such as customer handling skills and sales skills – which were cited as a cause of four-in-ten (41%) skill-shortage vacancies. As was the case in 2017, a lack of such skills was particularly prevalent in the Arts and Other Services (57%) and Wholesale and Retail (52%) sectors. There was a sharp drop in the proportion of Financial Services skill-shortage vacancies attributable to a lack of these skills (from 71% to 40%).

Figure 3-2 People and personal skills found difficult to obtain from applicants



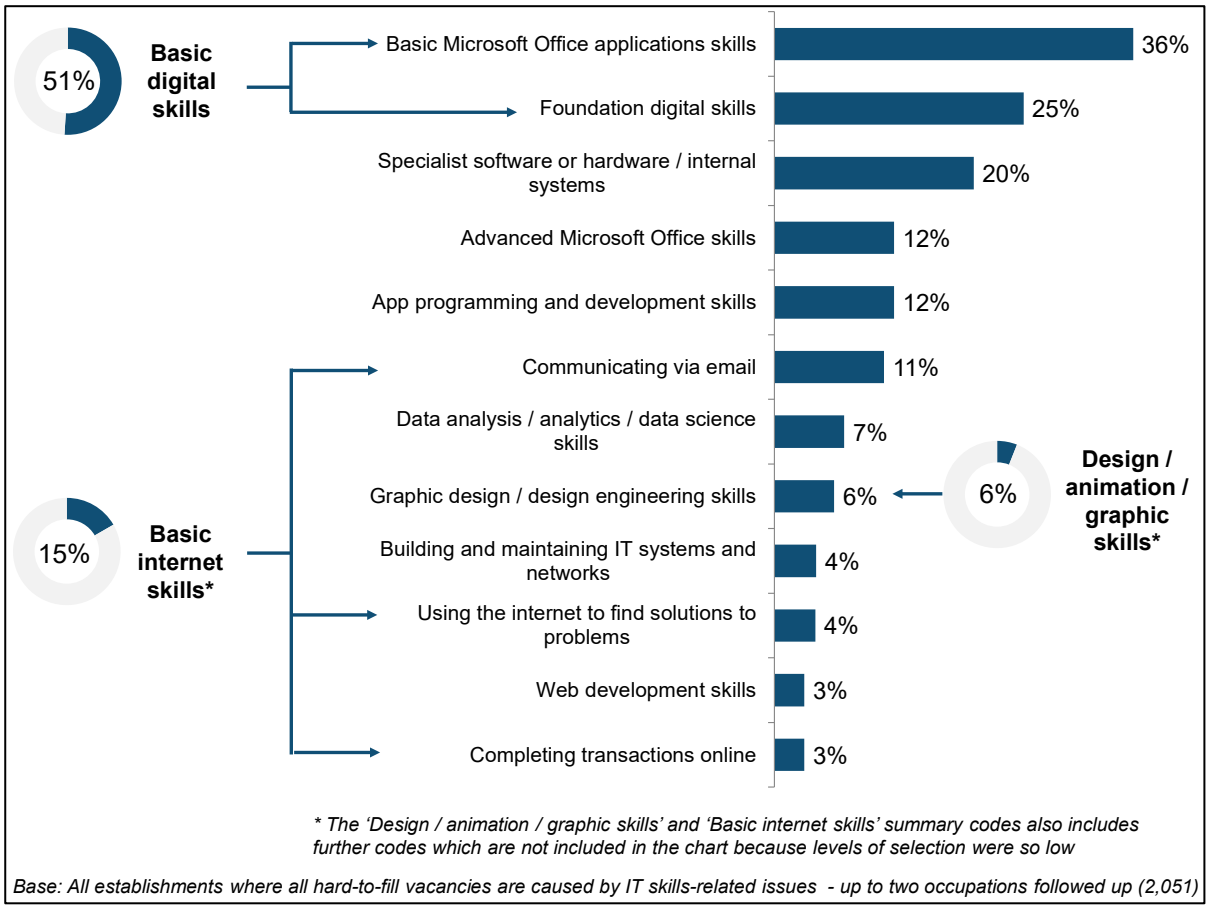
Digital skills lacking among applicants

For the first time in 2019, employers that reported difficulties in finding applicants with adequate digital skills (32% of employers with SSVs) were asked about the specific IT skills they found difficult to obtain from applicants. Respondents with skill-shortage vacancies caused by a lack of IT skills most commonly found it difficult to find applicants with foundational digital skills such as using basic Microsoft Office applications (36% of IT-related skill-shortage vacancies were caused by these issues) or doing things such as turning on devices and typing (25% of IT-related skill-shortage vacancies were caused by these issues). Grouped, these basic skills contributed to half of digital skill-shortage vacancies (51%). More advanced IT skills did contribute collectively to a significant

number of IT-related skills-shortage vacancies, although there was a wider spread of specific advanced IT skills that were contributing to these skills needs.

As Figure 3-3 demonstrates, a lack of more advanced IT skills was reported less commonly for each individual skill - for example, around an eighth (12%) of IT-related skill-shortage vacancies concerned advanced Microsoft Office skills or 'app' programming and development skills, and 7% related to a lack of data analysis, data analytics, or data science skills. These findings indicate that, insofar as a lack of IT skills was causing recruitment difficulties, it was generally a lack of fundamental skills which was most problematic, rather than a lack of more advanced skills.

Figure 3-3 Digital skills lacking among applicants to establishments with IT-related skill-shortage vacancies (unprompted)



Employers with 100-249 employees were no more likely to be affected by a lack of basic digital skills among applicants, but their IT skill-shortage vacancies were significantly more likely to be linked to more advanced IT skills such as 'app' programming and development (32% of IT-related skill-shortage vacancies among such employers were to do with 'app' programming and development, compared to 12% overall) and data analysis (13%, compared to 7% overall). This finding may warrant further research to understand why these employers experience greater challenges recruiting individuals with advanced IT skills. It may be for example that when employers reach this size, they

are more likely to require such skills, but find themselves in competition with larger employers – who less frequently cited struggling to recruit candidates with advanced IT skills such as app development (12%) and data analysis (3%).

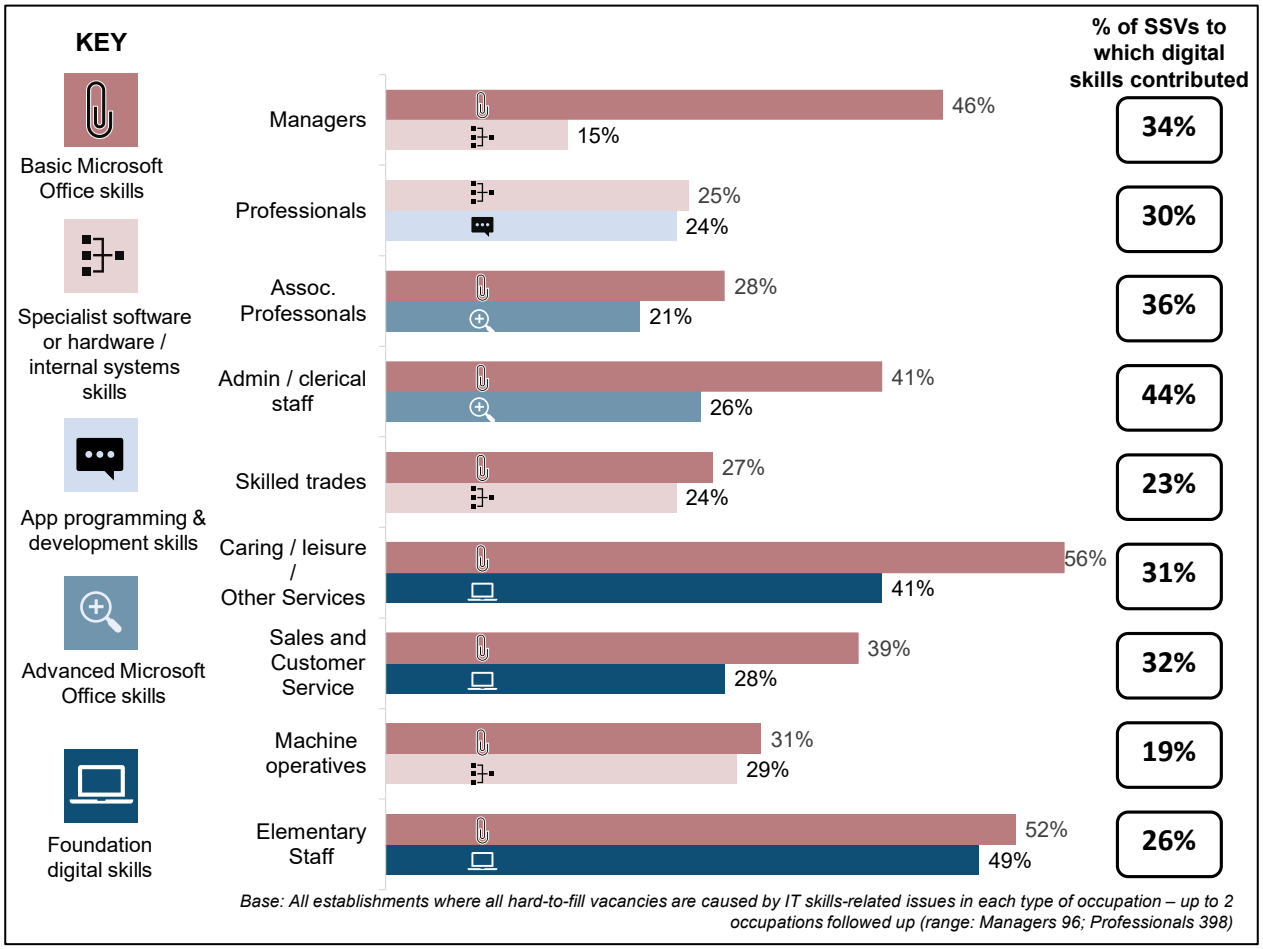
There were also some differences by sector. As might be expected, a lack of more advanced IT skills among applicants was more commonly reported as a problem by employers in the Information and Communications sector: over a quarter (26%) of IT-related skill-shortage vacancies in this sector related to 'app' programming and development skills (compared to 12% overall), and 15% related to building and maintaining IT systems (compared to 4% overall).

Certain sectors – potentially those where specialist sector- or business-specific IT systems are more prevalent – were more affected by a lack of specialist software, hardware or internal systems skills among applicants: for example 38% of IT-related skill-shortage vacancies in the Financial Services sector, and 35% of those in the Manufacturing sector, concerned specialist software, hardware or internal systems skills (compared with 20% overall).

While a lack of advanced IT skills among applicants was generally less frequent, employers were more likely to report a lack of advanced IT skills among applicants when recruiting for certain occupations. For example, nearly a quarter (24%) of IT-related skill-shortage vacancies in Professional occupations were related to 'app' programming and development skills, and over a quarter (26%) of IT-related skill-shortage vacancies in Administrative and Clerical occupations were related to advanced Microsoft Office skills (see Figure 3-4). At the same time, it is not simply service- or labour-intensive occupations which are affected by a lack of basic IT skills among applicants: nearly half (46%) of IT-related skill-shortage vacancies in Managerial occupations concerned basic Microsoft Office skills.

Figure 3-4 shows each occupation and the two most common digital skills (grouped as defined by the key in the figure) that contributed to IT-related skill-shortage vacancies among these occupations. The proportion of skill-shortage vacancies to which digital skills issues contributed overall is also provided to give a sense of the importance of digital skills for each occupation.

Figure 3-4 Digital skills lacking among applicants to establishments with IT-related skill-shortage vacancies, by occupation (unprompted)



In summary, where recruitment difficulties are being caused by a lack of IT skills amongst applicants, more basic IT skills such as basic Microsoft office skills or foundation digital skills were the most common contributor to IT-related skill-shortage vacancies, although a lack of advanced IT skills also contributed to the picture.

Types of skills lacking among applicants by sector

As discussed in the second chapter of this report, the four sectors with the highest density of skill-shortage vacancies were Construction, Manufacturing, Primary Sector and Utilities, and Business Services, with the Manufacturing sector registering a particularly notable increase in skill-shortage vacancy density since 2017. The broad skills characteristics lacking among applicants for these sectors, relative to the average across all occupations, is illustrated in Figure 3-5. The skills groupings used throughout this section are detailed in Table B.1 Table B.2 Table B.3 in Appendix B

In the Construction sector, skills relating to complex analytical skills and self-management were disproportionately likely to be lacking among applicants (56% and 64%, respectively, compared to respective figures of 48% and 55% overall).

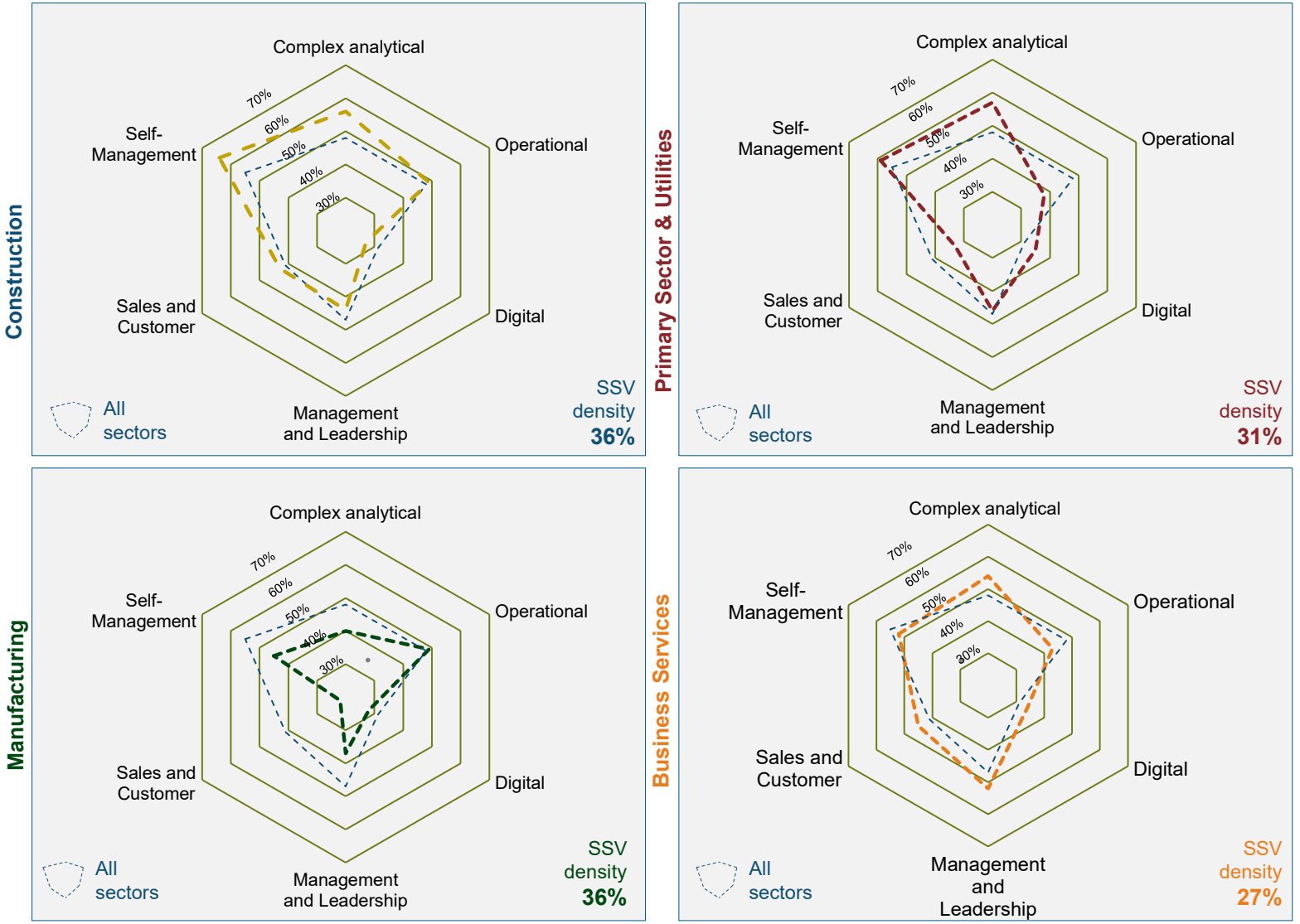
Despite the high skill-shortage vacancy density in the manufacturing sector, as shown in Figure 3-5, each broad skill grouping utilised was less likely to contribute to skill-shortage vacancies than among the average employer, with the exception of operational skills (49% for Manufacturing employers and 48% for all establishments) and basic skills (36% vs. 34%).[21] Looking at specific skills lacking amongst applicants, employers in the Manufacturing sector were substantially more likely to cite a lack of skills to do with adapting to new equipment or materials among applicants (35% of skill-shortage vacancies in the Manufacturing sector were linked to this, compared with 22% overall), which could be a reflection of the introduction of new technologies in the sector. It is also worth noting that employers in this sector were more likely to mention issues with communicating in a foreign language among applicants (28%, compared with 18% overall), which may be linked to the integration of Manufacturing companies into international supply chains. For more detailed information about the specific skills lacking amongst applicants in the Manufacturing sector, please see Table A.3.3 Table A.3.4 and Table A.3.5 in Appendix A.

For Primary Sector and Utilities employers, as shown in Figure 3-5, skills that were most prominently lacking among applicants included those grouped as complex analytical skills (57% compared to 48% among all establishments) and self-management skills (59% compared to 55% among all establishments). When considering skills at a more specific level than those shown in Figure 3-5 (which are shown in Table A.3.3 Table A.3.4 and Table A.3.5 in Appendix A), the areas of skill shortages become more clear again: in particular, employers linked skill-shortage vacancies to applicants lacking specialist skills or knowledge needed to perform specific roles (76%, compared with 67% overall). Employers in this sector were also substantially more likely than average to link skill-shortage vacancies to a lack of people and personal skills among applicants (75%, compared with 70% overall), again indicating a broad-based issue with a lack of skills among applicants in this sector.

A lack of complex analytical skills was a key contributor to skill-shortage vacancies in the Business Services sector (54% of skill-shortage vacancies in this sector were at least partly attributable to a lack of complex analytical skills). Skill-shortage vacancies in this sector were also more likely than average to be linked to skills relating to management and leadership (52%, compared with 47% overall).

[21] The 36% of SSVs due to lack of basic skills at the overall UK level is not a statistically significant difference from the 34% result for Manufacturing employers.

Figure 3-5 Types of skills lacking across sectors with the highest density of skill-shortage vacancies (SSVs)



Base: All establishments with SSVs for the given occupations – up to two occupations followed up (All: 6,529, Primary Sector & Utilities: 149, Manufacturing: 660, Construction: 339, Business Services: 1,231)

The types of skills lacking among applicants by occupation

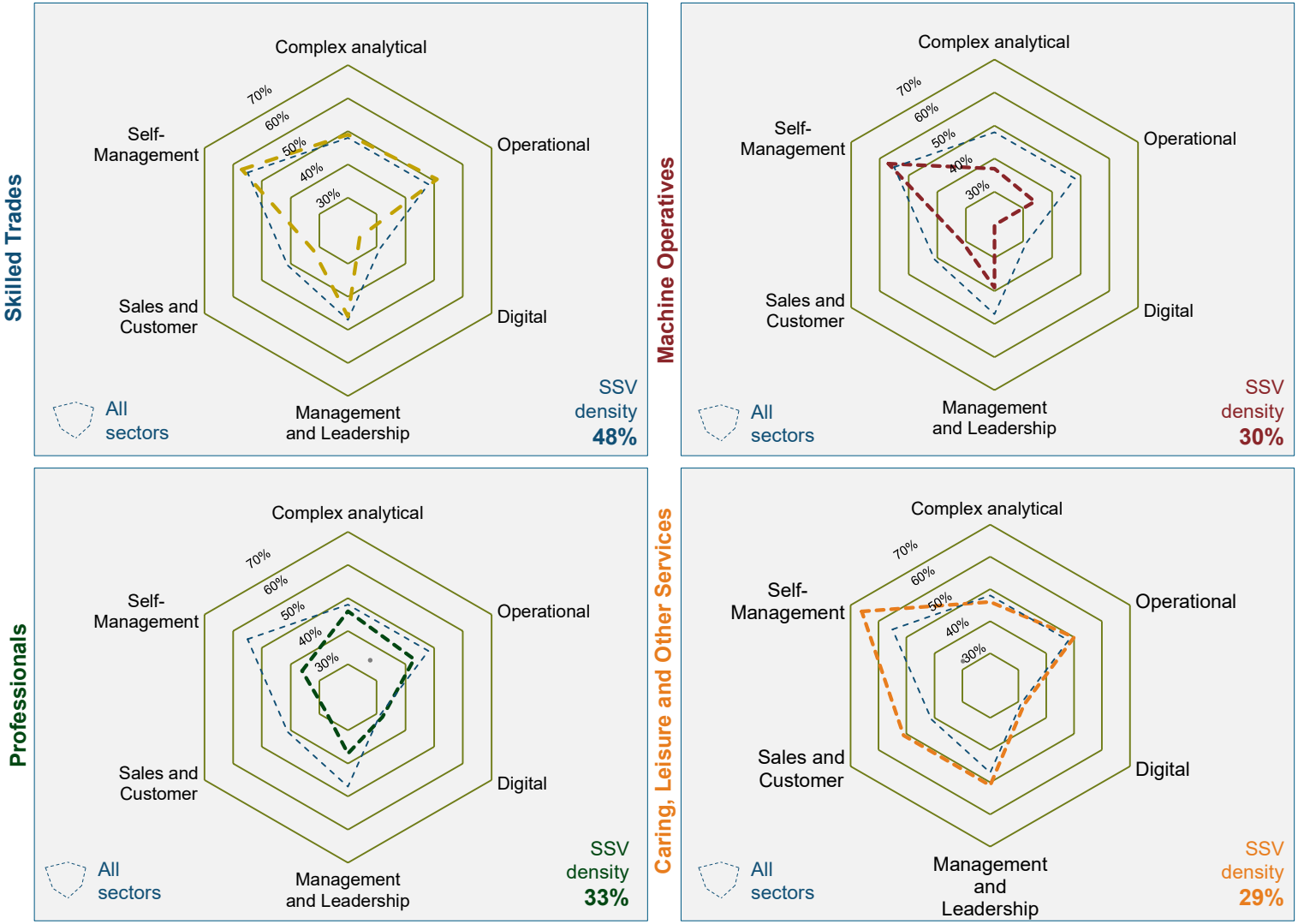
The four occupations in which employers experienced the most significant challenges in recruiting sufficiently skilled labour were Skilled Trades, Professionals, Machine Operatives, and Caring, Leisure and Other Services. The broad skills characteristics lacking among applicants for these occupations, relative to the average across all occupations, is illustrated in Figure 3-6. The skills groupings used throughout this section are detailed in Table B.1 Table B.2 Table B.3 in Appendix B

For Skilled Trades, the category with by far the highest density of skill-shortage vacancies, the types of skills lacking broadly demonstrated a similar pattern to the overall average when looking at the broad groupings of skills, albeit with less of an emphasis on digital skills and sales and customer service skills. Looking outside the skills groupings shown in Figure 3-6, applicants to Skills Trades positions were disproportionately reported to be lacking skills such as specialist skills or knowledge needed to perform the role (a lack of such skills contributed to 77% of skill-shortage vacancies in Skilled Trades roles, compared with 67% across all skill-shortage vacancies), and manual dexterity (38%, compared with 19% overall). For more detailed information about the specific skills lacking in Skilled Trades occupations, please see Table A.3.6 Table A.3.7 Table A.3.8 Appendix A.

Across the three other occupational categories, a similar pattern is demonstrated, with applicants less likely than average to lack skills in the broad skill categorisations. The one exception to this is applicants to Caring, Leisure and Other Service roles, where applicants were disproportionately likely to lack sales and customer service skills (a lack of such skills contributed to 51% of skill-shortage vacancies in Caring, Leisure and Other Service roles, compared with 41% across all skill-shortage vacancies) and self-management skills (66%, compared with 55% overall).

Table A.3.2 to Table A.3.8 in Appendix A provide a full breakdown of the skills lacking in the available labour market, by country, occupation and sector.

Figure 3-6 Types of skills lacking across occupations with the highest density of skill-shortage vacancies (SSVs)



Base: All establishments with SSVs for the given occupations – up to two occupations followed up (All: 6,529, Skilled Trades: 1,607, Machine Operatives: 558, Professionals: 1,222, Caring, Leisure and Other Services: 1,018)

Skills lacking internally

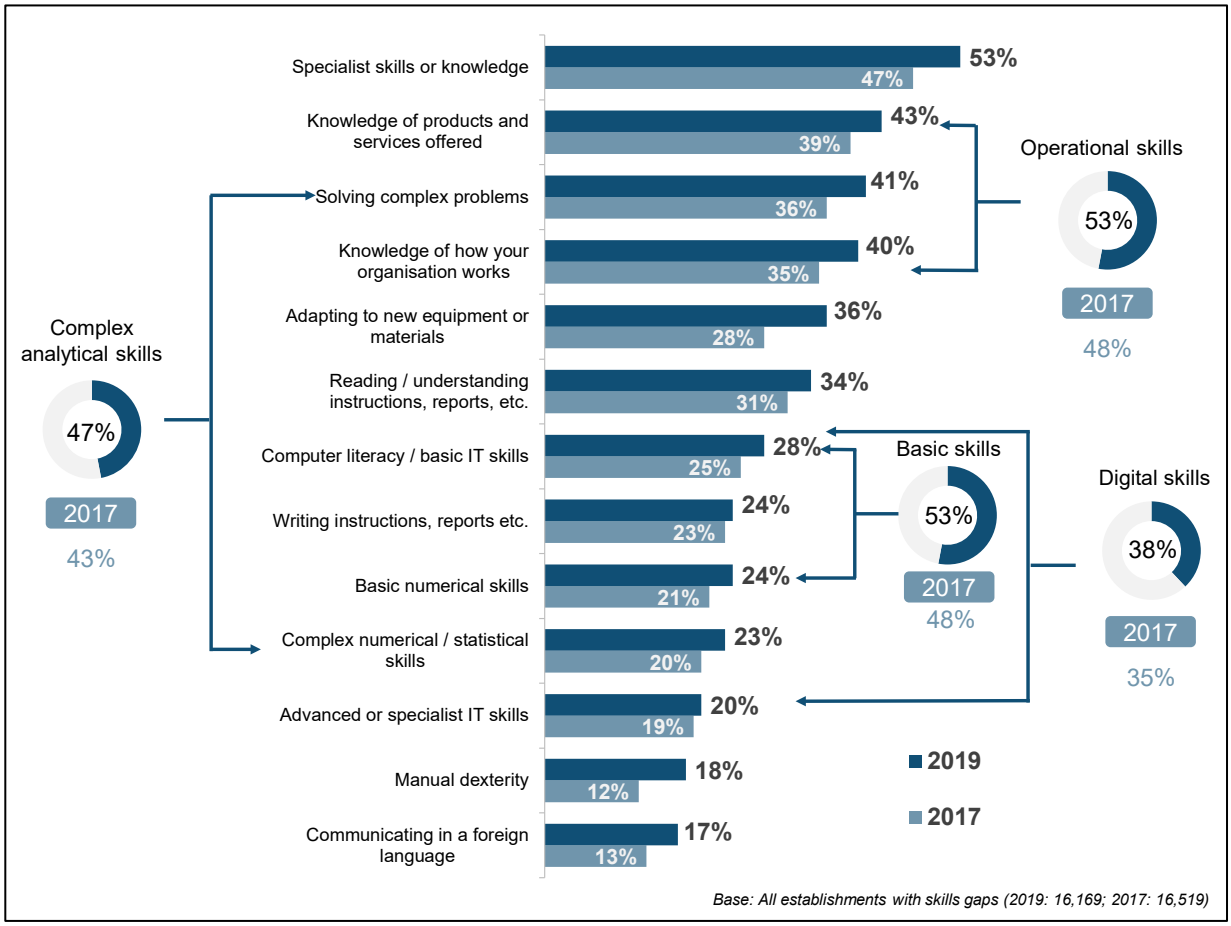
This section examines the specific skills that employers felt were lacking among their workforce. Employers with skills gaps were asked, for up to a maximum of two occupations in which they reported skills gaps, which skills were lacking. The specific skills that were put to employers as potential causes of a lack of proficiency in the workforce were the same as those utilised in the previous analysis of skills lacking among applicants, which were outlined in the introduction to this chapter: technical and practical skills, people and personal skills and digital skills.

Technical and practical skills lacking internally

At an overall level, it was generally the case that each technical and practical skill listed in Figure 3-7 contributed to a greater proportion of skills gaps than they had in 2017.

A deficiency in specialist skills or knowledge required to perform the job role was a contributing factor to around half of all skills gaps (53%), rising to around seven in ten within the Financial Services and Manufacturing sectors (73% and 65% respectively).

Figure 3-7 Technical and practical skills lacking among staff with skills gaps



As in 2017, a lack of knowledge of a company's products, services and internal processes was also a common cause of skills gaps (43%, compared to 39% in 2017). A need to improve such operational skills[22] contributed to more than half of all skills gaps (53%, rising to 67% in the Financial Services sector). Operational skills contributed to a greater proportion of skills gaps in 2019 (53%) than in 2017 (48%).

A lack of proficiency in complex analytical skills contributed to just under half (47%) of all skills gaps, a slight increase from 2017 (43%), though this skills gap was more common among establishments in the Information and Communications (62%), Financial Services (57%), and Health & Social Work (56%) sectors.[23]

Around two-fifths of skills gaps (38%) involved a deficiency in digital skills, which includes both basic computer literacy and IT skills (28%) as well as more advanced or specialist IT skills (20%). The proportion of skills gaps that can be at least partly attributed to a lack of proficiency in digital skills was higher than in 2017 (35%).

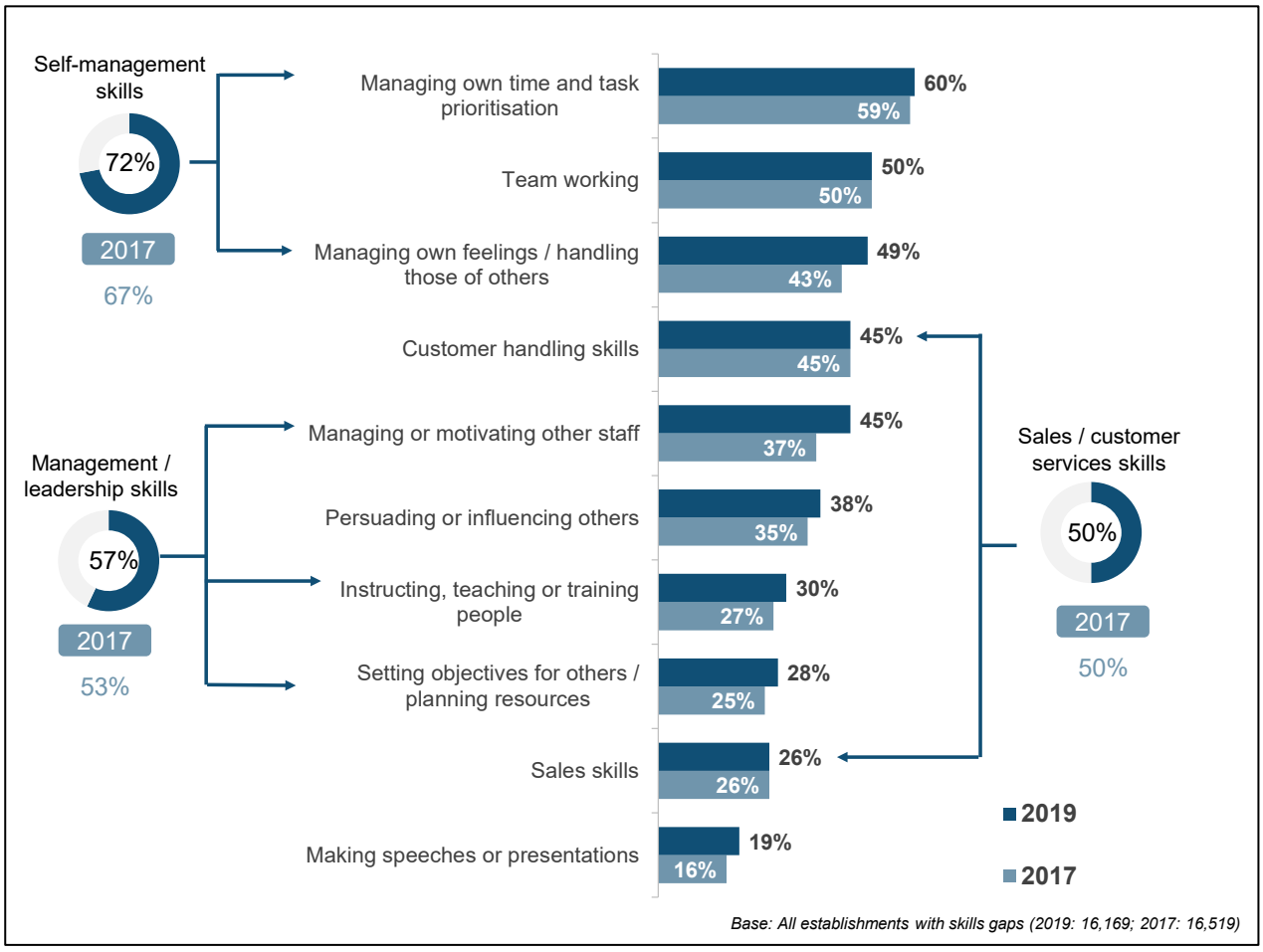
[22] Operational skills were defined as knowledge of products and services offered and knowledge of how your organisation works.
[23] Complex analytical skills included specialist skills or knowledge needed to perform the role and solving complex problems requiring a solution specific to the situation.

Table A.3.9 Table A.3.16 in Appendix A present the technical and practical skills lacking in the workforce by occupation, nation and sector.

People and soft skills lacking internally

The most common people and soft skills that were identified as causing skills gaps in 2019 were broadly in line with findings in 2017, with the most common such skill lacking relating to an inability to manage their own time or prioritise their own tasks (60%). This cause of skills gaps, alongside the ability to manage one's own feelings and handle the feelings of others, which contributed to half of all skills gaps (49%), means that approaching three-quarters of skills gaps were at least partially caused by a lack of what can broadly be categorised as 'self-management skills' (72%). A lack of self-management skills was a contributing factor to a higher proportion of skills gaps in the Health & Social Work sector (80%).

Figure 3-8 People and soft skills lacking among staff with skills gaps



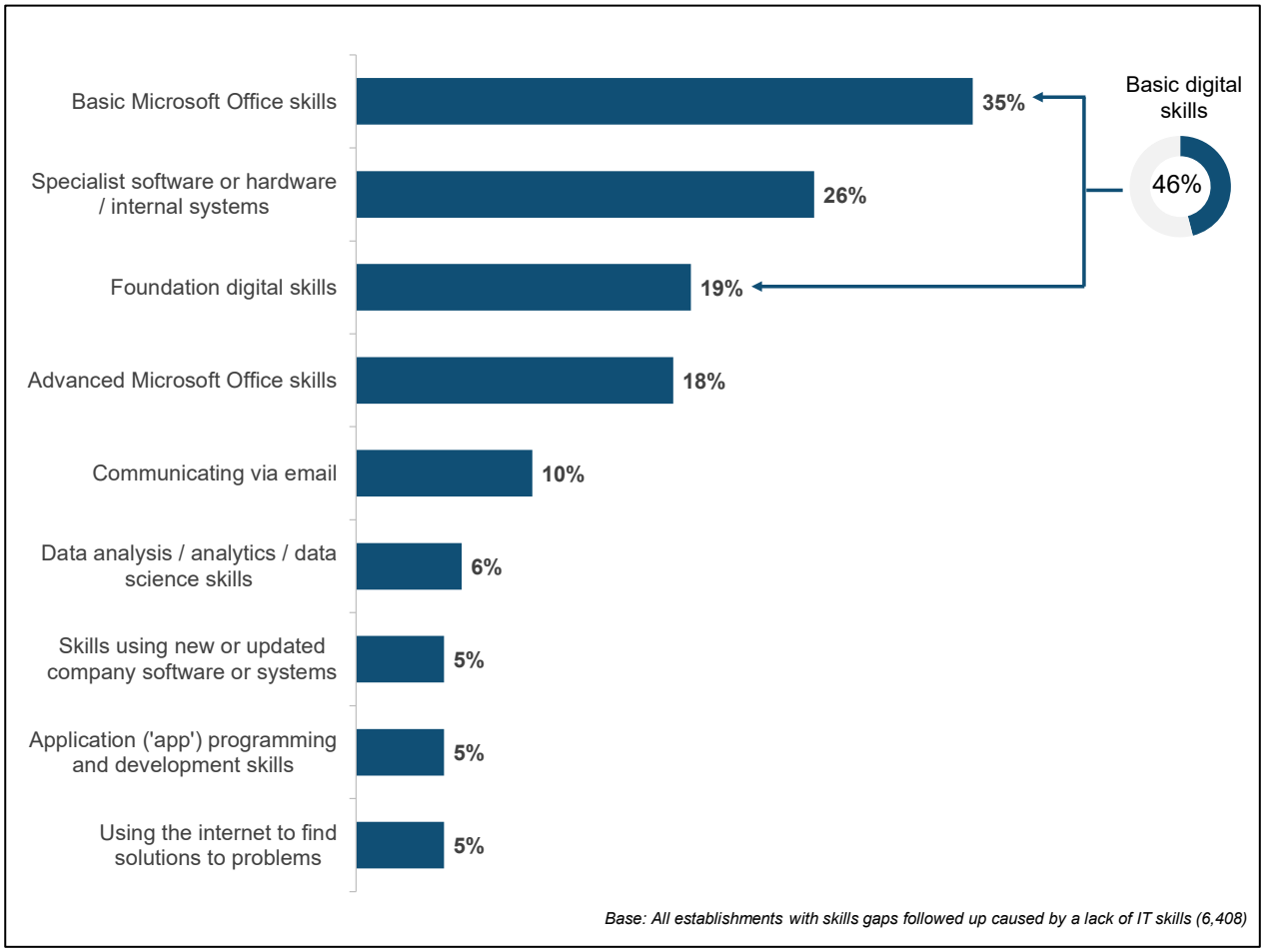
A lack of management and leadership skills contributed to around six in every ten skills gaps (57%), though to a higher proportion of gaps in Information and Communications (75%) and Health and Social Work (69%). As in 2017, sales and customer service skills were lacking for around half of all staff with skills gaps (50%).

IT skills lacking internally

For the 2019 iteration of ESS, employers that identified skills gaps in their workforce related to IT skills were asked which specific IT skills were causing skills gaps in their workforce (8% of all employers and 38% of all employers with skills gaps). The most common IT related skill that needed improving in this group was basic Microsoft Office skills, which was a factor in a third of IT-related skills gaps (35%). Other commonly expressed IT related skills that needed improving included specialist software or hardware and internal systems (26%), foundational digital skills (19%) as well as advanced Microsoft Office skills (18%). Skills that were considered to be basic digital skills (which included foundation digital skills and basic Microsoft Office skills) were a factor in almost half (46%) of IT-related skills gaps. A list of the specific IT skills that were factors in IT skills gaps can be found in Figure 3-9.

When considering this by sector, foundation digital skills were a factor in a higher proportion of IT-related skills gaps within the Hotels & Restaurants (28%) and Wholesale & Retail sectors (28%). Issues relating to specialist software or hardware and internal systems contributed towards skills gaps in around three-fifths of IT skills gaps in the Public Administration (60%) and two-fifths for the Health and Social Work (43%) sectors, both levels far above the average.

Figure 3-9 IT skills lacking among staff with skills gaps among establishments with skills gaps caused by a lack of IT skills



Profile of skills lacking in high skills gap density sectors

Figure 3-10 demonstrates the profile of skills contributing to skills gaps at the overall level as well as in the three sectors with the highest skill gap densities. As demonstrated, the overall profile of skills lacking in the workforce was relatively similar to the overall profile in 2017, although there has been a slight increase in complex and analytical skills gaps in 2019. The skills groupings used throughout this section are detailed in Table B.1 Table B.2 Table B.3 in Appendix B

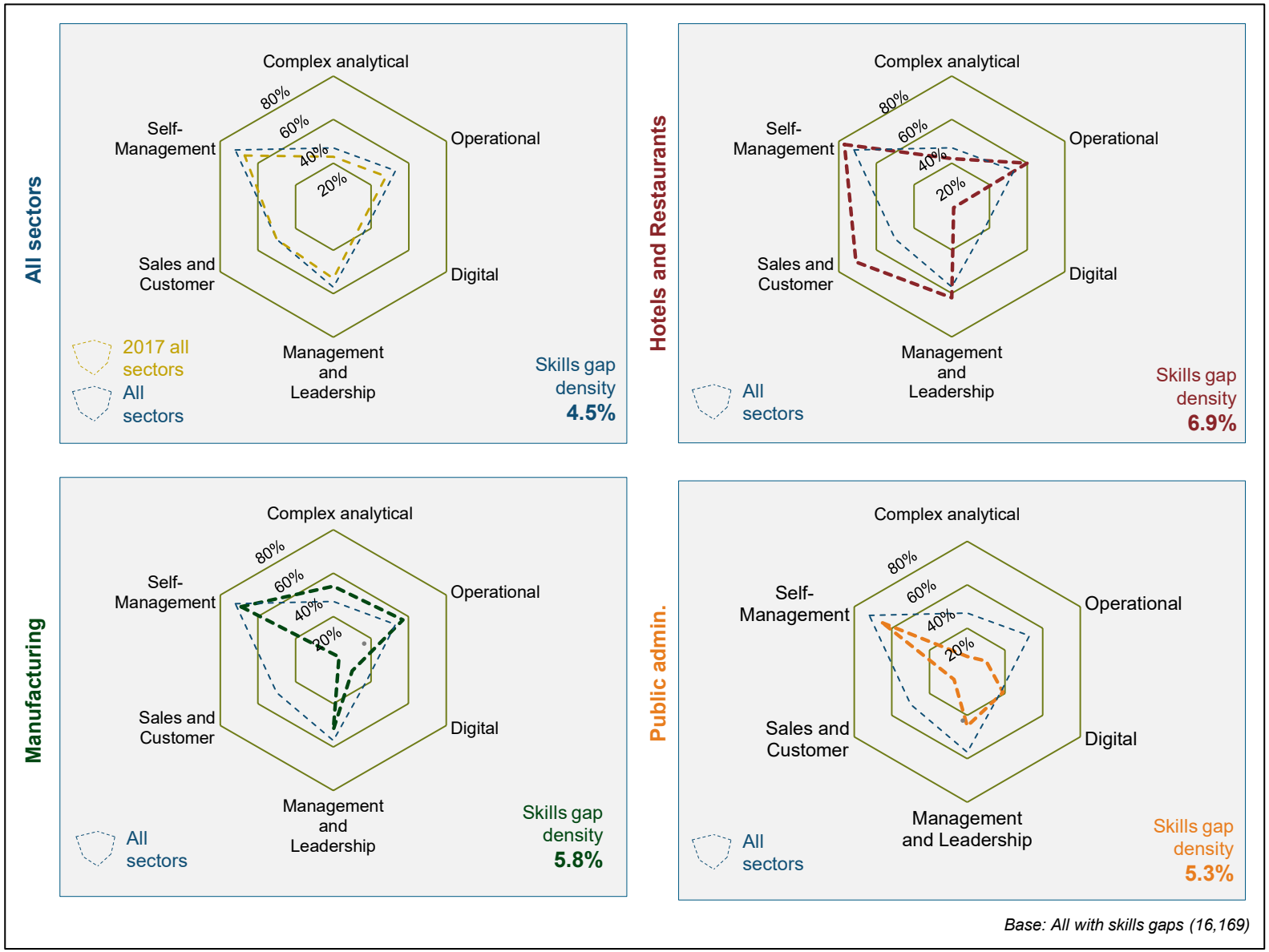
Within the Hotels and Restaurants sector, a far higher proportion of skills gaps were related to sales and customer skills (71%) and a slightly higher proportion were caused by management and leadership (62%) than the average (50% and 57% respectively). Skills gaps in this sector were far less likely to have been caused by digital skills (21%) compared to the overall picture (38%), however.

In the Manufacturing sector, a greater proportion of skills gaps were caused by complex and analytical (54%) and operational related skills (57%) compared to the average (47%

and 53% respectively), but far fewer skills gaps were caused by sales and customer related skills (17%) than the average (50%).

The Public administration sector had a higher than average skills gap density but the skills lacking in this sector were spread out more widely and more thinly between each skill Indeed, fewer skills gaps were caused by the areas shown in Figure 3-10, except for digital skills, this being a result of each person lacking proficiency being described as having fewer skills gaps. One specific skill where skills deficiencies contributed to a higher proportion of skills gaps than average (although not shown in Figure 3-10), was adapting to new equipment or materials (47% compared to 36%), as shown in Table A.3.10 Appendix A.

Figure 3-10 Skills lacking in sectors with highest density of skills gaps



Base: All with skills gaps (16,169)

Profile of skills lacking in high skills gap density occupations

The profile of the skills lacking among the three occupational groups with the highest densities of skills gaps (Elementary, Sales and customer Services, and Machine Operatives) is shown in Figure 3-11.

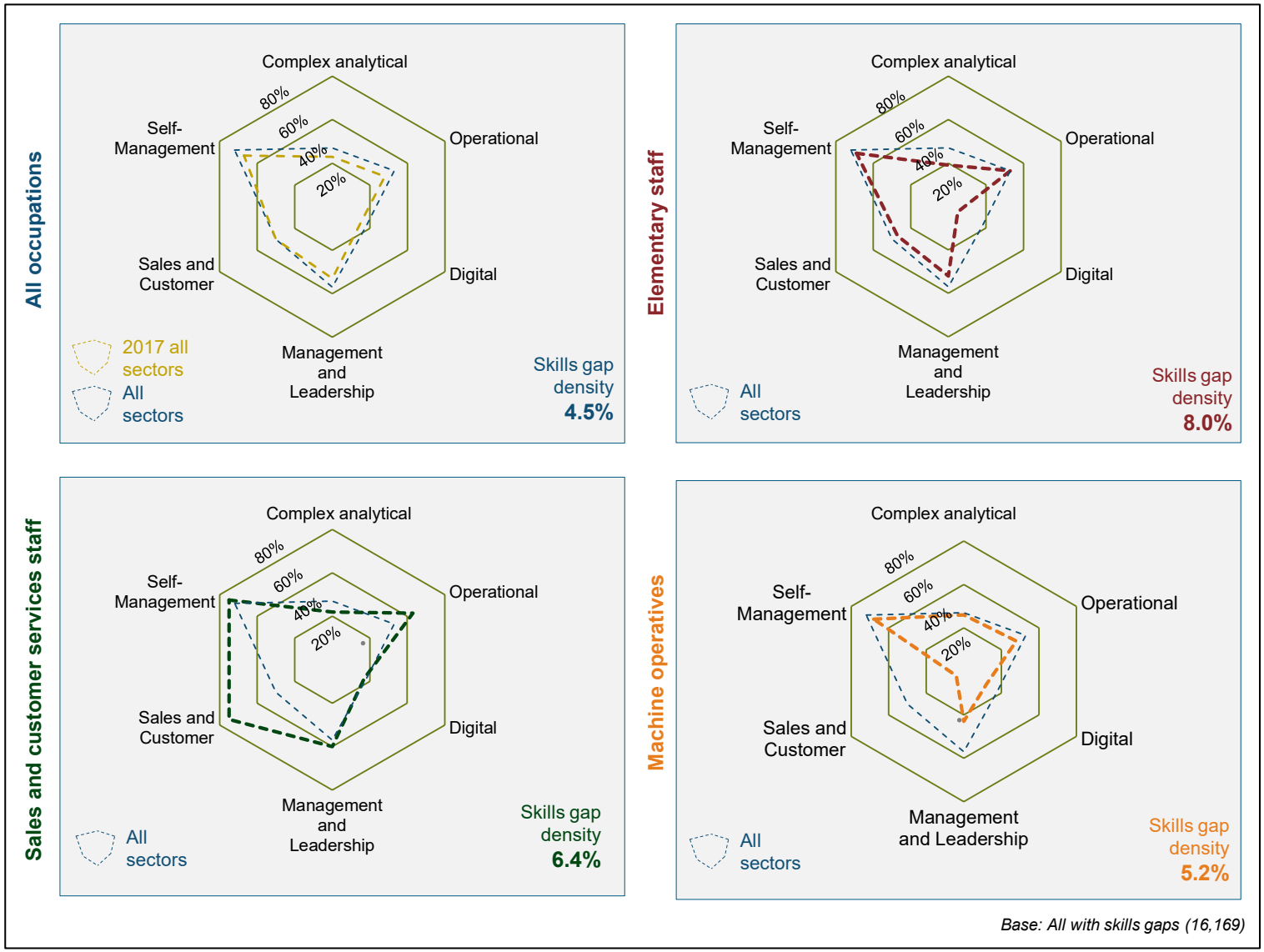
The profile of skills lacking within occupations classified as Elementary Staff was broadly similar to the profile of skills lacking overall, although a notably lower proportion of skills gaps related to Complex analytical skills (39%) and Digital skills (25%) than the overall profile (47% and 38% respectively).

Predictably, deficiencies in sales and customer skills contributed to the greatest proportion of skills gaps among employees in Sales and customer service occupations (75%), at a rate far above the overall picture (50%). Self-management also contributed to a large proportion of skills gaps for these occupations (75%), albeit this was more in line with the overall average (72%).

Despite occupations classified as being Machine Operatives having a higher than average skills gap density, these skills gaps were less consistently identified as being caused by the factors displayed in Figure 3-11 than among all occupations overall, perhaps unsurprisingly most notably regarding sales and customer skills (24% compared to 50% overall).

Employees in high-skill occupations (Managers, Professionals and Associate Professionals) were more likely than average to be deficient in management and leadership skills (72% when grouped compared with 57% overall). Complex-analytical skills were more commonly identified as areas needing improvement among high-skill and middle-skill occupations (57% and 53% respectively) than the overall average (47%). Operational skills contributed to the highest proportion of skills gaps among staff in Service-intensive professions (60% compared to the overall average of 53%).

Figure 3-11 Skills lacking in occupations with highest density of skills gaps



4. Addressing skills shortages

Chapter summary

The most common cause of skills gaps remained factors that can be considered transient namely because individuals were new to the role or because their training was only partially completed (79%), although only in a minority of cases were skills gaps caused exclusively by transient factors (20%). Other key causes included steps taken to positively transform a business creating skills gaps (42%) and staff lacking motivation (38%).

The most common actions taken to overcome skill-shortage vacancies were increasing advertising or recruitment spend (37%) or using new recruitment methods or channels (37%). In comparison, establishments tried to overcome skills gaps in their workforce most often by increasing training activity (64%) and by increased supervision of staff (55%). Perhaps unsurprisingly, employers tried to rectify skill-shortage vacancies most often through looking externally, to their recruitment methods, while they tried to address skills gaps by looking to their internal processes such as training and their management of staff.

When considering the factors that employers looked for when recruiting (such as qualifications and work experience) those with skill-shortage vacancies tended to place greater importance on each potential factor than those that did not have skill-shortage vacancies. This was particularly true regarding relevant work experience (17 percentage point difference), vocational qualifications (12 percentage point difference) and having a degree or degree-equivalent qualification (8 percentage point difference).

Similarly, in terms of recruitment methods and strategies used to fill vacancies, employers with skill-shortage vacancies were more likely to have used each recruitment method in order to fill vacancies than employers that had vacancies, none of which were classified as hard to fill due to skill-shortages. This was also the case for employers with skills gaps compared to those without them, although the association was less strong.

In much the same way, it was generally the case that employers with skills needs were more likely to have engaged with national skills policy initiatives than those without skills needs, including taking on apprentices, trainees or expressing interest in offering work placements through the T-Levels scheme.

Introduction

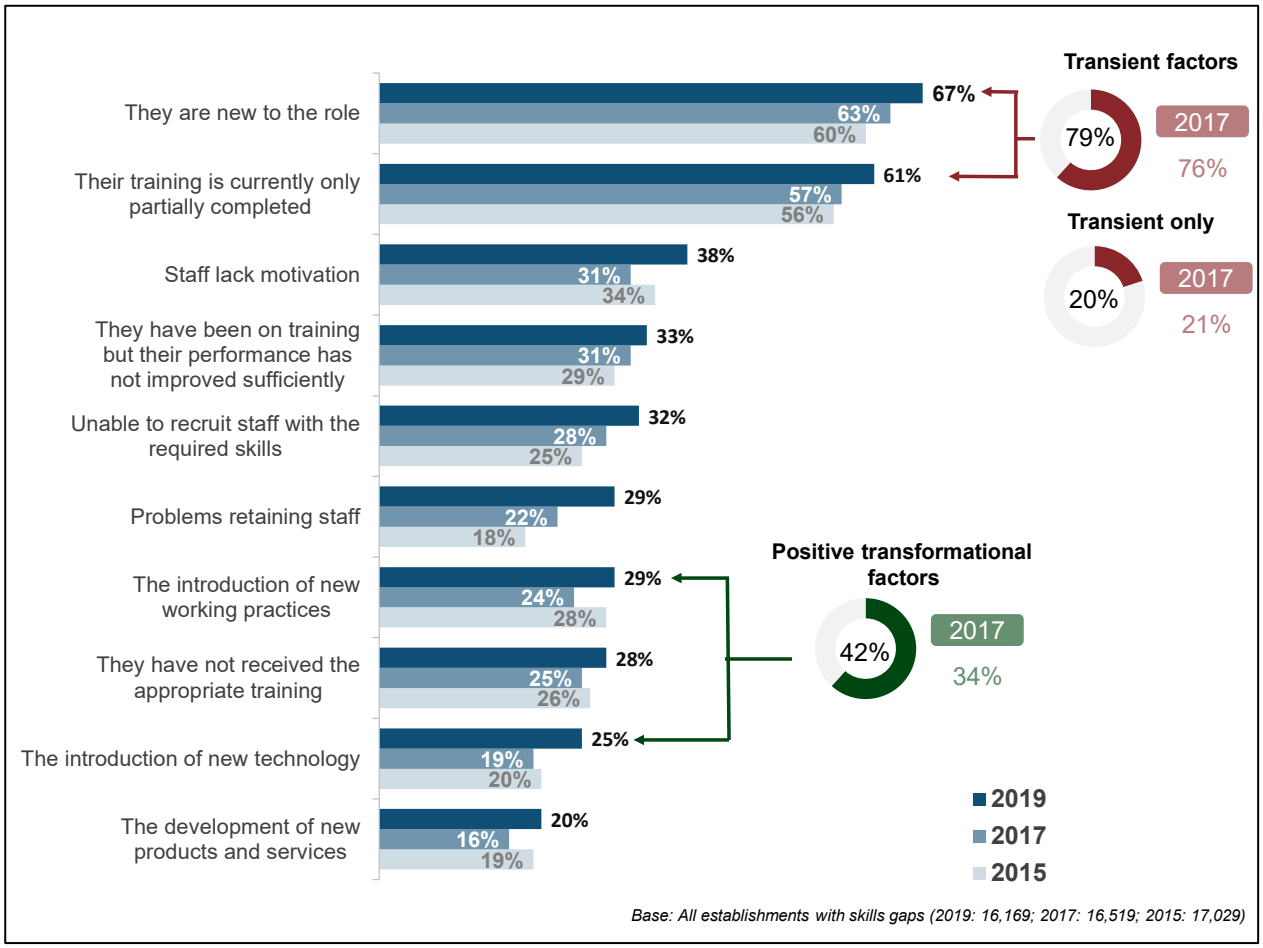
This chapter first considers the causes of skills gaps within the workforce, in order to provide context about the steps taken by employers to address skills shortages, both among their current staff and among prospective applicants to vacancies. The chapter also covers recruitment, particularly considering whether the recruitment methods and strategies used by employers and the profile of skills and qualifications that employers look for among applicants vary based upon whether an employer has current skills deficiencies. Finally, the rate at which employers are engaging with national skills policy initiatives is also considered, again split out by employers with skills needs and those without them.

Causes of skills gaps

The most common causes of skills gaps among the existing workforce were that individuals were new to the role which was a contributing factor to two-thirds of skills gaps (67%) or that their training was only partially completed (61%). These may be classified as transient skills gaps as they are factors which would be expected to ease naturally over time: they contributed to four in five skills gaps (79%), although were the exclusive cause in one in five cases (20%). These transient factors contributed to slightly more skills gaps than in 2017 (76%), although were the exclusive cause of slightly fewer (21%). Other common causes of skills gaps included staff lacking motivation (38%), the fact that staff had been on training but their performance had not improved sufficiently (33%) and employers being unable to recruit staff with the required skills (32%). The causes of skills gaps are presented in Figure 4-1.

The profile of these causes of skills gaps, in terms of the ranking of causes from most common to least common, was broadly similar in 2019 to the profile in 2017 and 2015. However, all causes of skills gaps were mentioned by more employers in 2019 than in 2017 and 2015. The most marked increases compared to 2017 were regarding problems retaining staff (an increase of 7 percentage points) and the introduction of new technology causing gaps (an increase of 6 percentage points), with most causes having increased by around four or five percentage points.

Figure 4-1 Main causes of skills gaps (prompted)



A greater proportion of skills gaps were caused exclusively by transient factors in in Northern Ireland (25% compared with 20% in England and Wales) and among establishments in the Construction (29%), Arts & Other Services (26%) and Public Administration (25%) sectors. A smaller proportion of skills gaps were caused entirely by transient factors in the Transport and Storage sector, with only one in seven skills gaps (14%) caused entirely by employees being new to the role or their training being incomplete.

Another common cause of skills gaps was staff lacking motivation, a factor in around two-fifths of skills gaps (38%), rising to half of skill gaps among Elementary Staff (51%).

Issues related to training were also a prominent cause of skills gaps. Staff having received training but their performance not sufficiently improving was a factor in a third of all skills gaps (33%), while over a quarter of all skills gaps were caused at least in part because staff had not received the appropriate training (28%). In both cases, skills gaps within the Primary Sector and Utilities sector were more likely to be caused in part by these training related issues (42% and 33% respectively).

Around a third (32%) of skills gaps were caused at least in part by an inability to recruit staff with the required skills, an increase on the proportion in 2017 (28%). There was no clear correlation between sectors with particularly high densities of skill-shortage vacancies and sectors in which a high proportion of skills gaps were caused to some extent by an inability to recruit staff with the required skills.

There are some workplace activities such as introducing new technology or working practices which, although a cause of skills gaps in the short-term, represent a positive tendency in that it indicates employer investment in future growth. In 2019 42% of skills gaps were caused by these sorts of factors, a significant increase compared with 34% in 2017. The introduction of new working practices contributed to 29% of skills gaps (an increase from 24% in 2017). Similarly, the proportion of skills gaps caused by the introduction of new technology (25%, up from 19%), and the proportion of skills gaps caused by the development of new products and services (20%, up from 16%) have also increased between 2017 and 2019. The introduction of new technology was a more common contributing cause of skills gaps in Wales (30%) than in England (25%), and in both nations this was more common than in Northern Ireland (13%).

These increases in potentially 'positive' causes of skills gaps, when combined with the increase in number of transient skills gaps, may somewhat offset concerns about the rise in number of skills gaps overall. However, it is important to note that there was no difference in terms of the proportion of skills gaps that can be said to be exclusively caused by positive transformational factors (0.4% in 2019 and 0.6% in 2017), while a slightly smaller proportion of factors were exclusively transient in nature (20%, down from 21% in 2017). When combining these factors, the proportion of skills gaps that were caused exclusively by positive factors or transient factors had remained the same (21% in 2017 and 2019). Consequently, it does not appear that the increase in skills gaps between 2017 and 2019 can be understood exclusively as resulting from potentially positive causes that may indicate investment in future growth.

Table A.4.1 and Table A.4.2 in Appendix A provide breakdowns of the most common causes of skills gaps by sector and occupation. Table B.4 in Appendix B provides the definitions of the two groupings of causes of skills gaps (transient and positive transformational) that have been used for analysis in this section of the report.

Steps taken to address skills needs

Establishments that identified that they had skill-shortage vacancies were asked what actions, if any, they had taken to attempt to overcome such vacancies. Two actions predominated, namely utilising new recruitment methods or channels (37%) and increasing advertising or recruitment spend (37%, a less common response than in 2017 (41%)).

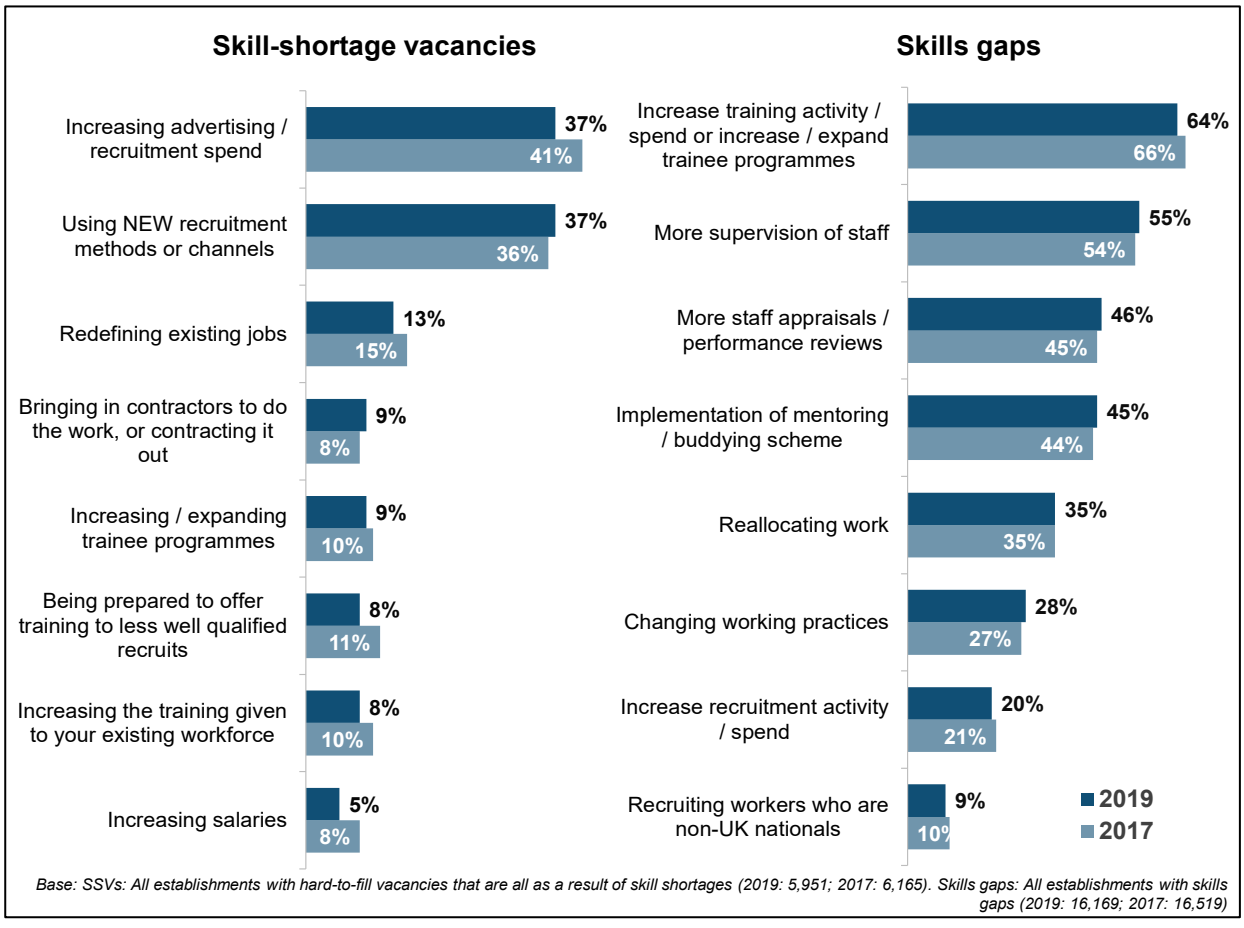
Utilising new recruitment methods or channels was more common in England (37%) and Wales (37%) than in Northern Ireland (29%), and it was also more common among establishments with more employees (50 or more employees: 46%; 2 to 49 employees: 36%) and in the Public Administration (49%) and Information & Communications (45%) sectors.

When taking action to overcome skills gaps, employers were most likely to have increased training activity or spend, including increasing or expanding their trainee programmes (64%, a more common response among employers in England (65%) than in Northern Ireland (61%) and Wales (60%)). Larger employers were also more likely to increase training activity or spend, with three quarters (75%) of establishments with skill gaps with 25 or more employees taking this action.

Employers with skills gaps also regularly increased supervision of their staff (55%), conducted more appraisals or performance reviews (46%) or implemented mentoring schemes (45%), all actions being taken at a similar level in 2019 as in 2017.

Figure 4-2 presents the full list of actions taken by employers to address skill-shortage vacancies and skills gaps.

Figure 4-2 Actions taken by establishments to overcome skill-shortage vacancies and skills gaps



Base: SSVs: All establishments with hard-to-fill vacancies that are all as a result of skill shortages (2019: 5,951; 2017: 6,165). Skills gaps: All establishments with skills gaps (2019: 16,169; 2017: 16,519)

More than a third of employers with skill-shortage vacancies had recruited, or tried to recruit, workers who were non-UK nationals in order to fill vacancies (37%). This was most often either EU nationals (17%) or both EU and non-EU nationals (17%), and rarely exclusively non-EU nationals (2%).

Employers in Northern Ireland (41%) and England (38%) were more likely to have pursued recruitment of non-UK nationals to address skill-shortage vacancies than those in Wales (25%).

The recruitment, or attempted recruitment, of non-UK employees was less commonly utilised to try to address skills gaps among existing workers than it was to address skill-shortage vacancies. Employers with skills gaps in their workforce were asked whether they had recruited, or tried to recruit, non-UK national workers in order to overcome these skills gaps - 13% of these establishments had done so. This most commonly involved both EU nationals and non-EU nationals (7%), although just under 1 in 20 establishments had specifically targeted EU nationals only (4%), while 1% had targeted non-EU nationals only.

Employers in Northern Ireland were more likely to have recruited or tried to recruit non-UK nationals in order to overcome skills gaps (16%) than those in England (13%) or particularly Wales (7%).

What employers with skill-shortage vacancies look for when recruiting?

When considering the factors that employers looked for in recruits, the factor that was most commonly identified by establishments as being of significant or critical importance was relevant work experience (63%). This was followed by Maths & English GCSE A* - C (52%), vocational qualifications (47%), academic qualifications (42%) and finally a degree or degree equivalent qualification (20%).

Breaking this profile down by establishments that have skill-shortage vacancies and those that do not, there was a clear pattern of employers with skill-shortage vacancies placing greater importance on each factor than those that did not have them. This was particularly true regarding relevant work experience (17 percentage point difference), vocational qualifications (12 percentage point difference) and having a degree or degree-equivalent qualification (8 percentage point difference).

Figure 4-3 below demonstrates the importance that employers placed upon each factor that employers looked for in recruits, split out by employers with skill-shortage vacancies and those without them, highlighting this pattern of employers with skill-shortages placing greater importance on each factor.

Figure 4-3 What employers looked for in recruits, broken down by those with skill-shortage vacancies and those without them

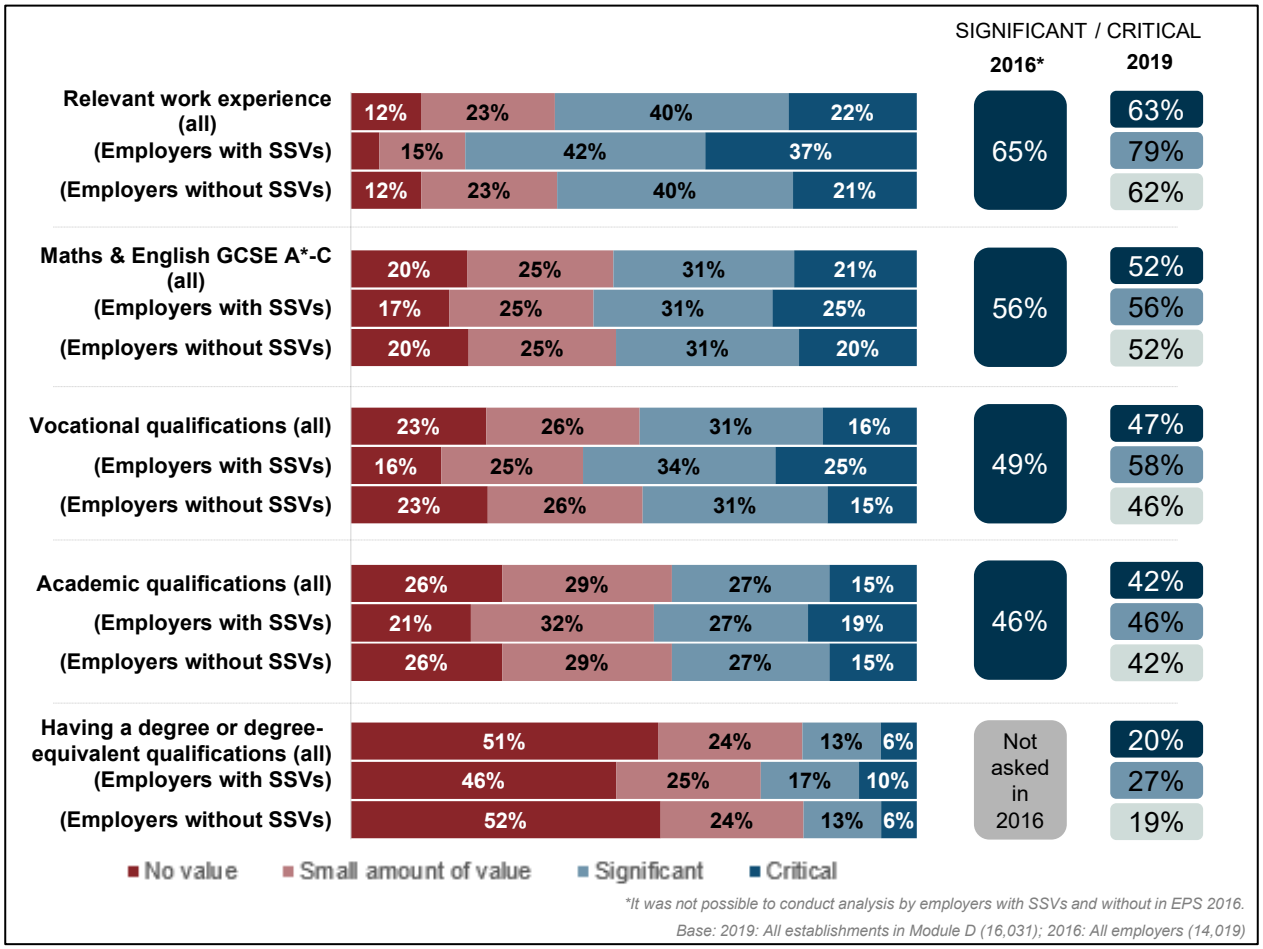


Table A.4.6 in Appendix A shows what employers looked for in recruits, broken down by employers with different skills needs.

Recruitment methods and strategies that are used by employers

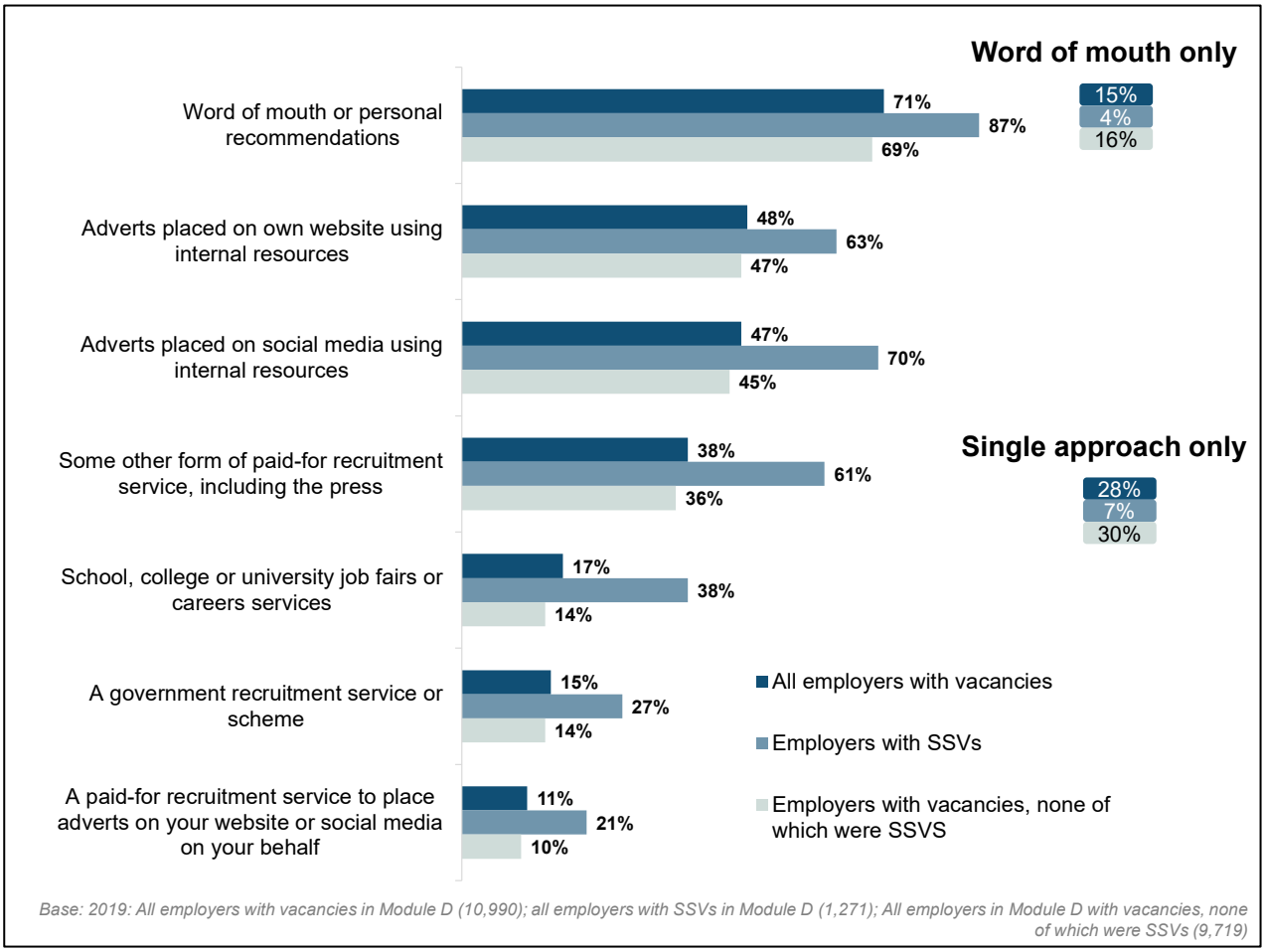
Employers with vacancies were asked what methods they had used in the last 12 months to recruit new staff. As Figure 4-4 shows, the most common recruitment methods used remained word of mouth or personal recommendations, followed by adverts placed on the company's own website and adverts placed on social media, similar to the pattern seen in the 2016 Employer Perspectives Survey.

Employers with skill-shortage vacancies were more likely to have used each of these recruitment methods than employers with vacancies where none were classified as skill-shortage vacancies, as demonstrated in Figure 4-4.

In much the same way, employers who have had vacancies in the last 12 months that had skills gaps were also more likely to have utilised each recruitment method than employers with vacancies that did not have skills gaps. The profile of usage of these recruitment methods is presented in Figure 4-4, broken down by employers with a fully proficient workforce and those with skills gaps.

Out of the three employer profiles demonstrated in Figure 4-4, employers with skill-shortage vacancies were the most likely to have used each of the recruitment methods over the last 12 months. Establishments with skill-shortage vacancies were the least likely to have utilised exclusively one approach (7%) or word of mouth only (4%), when compared to employers with vacancies, none of which were classified as skill-shortage vacancies (word of mouth only: 16%; single approach only 30%). It is clear, therefore, that are employers with skill-shortage vacancies used more varied recruitment strategies.

Figure 4-4 Recruitment methods used in the last 12 months



Base: 2019: All employers with vacancies in Module D (10,990); all employers with SSVs in Module D (1,271); All employers in Module D with vacancies, none of which were SSVs (9,719)

Do employers with skills needs engage with skills policy initiatives?

At an overall level, engagement with skills policy initiatives was relatively low, with 10% of employers having any staff undertaking a formal apprenticeship, 3% of employers having had anyone undertake a Traineeship over the last 12 months and 19% of Welsh and Northern Irish establishments having used National Occupational Standards in some way. Just over a third of English establishments also registered some interest in providing work placements to T-Level students at some point in the future (36%).

In general, employers with skills needs were more likely to have engaged with each of these skills policy initiatives than employers without skills needs. Employers with skill-shortage vacancies were more likely to have employed somebody undertaking a formal apprenticeship (25%) than those without a skill-shortage vacancy (10%). Employers with skill-shortage vacancies were also more likely to state that they planned to offer apprenticeships in the future (59% compared to 29% without) and that they expected their apprentice numbers to increase (46% compared to 27% without). Similarly, employers with skills gaps were more likely to have at least one member of staff undertaking a formal apprenticeship (28% compared to 8% without) and they were also more likely to expect to offer an apprenticeship (51% compared to 27% without). This extended to the number of apprentices that establishments with skills needs had too, with those with skill-shortage vacancies having more than twice as many apprentices on average (4.9) than those without them (2.3); although it was still higher among those with skills gaps (3.1) than without (2.4), the association was less strong than when considering establishments by skill-shortage vacancy status. Employers with skill-shortage vacancies (46%) were more likely to expect the number of apprentices at the site to increased than those without skill-shortage vacancies (27%), although there was, however, no difference in this regard based upon whether they had skills gaps (32%) or not (29%).

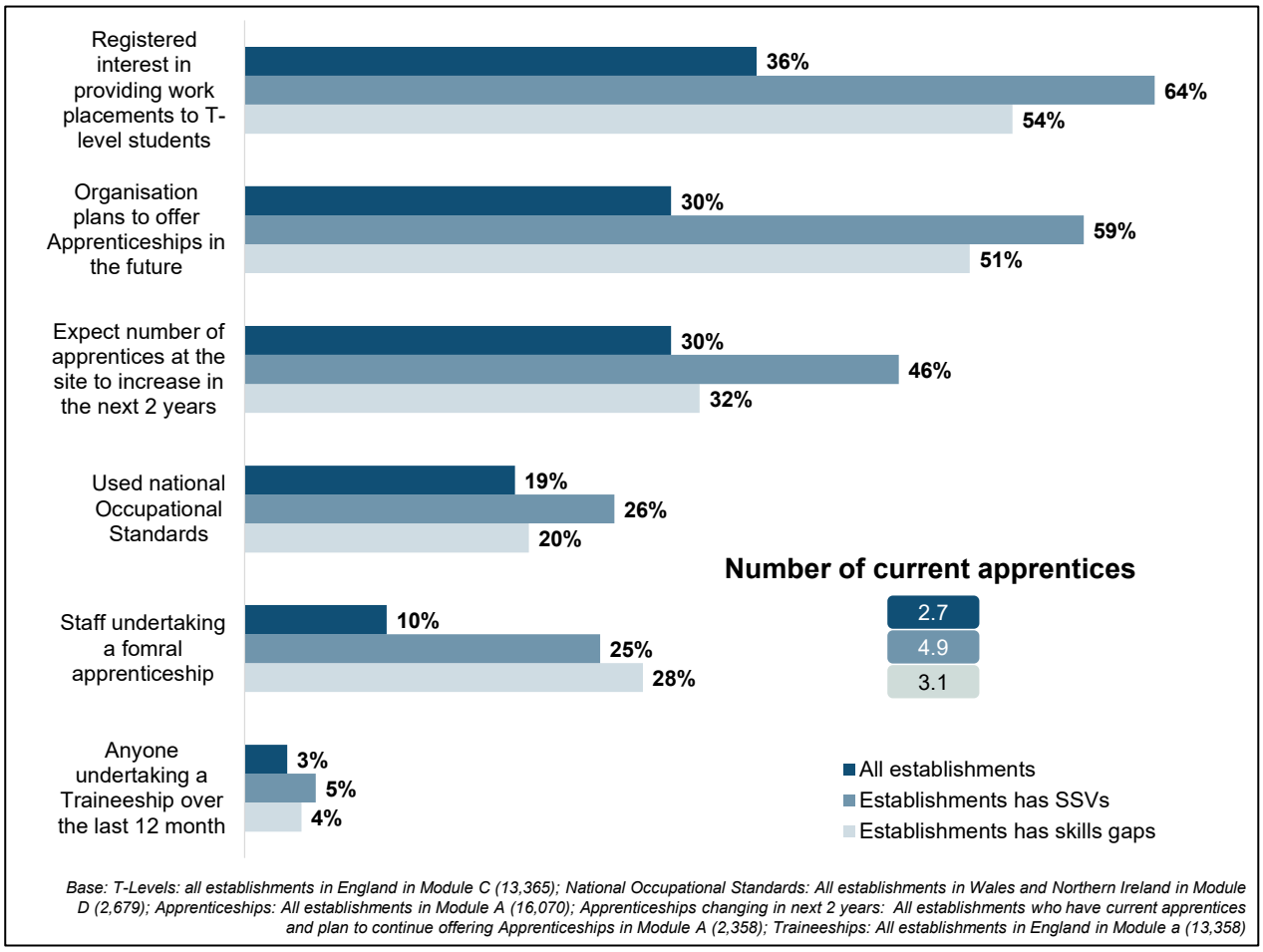
Employers with skill-shortage vacancies were also more likely to have had anyone undertake a Traineeship over the last 12 months (5% compared to 2% without a skill-shortage vacancy). Usage of National Occupational Standards in Northern Ireland and Wales was also higher among employers with at least one skill-shortage vacancy (26%) than those without (19%). Interest in potentially offering work experience placements through T-Levels was also higher, with around two thirds of employers with a skill-shortage vacancy (64%) expressing interest in doing so, compared to around a third without a skill-shortage vacancy (35%).

Employers with skills gaps were also more likely to have engaged with skills policy initiatives than those without skills gaps. This included having undertaken a Traineeship (4% compared to 2% without) and expressing interest in offering work placements through the T-Levels scheme (54% compared to 33% without). There was, however, no

difference between employers with skills gaps (20%) and those without skills gaps (19%) regarding usage of National Occupation Standards.

These findings present a perhaps reassuring picture, in that employers with skills needs are turning to skills policy initiatives, potentially in an attempt to resolve these issues. Similarly, from a T-Levels policy perspective this presents something of a readymade market for T-Levels placements, with employers with skill-shortage vacancies (64%) and skills gaps (54%) expressing an interest in offering work placements through this scheme. These findings represent new analysis for the ESS series (utilising a combination of both ESS and EPS measures) and represent interesting results, although in some respects interpretation is difficult. This could represent an area for further research in the future, in order to provide better understand the relationship between employer skills needs and engagement with the skills system.

Figure 4-5 Engagement with skills policy initiative by skills need



Base: T-Levels: all establishments in England in Module C (13,365); National Occupational Standards: All establishments in Wales and Northern Ireland in Module D (2,679); Apprenticeships: All establishments in Module A (16,070); Apprenticeships changing in next 2 years: All establishments who have current apprentices and plan to continue offering Apprenticeships in Module A (2,358); Traineeships: All establishments in England in Module a (13,358)

5. Future skills requirements

Chapter summary

A majority of employers anticipated the need to develop the skills of any of their workforce in the coming year (64%), particularly large employers with 250 or more employees (89%) and establishments in the Public Administration sector (80%). It was most common for employers to anticipate the need to upskill their employees at the managerial level.

The most common reasons for their expected need to upskill their staff were in response to new legislative or regulatory requirements (42%), because of the introduction of new technologies or equipment (41%), the development of new products and services (35%) and the introduction of new working practices (35%). The profile reasons for anticipating upskilling requirements remained relatively similar between 2017 and 2019.

The most common skills that were identified by employers as requiring development were specialist skills and knowledge (50%), knowledge of products and services offered (48%) and the ability to adapt to new equipment or materials (45%). Technical and practical skills, therefore, played a more prominent role in the upskilling picture than they had in the skills that were lacking among the current workforce and among applicants. Digital skills were also more prominently a part of employer anticipation of upskilling requirements (47%), perhaps reflecting the pace of change of digital skills requirements. Conversely, while people and personal skills such as staff being able to manage their own time and prioritise tasks (41%) were still important factors that were identified by establishments as requiring development over the coming 12 months, they were less significant than in the current skills need picture.

Introduction

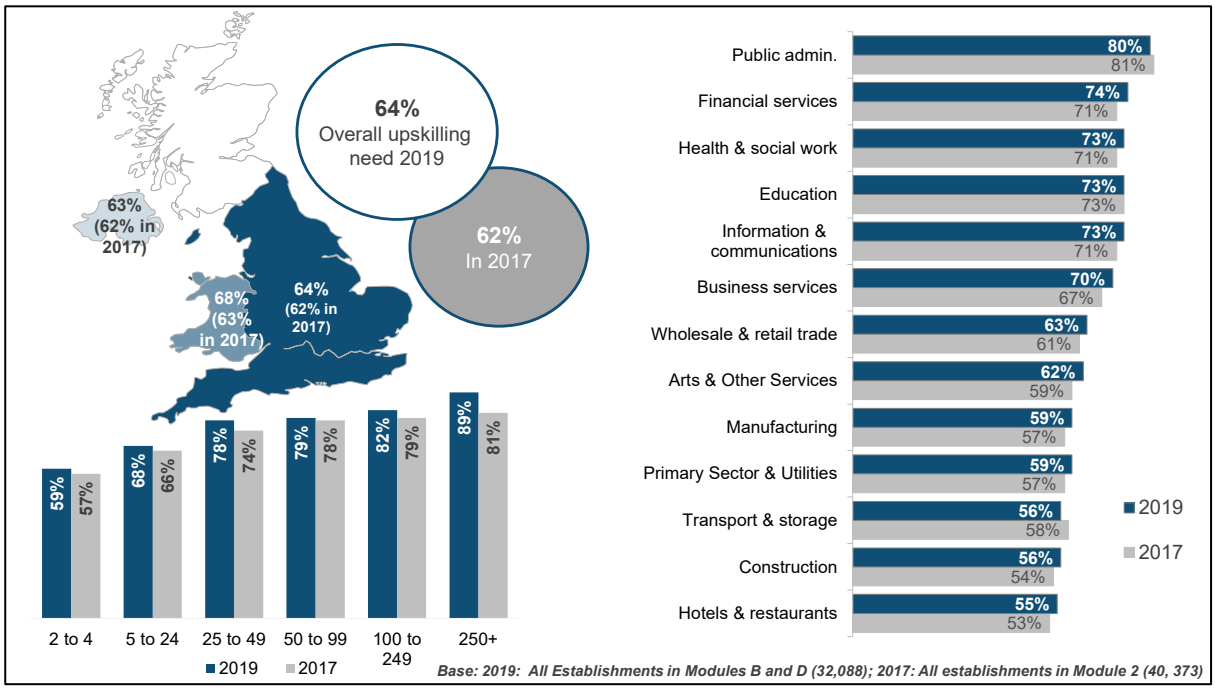
Employers were asked in ESS 2019 about their anticipated requirement to upskill, or develop, their current workforce in the next 12 months (from the time of the survey). It should be noted that employers were asked about these future needs prior to the Covid-19 pandemic. This chapter considers how prevalent it was for employers to anticipate the need to upskill their workforce and which occupations this was most common among, as well as the reasons provided by employers for needing to develop the skills of their workforce. This chapter also contains analysis of the specific skills that employers identified as needing development among their employees, as well as analysis about the factors that are most significant drivers of the need for employers to upskill their workforce.

The prevalence of the need to upskill

Around two-thirds of all establishments expected that they would need to upskill their workforce in the next 12 months (64%), which represents a slight increase from 2017 (62%). This was most common in Wales (68%, up from 63% in 2017) compared to England (64%) and Northern Ireland (63%). There was a link between business size and likelihood to want to upskill the workforce in the next 12 months, with around nine in ten employers with 250 or more employees expecting to have to upskill in the next 12 months (89%), compared with three-fifths of those with 2 to 4 employees (59%). For a full breakdown of expected need to upskill the workforce by size and country, see Figure 5-1.

In terms of sector, employers classified as Public Administration were the most likely to express an anticipated need to upskill their workforce (80%), followed by those classified as Financial Services (74%), Information and Communications (73%), Education (73%), Health and Social Work (73%) and Business Services (70%). Establishments classified as Hotels & Restaurants (55%) and Construction (56%) were the least likely to anticipate a need to upskill in the next 12 months. Figure 5-1 shows the full profile of the expected requirements to upskill by sector.

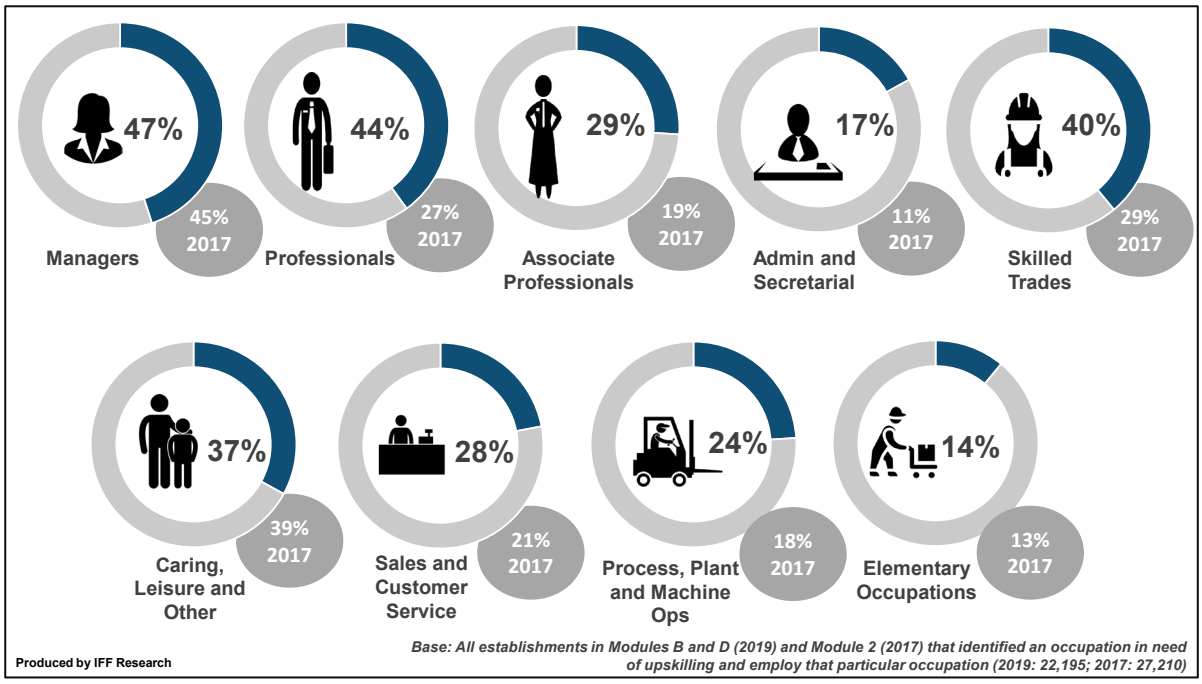
Figure 5-1 The proportion of establishments identifying a need for upskilling in the coming 12 months by country, size and sector



Occupations in most need of upskilling

Employers anticipating the need for staff to acquire new skills or knowledge were asked which single occupation would be most affected. As in 2017 occupations at the Managerial level (47% of employers with upskilling needs employing managers) were the most in need of upskilling.[24] Broadly speaking, as shown in Figure 5-2, the profile by occupation had remained similar between 2017 and 2019, albeit with several occupations increasing their need for upskilling, including Professionals increasing (17 percentage points), Skilled Trades (11 percentage points), Associate Professionals (10 percentage points), Administrative and Secretarial (6 percentage points) and Process, Plant and Machine Operatives (6 percentage points).

Figure 5-2 Single occupation most affected by a need for upskilling among establishments that employ that occupation and identified a need to upskill[25]



[24] Interestingly, as discussed in the separately published 'Training and Workforce Development' report published on the gov.uk website as part of ESS 2019, Managerial occupations are the least likely to have received training in the last 12 months, which has been consistent over several years. Link to 'Training and Workforce Development' report when published.

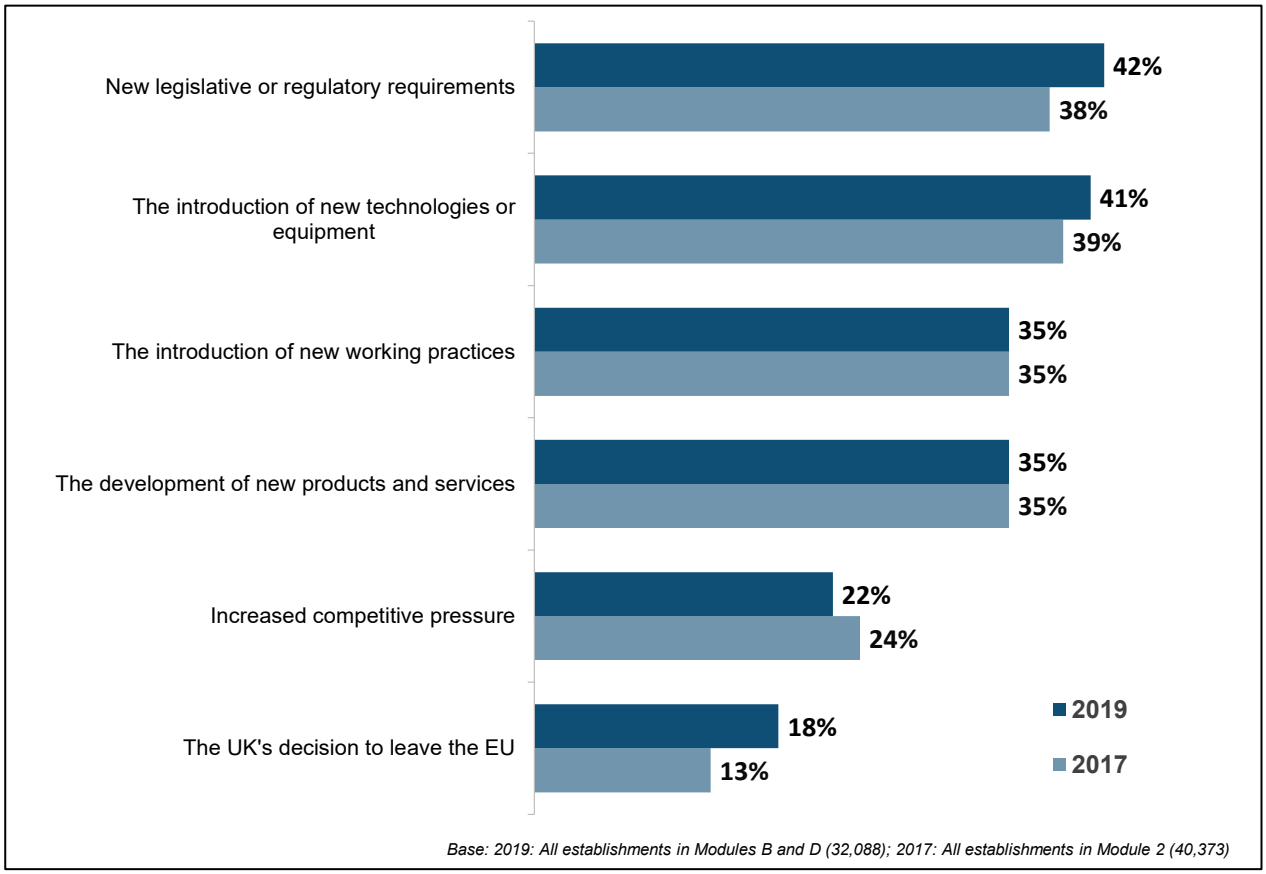
[25] These figures add to more than 100% as it shows the percentage of employers that employ each individual occupations that selected each occupation as being most in need of upskilling within their organization.

Reasons for a need for upskilling

The main reasons provided by establishments for expecting the need to upskill their employees in the next 12 months were in response to new legislative or regulatory requirements (42%), because of the introduction of new technologies or equipment (41%), the development of new products and services (35%) and the introduction of new working practices (35%). In the cases of the need to upskill due to new legislative or regulatory requirements and the introduction of new technologies or equipment, each of these figures represented a slight increase since 2017 (38% and 39% respectively).

Figure 5-3 shows each reason that establishments provided to explain their expected need for new skills in the next 12 months. As the figure demonstrates, the greatest change since 2017 was related to the UK's decision to leave the EU (a 5 percentage point increase).

Figure 5-3 Reasons for expected need for new skills in next 12 months (prompted unless *)



As shown in Table 5-1, there was some variation between nations in terms of the reasons stated for needing to upskill their workforce. Establishments in Wales were more likely to state that they needed to improve the skills of their employees due to each reason listed, with the exception of increased competitive pressure and because of the UK's decision to leave the EU.

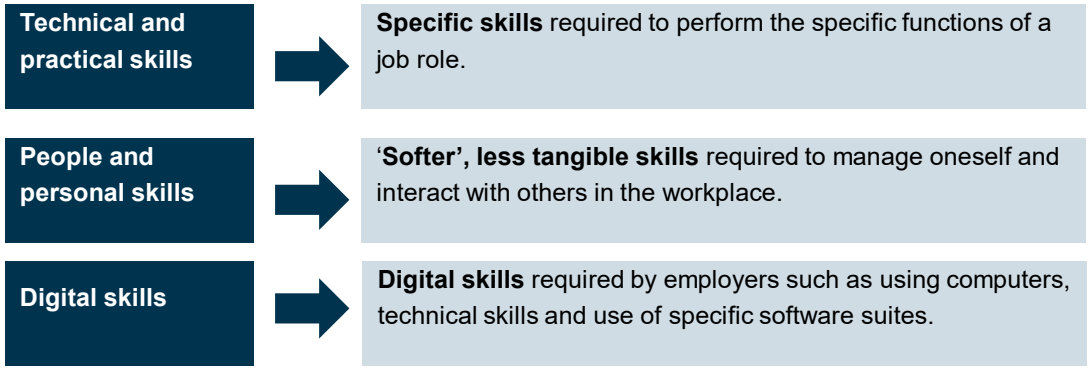
Establishments in England were more likely than those in Northern Ireland to state that they needed to upskill their workforce due to new legislative or regulatory requirements (42% compared to 39%), the introduction of new technologies or equipment (41% compared to 36%) and the development of new products and services (35% compared to 30%). Despite being generally less likely to state that they needed to upskill their workforce for each reason, establishments in Northern Ireland (23%) were more likely than those in England (18%) or Wales (17%) to feel the need to upskill their workforce due to the UK's decision to leave the EU.

Table 5-1 Reasons for a need for upskilling, by nation (prompted)

	2017				2019			
	Total	**England**	**Northern Ireland**	**Wales**	**Total**	**England**	**Northern Ireland**	**Wales**
Base	*40,373*	*35,490*	*1,945*	*2,938*	*32,088*	*26,707*	*2,003*	*3,378*
New legislative or regulatory requirements	38%	38%	39%	41%	42%	42%	39%	46%
The introduction of new technologies or equipment	39%	38%	39%	42%	41%	41%	36%	44%
The development of new products and services	35%	35%	32%	37%	35%	35%	30%	38%
The introduction of new working practices	35%	35%	36%	39%	35%	35%	34%	40%
Increased competitive pressure	24%	24%	25%	23%	22%	22%	22%	24%
The UK's decision to leave the EU	13%	13%	17%	11%	18%	18%	23%	17%

Upskilling: skills that need improving

Those employers that identified an occupation most affected by the need for upskilling were asked which skills would require developing over the coming 12 months among their staff. Again, these have been grouped into three categories:



The individual skills within these broader groupings are also grouped into smaller, more thematic groupings, as defined in Table B.1 Table B.2 Table B.3 in Appendix B

Technical and practical skills that required upskilling

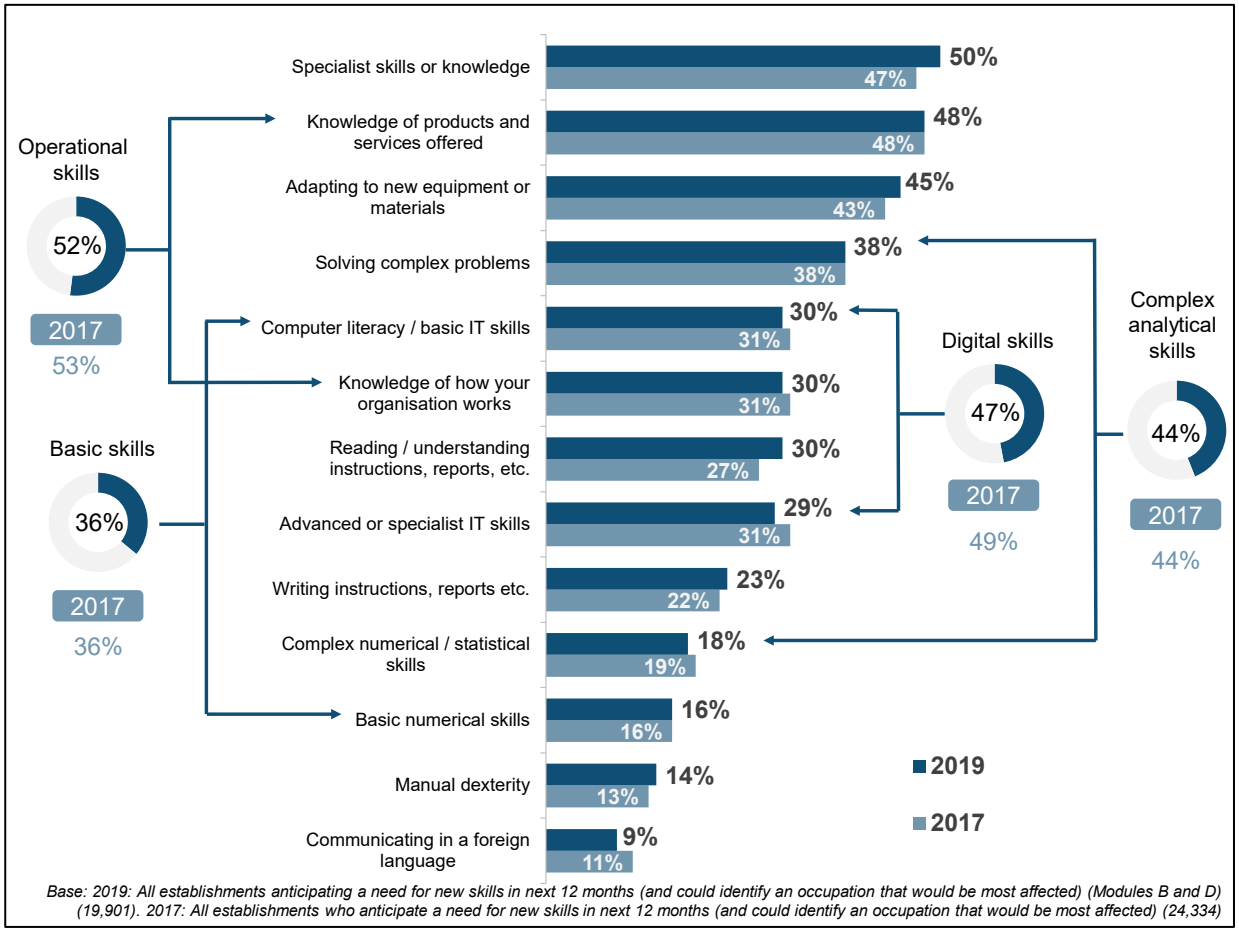
The most common technical and practical skills that establishments stated that they anticipated needing to develop in the coming 12 months were specialist skills or knowledge that were required in that role, with half of establishments with an upskilling need stating that this would need to be developed (50%). This figure rose to just under two-thirds of establishments in the Public Administration (63%) and Financial Services (62%) sectors. There was also a strong link between establishment size and the anticipated need to upskill specialist skills or knowledge, with establishments with 100 or more employees being more likely to anticipate the need to develop these skills (66%) than smaller employers (2 to 4 employees 44%, 5 to 24 employees 53%, 25 to 49 employees 58%, 50 to 99 employees 61%).

Employers were also likely to anticipate the need to develop knowledge of products and services (48%) and adapting to new equipment or materials (45%) in the coming 12 months. The need to upskill staff relating to knowledge of products and services was particular common in the Financial Services sector (67%), while the need to adapt to new equipment or materials was most keenly felt as an upskilling requirement among Primary Sector and Utilities (57%) and Manufacturing (57%) establishments.

When grouping these skills by area; over half (52%) cited operational skills such as knowledge of how the organisation works, around half (47%) cited digital skills (at advanced and/or basic level), over two-fifths (44%) mentioned complex analytical skills

such as complex numerical or statistical skills and 36% mentioned basic skills such as basic digital and basic numerical skills. This profile was broadly similar to the profile of skills that had been identified as lacking in the current workforce (see Overall picture – skill-shortage vacancies and skills gaps), although digital skills are more commonly seen as skills that may require development in the coming 12 months (47%) than they are seen as skills that the workforce is currently lacking proficiency in (38%), perhaps reflecting the rapid pace at which digital skill requirements can change.

Figure 5-4 Technical and practical skills that employers expect to need to develop in the coming 12 months



Base: 2019: All establishments anticipating a need for new skills in next 12 months (and could identify an occupation that would be most affected) (Modules B and D) (19,901). 2017: All establishments who anticipate a need for new skills in next 12 months (and could identify an occupation that would be most affected) (24,334)

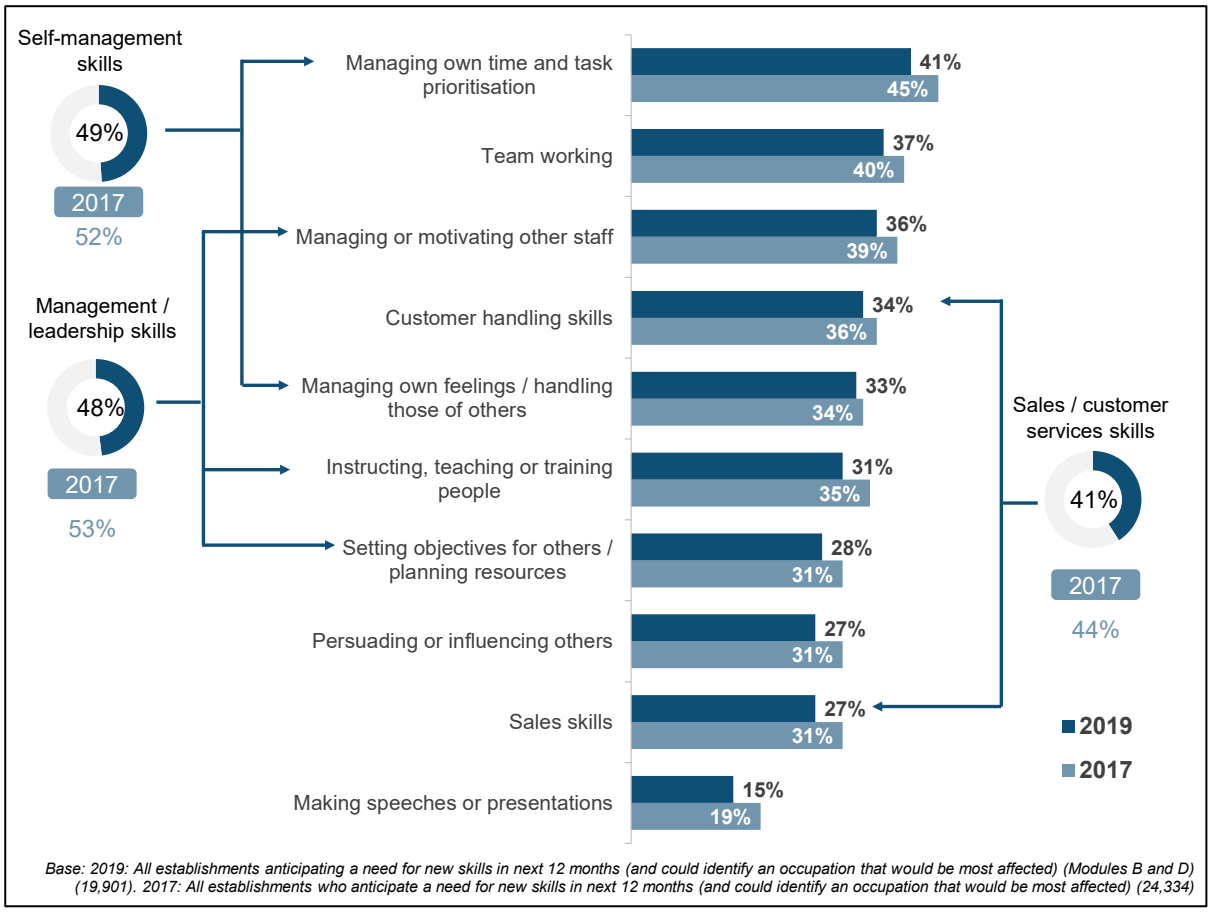
People and personal skills that required upskilling

The profile of people and personal skills that employers identified as being in need of development over the coming 12 months was consistent in 2019 and 2017, albeit with a reduction across the board, with each skill being slightly less commonly cited than in 2017. Skills relating to self-management (49%) and management and leadership (48%) were the most commonly identified people and personal skills that establishments felt they would need to develop among their workforce.

It was generally the case that there was a correlation between employer size and the likelihood for an establishment to identify each skill shown in Figure 5-5. The most marked difference in this regard was found regarding the need to increase the ability of staff to manage their own feelings or handle the feelings of others; there was a 26 percentage point gap between employers with 2 to 4 employees (26%) and those with 100 or more employees (52%) in relation to the need to develop this skill.

A full profile of the people and personal skills identified by employers as in need of development in the coming 12 months, broken down by size and sector, can be found in Table A.5.6 Table A.5.7 in Appendix A.

Figure 5-5 People and personal skills that employers expect to need to develop in the coming 12 months



Base: 2019: All establishments anticipating a need for new skills in next 12 months (and could identify an occupation that would be most affected) (Modules B and D) (19,901). 2017: All establishments who anticipate a need for new skills in next 12 months (and could identify an occupation that would be most affected) (24,334)

Digital skills that require upskilling

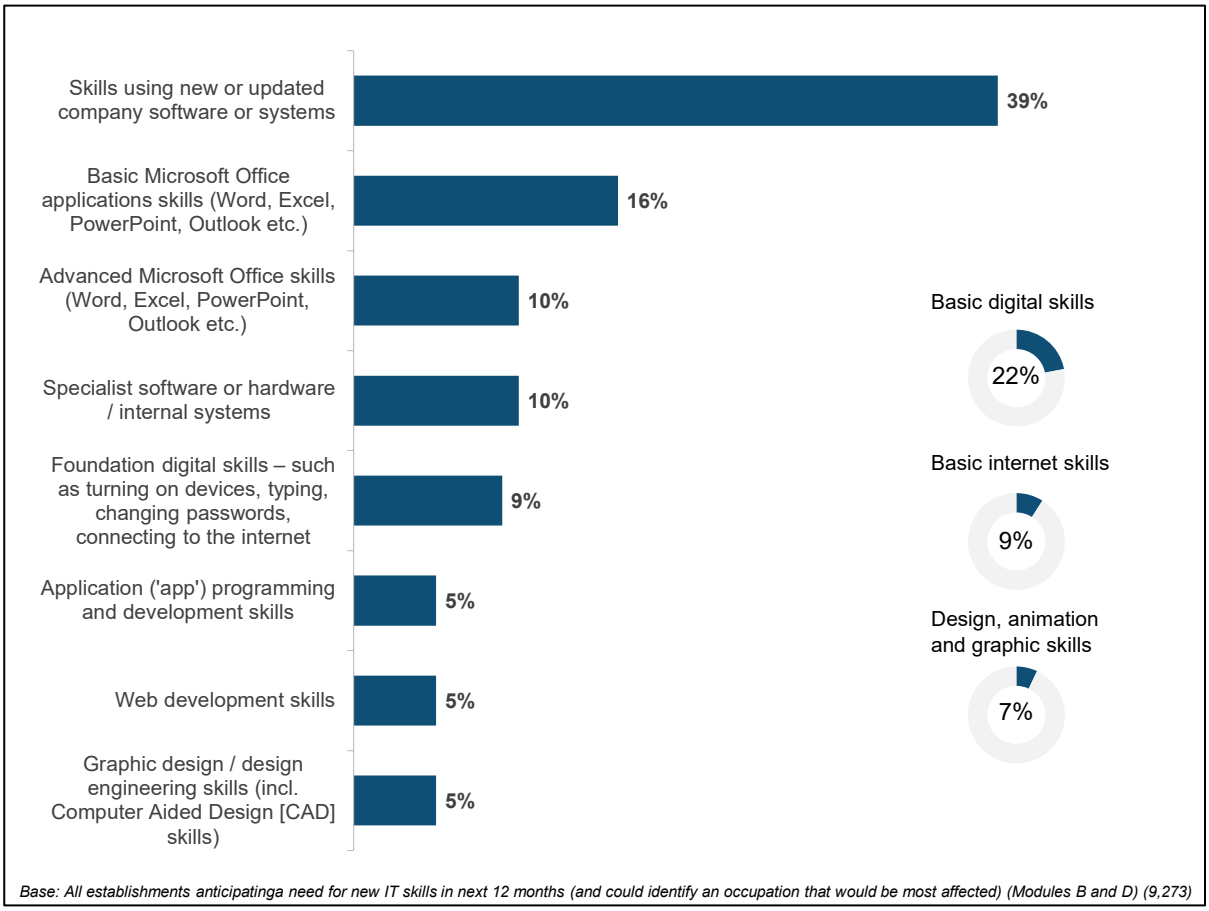
In the 2019 iteration of ESS, 47% of employers that identified a requirement to upskill their workforce the digital skills of their employees in the coming 12 months. For the first time in 2019, employers were asked a follow up question to identify the specific digital skills that required development. By far the most commonly identified skill requiring development related to using new or updated company software or systems, required among 39% of employers with digital upskilling requirements.

There was some variation in terms of digital skills that establishments identified as requiring upskilling. It was more common for larger establishments to identify a need to develop foundation digital skills (14% of employers with digital upskilling needs with 100 or more employees) than smaller employers (9% of employers with digital upskilling needs with fewer than 100 employees). Contrastingly, among establishments with requirements to develop digital skills, smaller establishments, especially those with 2 to 4 employees, were more likely to identify a need to develop graphic design or design engineering skills (7%) than those with 5 or more employees (4%).

There was also sectoral variation regarding digital skills that employers felt needed developing in the coming 12 months. Establishments in the Financial Services sector (47%) were most likely to require development regarding skills using new or updated company systems, particularly when compared to those in Manufacturing (36%), Construction (35%), Primary Sector and Utilities (30%) and Hotels and Restaurants (30%). Employers classified as Public Administration were most likely to require development in advanced Microsoft Office skills (21%). Graphic design and design engineering skills were most commonly identified as being in need of development among establishments in the Manufacturing (12%), Construction (11%) and Business Services (10%) sectors.

For a full list of digital skills identified as requiring development, broken down by country, size and sector, please see Table A.5.8 and Table A.5.9 in Appendix A.

Figure 5-6 Digital skills that employers expect to need to develop in the coming 12 months



Base: All establishments anticipatinga need for new IT skills in next 12 months (and could identify an occupation that would be most affected) (Modules B and D) (9,273)

6. Conclusions

Fieldwork for the Employer Skills Survey (ESS) 2019 took place at a time of economic growth of the UK economy: ONS data shows that at the second quarter of 2019, when ESS 2019 fieldwork began, job creation was at its highest level since records began (an employment rate of 76.1%).[26] Despite this, UK productivity was behind most other G7 countries and in the second quarter of 2019 output per hour fell by 0.5%, the largest quarterly fall in productivity in five years.[27] Developing the skills and proficiency of the workforce is seen as a key route through which these productivity issues may be addressed.

Despite an overall fall compared to 2017 in the proportion of employers that had vacancies, the volume of vacancies that were hard to fill for skills-related reasons and the proportion of all vacancies where skill shortages were encountered were slightly higher than in 2017. These skills challenges during recruitment have remained high in certain sectors, particularly Construction, and have become more acute in others (notably Manufacturing). In both, over a third of current vacancies were considered to be skill-shortage vacancies (i.e. hard to fill for skills-related reasons).

The proportion of the workforce that employers considered to have skills gaps had also risen since 2017, the first instance of an increase in the ESS series since 2011. These changes were driven by increases in such skills challenges in England. Skills gaps within the workforce affected some sectors more than others and remained most common in the Hotels and Restaurants and Manufacturing sectors. However, from 2017 to 2019, there was a large increase in the proportion of the workforce considered to have a skills gap in the Public Administration sector, and a large decrease in Financial Services.

The profile of the types of skills that were lacking among the labour market remained relatively consistent between 2017 and 2019, albeit with each skill generally contributing to a slightly smaller proportion of skill-shortage vacancies. The most common skill found lacking among applicants related to a lack of specialist skills or knowledge needed to perform the role. When considering the skills lacking among the existing workforce, the picture was also consistent with 2017, with self-management skills remaining the most prevalent. Unsurprisingly, there was wide variance in terms of the skills lacking among the prospective and current workforces when looking at different sectors and different occupations.

[26] ONS, *Labour Market Overview: June 2019 (*2019)
[27] ONS, *Labour productivity, UK: April to June 2019*, (2019)

The most common steps taken by employers to address their skills needs were, for skill-shortage vacancies, to increase advertising or recruitment spend or to use new recruitment methods and channels, while to try to overcome skills gaps in the workforce, employers increased training activity and supervision of staff.

Skill requirements are fast changing, and while a minority (13%) of employers reported that there were skills gaps in their workforce, still a majority anticipated the need to upskill their workforce in the coming year. This was particularly true for larger employers. Reasons tended to be forwards looking, responding to new legislative or regulatory requirements, new technologies or equipment, or new products and services. The skills that were most commonly identified as requiring upskilling in the workforce closely relate to this; employers felt that they would need to upskill their staff regarding specialist skills and knowledge of products and services offered and the ability to adapt to new equipment or materials.

ESS provides a snapshot of the skills situation employers were facing in the second half of 2019. The outbreak of the Covid-19 pandemic in 2020 has clearly provided a significant shock to the economy and is likely to have lasting and significant effects on employers and their skills needs. While this makes extrapolating ESS 2019 results to the post-Covid-19 situation problematic, the ESS 2019 results provide an important baseline to assess the post-Covid economy and labour market as we enter a new decade.

Appendix A: Supplementary tables

Chapter 1: Introduction

Table A.1.1 Unweighted base sizes (i.e. number of completed interviews) for all establishments, by country, size and sector (2015 – 2019)

	2015	2017	2019
Total	85,175	81,413	81,013
Country			
England	75,129	71,527	70,217
Northern Ireland	4,019	3,973	4,023
Wales	6,027	5,913	6,773
Size			
2 to 4	19,263	16,137	20,183
5 to 24	46,565	43,798	40,611
25 to 49	10,728	11,500	10,795
50 to 99	5,346	5,974	5,377
100 to 249	2,440	3,018	3,122
250+	833	986	925
Sector			
Primary Sector & Utilities	4,248	4,460	2,952
Manufacturing	6,450	6,169	6,234
Construction	6,895	6,422	5,249
Wholesale & Retail	15,188	13,581	17,503
Hotels & Restaurants	8,338	7,898	7,594
Transport & Storage	4,357	3,746	2,330
Information & Communications	3,996	3,721	2,511
Financial Services	2,322	2,471	1,577
Business Services	12,380	12,875	15,490
Public Administration	845	1,004	840
Education	5,177	5,146	5,012
Health & Social Work	7,962	7,379	8,092
Arts & Other Services	6,927	6,541	5,629

Source: Employer Skills Survey (2019)

Table A.1.2 Unweighted base sizes (i.e. number of completed interviews) for establishments in England, by size and sector (2015 - 2019)

	2015	2017	2019
England total	75,129	71,527	70,217
Size			
2 to 4	16,346	13,371	17,286
5 to 24	41,013	38,447	35,102
25 to 49	9,860	10,571	9,510
50 to 99	4,882	5,461	4,710
100 to 249	2,263	2,757	2,781
250+	765	920	828
Sector			
Primary Sector & Utilities	3,649	3,761	2,394
Manufacturing	5,703	5,498	5,391
Construction	6,334	5,622	4,531
Wholesale & Retail	13,126	11,841	15,131
Hotels & Restaurants	7,274	6,917	6,486
Transport & Storage	3,797	3,317	2,047
Information & Communications	3,741	3,436	2,305
Financial Services	2,121	2,195	1,387
Business Services	11,158	11,582	14,040
Public Administration	721	859	683
Education	4,549	4,516	4,190
Health & Social Work	6,963	6,315	6,828
Arts & Other Services	5,993	5,668	4,804

Source: Employer Skills Survey (2019)

Table A.1.3 Unweighted base sizes (i.e. number of completed interviews) for establishments in Northern Ireland, by size and sector (2015 - 2019)

	2015	2017	2019
Northern Ireland total	4,019	3,973	4,023
Size			
2 to 4	1,168	1,097	984
5 to 24	2,236	2,182	2,102
25 to 49	321	368	485
50 to 99	191	220	285
100 to 249	72	88	124
250+	31	18	43
Sector			
Primary Sector & Utilities	122	188	194
Manufacturing	330	252	377
Construction	246	319	317
Wholesale & Retail	859	782	930
Hotels & Restaurants	415	384	311
Transport & Storage	201	155	112
Information & Communications	88	117	65
Financial Services	93	122	81
Business Services	507	499	462
Public Administration	49	54	48
Education	267	255	359
Health & Social Work	382	461	439
Arts & Other Services	460	385	328

Source: Employer Skills Survey (2019)

Table A.1.4 Unweighted base sizes (i.e. number of completed interviews) for establishments in Wales, by size and sector (2015 - 2019)

	2015	2017	2019
Wales total	6,027	5,913	6,773
Size			
2 to 4	1,749	1,669	1,193
5 to 24	3,316	3,169	3,407
25 to 49	547	561	800
50 to 99	273	293	382
100 to 249	105	173	217
250+	37	48	54
Sector			
Primary Sector & Utilities	477	511	364
Manufacturing	417	419	466
Construction	405	481	401
Wholesale & Retail	1,203	958	1,442
Hotels & Restaurants	649	597	797
Transport & Storage	359	274	171
Information & Communications	167	168	141
Financial Services	108	154	109
Business Services	715	794	988
Public Administration	75	91	109
Education	361	375	463
Health & Social Work	617	603	825
Arts & Other Services	474	488	497

Source: Employer Skills Survey (2019)

Table A.1.5 Unweighted base sizes (Module A) for EPS measures (i.e. number of completed interviews) for all establishments, by country, size and sector (2014 – 2019)

	2014	2016	2019
UK	14,044	14,019	16,070
Country			
England	10,032	10,015	13,358
Northern Ireland	2,005	2,007	1,008
Wales	2,007	1,997	1,704
Size			
2 to 4	3,344	3,293	3,908
5 to 24	6,438	6,714	8,080
25 to 49	1,911	1,818	2,146
50 to 99	1,029	961	1,153
100 to 249	889	836	592
250+	433	397	191
Sector			
Primary Sector & Utilities	669	609	559
Manufacturing	1,011	878	1,196
Construction	1,202	960	1,024
Wholesale & Retail	2,755	3,086	3,516
Hotels & Restaurants	1,234	1,344	1,429
Transport & Storage	432	382	442
Information & Communications	516	528	520
Financial Services	419	304	323
Business Services	2,000	2,412	3,053
Public Admin.	342	294	175
Education	936	818	1,047
Health & Social Work	1,567	1,560	1,606
Arts & Other	961	844	1,180

Source: Employer Skills Survey (2019)

Table A.1.6 Unweighted base sizes (Module A) for EPS measures (i.e. number of completed interviews) for all establishments in England, by size and sector (2014 – 2019)

	2014	2016	2019
England total	10,032	10,015	13,358
Size			
2 to 4	2,317	2,261	3,215
5 to 24	4,580	4,814	6,676
25 to 49	1,336	1,339	1,818
50 to 99	740	670	979
100 to 249	707	628	504
250+	352	303	166
Sector			
Primary Sector & Utilities	440	375	439
Manufacturing	738	612	992
Construction	902	656	842
Wholesale & Retail	1,875	2,072	2,906
Hotels & Restaurants	854	991	1,168
Transport & Storage	328	267	358
Information & Communications	383	445	470
Financial Services	313	220	289
Business Services	1,568	1,934	2,690
Public Admin.	214	209	133
Education	667	572	822
Health & Social Work	1,070	1,066	1,289
Arts & Other	680	596	960

Source: Employer Skills Survey (2019)

Table A.1.7 Unweighted base sizes (Module A) for EPS measures (i.e. number of completed interviews) for all establishments in Northern Ireland, by size and sector (2014 – 2019)

	2014	2016	2019
Northern Ireland total	2,005	2,007	1,008
Size			
2 to 4	524	521	244
5 to 24	940	958	522
25 to 49	260	245	122
50 to 99	155	151	75
100 to 249	86	87	31
250+	40	45	14
Sector			
Primary Sector & Utilities	96	120	48
Manufacturing	139	124	88
Construction	148	161	86
Wholesale & Retail	449	531	232
Hotels & Restaurants	173	131	78
Transport & Storage	53	56	32
Information & Communications	63	40	20
Financial Services	56	46	14
Business Services	202	246	113
Public Admin.	68	34	10
Education	153	139	90
Health & Social Work	258	252	104
Arts & Other	147	127	93

Source: Employer Skills Survey (2019)

Table A.1.8 Unweighted base sizes (Module A) for EPS measures (i.e. number of completed interviews) for all establishments in Wales, by size and sector (2014 – 2019)

	2014	2016	2019
Wales total	2,007	1,997	1,704
Size			
2 to 4	503	511	449
5 to 24	918	942	882
25 to 49	315	234	206
50 to 99	134	140	99
100 to 249	96	121	57
250+	41	49	11
Sector			
Primary Sector & Utilities	133	114	72
Manufacturing	134	142	116
Construction	152	143	96
Wholesale & Retail	431	483	378
Hotels & Restaurants	207	222	183
Transport & Storage	51	59	52
Information & Communications	70	43	30
Financial Services	50	38	20
Business Services	230	232	250
Public Admin.	60	51	32
Education	116	107	135
Health & Social Work	239	242	213
Arts & Other	134	121	127

Source: Employer Skills Survey (2019)

Table A.1.9 Unweighted base sizes (Module C) for EPS measures (i.e. number of completed interviews) for all establishments, by country, size and sector (2014 – 2019)

	2014	2016	2019
UK	14,044	14,019	16,059
Country			
England	10,032	10,015	13,365
Northern Ireland	2,005	2,007	1,011
Wales	2,007	1,997	1,683
Size			
2 to 4	3,344	3,293	4,083
5 to 24	6,438	6,714	7,990
25 to 49	1,911	1,818	2,143
50 to 99	1,029	961	1,006
100 to 249	889	836	643
250+	433	397	194
Sector			
Primary Sector & Utilities	669	609	660
Manufacturing	1,011	878	1,181
Construction	1,202	960	1,055
Wholesale & Retail	2,755	3,086	3,485
Hotels & Restaurants	1,234	1,344	1,471
Transport & Storage	432	382	428
Information & Communications	516	528	510
Financial Services	419	304	306
Business Services	2,000	2,412	3,026
Public Admin.	342	294	162
Education	936	818	1,005
Health & Social Work	1,567	1,560	1,656
Arts & Other	961	844	1,114

Source: Employer Skills Survey (2019)

Table A.1.10 Unweighted base sizes (Module C) for EPS measures (i.e. number of completed interviews) for all establishments in England, by size and sector (2014 – 2019)

	2014	2016	2019
England total	10,032	10,015	13,365
Size			
2 to 4	2,317	2,261	3,364
5 to 24	4,580	4,814	6,613
25 to 49	1,336	1,339	1,813
50 to 99	740	670	846
100 to 249	707	628	553
250+	352	303	176
Sector			
Primary Sector & Utilities	440	375	500
Manufacturing	738	612	980
Construction	902	656	872
Wholesale & Retail	1,875	2,072	2,883
Hotels & Restaurants	854	991	1,193
Transport & Storage	328	267	360
Information & Communications	383	445	466
Financial Services	313	220	257
Business Services	1,568	1,934	2,669
Public Admin.	214	209	130
Education	667	572	822
Health & Social Work	1,070	1,066	1,321
Arts & Other	680	596	912

Source: Employer Skills Survey (2019)

Table A.1.11 Unweighted base sizes (Module C) for EPS measures (i.e. number of completed interviews) for all establishments in Northern Ireland, by size and sector (2014 – 2019)

	2014	2016	2019
Northern Ireland total	2,005	2,007	1,011
Size			
2 to 4	524	521	267
5 to 24	940	958	513
25 to 49	260	245	116
50 to 99	155	151	69
100 to 249	86	87	37
250+	40	45	9
Sector			
Primary Sector & Utilities	96	120	50
Manufacturing	139	124	95
Construction	148	161	72
Wholesale & Retail	449	531	236
Hotels & Restaurants	173	131	73
Transport & Storage	53	56	27
Information & Communications	63	40	14
Financial Services	56	46	21
Business Services	202	246	122
Public Admin.	68	34	12
Education	153	139	89
Health & Social Work	258	252	113
Arts & Other	147	127	87

Source: Employer Skills Survey (2019)

Table A.1.12 Unweighted base sizes (Module C) for EPS measures (i.e. number of completed interviews) for all establishments in Wales, by size and sector (2014 – 2019)

	2014	2016	2019
Wales total	2,007	1,997	1,683
Size			
2 to 4	503	511	452
5 to 24	918	942	864
25 to 49	315	234	214
50 to 99	134	140	91
100 to 249	96	121	53
250+	41	49	9
Sector			
Primary Sector & Utilities	133	114	110
Manufacturing	134	142	106
Construction	152	143	111
Wholesale & Retail	431	483	366
Hotels & Restaurants	207	222	205
Transport & Storage	51	59	41
Information & Communications	70	43	30
Financial Services	50	38	28
Business Services	230	232	235
Public Admin.	60	51	20
Education	116	107	94
Health & Social Work	239	242	222
Arts & Other	134	121	115

Source: Employer Skills Survey (2019)

Table A.1.13 Unweighted base sizes (Module D) for EPS measures (i.e. number of completed interviews) for all establishments, by country, size and sector (2014 – 2019)

	2014	2016	2019
UK	14,044	14,019	16,031
Country			
England	10,032	10,015	13,352
Northern Ireland	2,005	2,007	1,001
Wales	2,007	1,997	1,678
Size			
2 to 4	3,344	3,293	4,059
5 to 24	6,438	6,714	8,068
25 to 49	1,911	1,818	2,039
50 to 99	1,029	961	1,046
100 to 249	889	836	640
250+	433	397	179
Sector			
Primary Sector & Utilities	669	609	567
Manufacturing	1,011	878	1,257
Construction	1,202	960	1,013
Wholesale & Retail	2,755	3,086	3,366
Hotels & Restaurants	1,234	1,344	1,571
Transport & Storage	432	382	488
Information & Communications	516	528	482
Financial Services	419	304	320
Business Services	2,000	2,412	3,090
Public Admin.	342	294	169
Education	936	818	993
Health & Social Work	1,567	1,560	1,605
Arts & Other	961	844	1,110

Table A.1.14 Unweighted base sizes (Module D) for EPS measures (i.e. number of completed interviews) for all establishments in England, by size and sector (2014 – 2019)

	2014	2016	2019
England total	10,032	10,015	13,352
Size			
2 to 4	2,317	2,261	3,322
5 to 24	4,580	4,814	6,697
25 to 49	1,336	1,339	1,733
50 to 99	740	670	890
100 to 249	707	628	555
250+	352	303	155
Sector			
Primary Sector & Utilities	440	375	423
Manufacturing	738	612	1,041
Construction	902	656	848
Wholesale & Retail	1,875	2,072	2,792
Hotels & Restaurants	854	991	1,297
Transport & Storage	328	267	420
Information & Communications	383	445	429
Financial Services	313	220	265
Business Services	1,568	1,934	2,738
Public Admin.	214	209	127
Education	667	572	783
Health & Social Work	1,070	1,066	1,281
Arts & Other	680	596	908

Source: Employer Skills Survey (2019)

Table A.1.15 Unweighted base sizes (Module D) for EPS measures (i.e. number of completed interviews) for all establishments in Northern Ireland, by size and sector (2014 – 2019)

	2014	2016	2019
Northern Ireland total	2,005	2,007	1,001
Size			
2 to 4	524	521	228
5 to 24	940	958	558
25 to 49	260	245	111
50 to 99	155	151	66
100 to 249	86	87	28
250+	40	45	10
Sector			
Primary Sector & Utilities	96	120	48
Manufacturing	139	124	102
Construction	148	161	68
Wholesale & Retail	449	531	233
Hotels & Restaurants	173	131	78
Transport & Storage	53	56	27
Information & Communications	63	40	13
Financial Services	56	46	25
Business Services	202	246	107
Public Admin.	68	34	11
Education	153	139	85
Health & Social Work	258	252	130
Arts & Other	147	127	74

Source: Employer Skills Survey (2019)

Table A.1.16 Unweighted base sizes (Module D) for EPS measures (i.e. number of completed interviews) for all establishments in Wales, by size and sector (2014 – 2019)

	2014	2016	2019
Wales total	2,007	1,997	1,678
Size			
2 to 4	503	511	509
5 to 24	918	942	813
25 to 49	315	234	195
50 to 99	134	140	90
100 to 249	96	121	57
250+	41	49	14
Sector			
Primary Sector & Utilities	133	114	96
Manufacturing	134	142	114
Construction	152	143	97
Wholesale & Retail	431	483	341
Hotels & Restaurants	207	222	196
Transport & Storage	51	59	41
Information & Communications	70	43	40
Financial Services	50	38	30
Business Services	230	232	245
Public Admin.	60	51	31
Education	116	107	125
Health & Social Work	239	242	194
Arts & Other	134	121	128

Source: Employer Skills Survey (2019)

Table A.1.17 Unweighted base sizes (Module B & D) for EPS measures (i.e. number of completed interviews) for all establishments, by country, size and sector (2014 – 2019)

	2014	2016	2019
UK	14,044	14,019	32,088
Country			
England	10,032	10,015	26,707
Northern Ireland	2,005	2,007	2,003
Wales	2,007	1,997	3,378
Size			
2 to 4	3,344	3,293	8,016
5 to 24	6,438	6,714	16,156
25 to 49	1,911	1,818	4,147
50 to 99	1,029	961	2,163
100 to 249	889	836	1,263
250+	433	397	343
Sector			
Primary Sector & Utilities	669	609	1,135
Manufacturing	1,011	878	2,529
Construction	1,202	960	2,084
Wholesale & Retail	2,755	3,086	6,795
Hotels & Restaurants	1,234	1,344	3,130
Transport & Storage	432	382	965
Information & Communications	516	528	955
Financial Services	419	304	649
Business Services	2,000	2,412	6,097
Public Admin.	342	294	330
Education	936	818	2,001
Health & Social Work	1,567	1,560	3,179
Arts & Other	961	844	2,239

Source: Employer Skills Survey (2019)

Table A.1.18 Unweighted base sizes (Module B & D) for EPS measures (i.e. number of completed interviews) for all establishments in England, by size and sector (2015 – 2019)

	2014	2016	2019
England total	10,032	10,015	26,707
Size			
2 to 4	2,317	2,261	6,532
5 to 24	4,580	4,814	13,434
25 to 49	1,336	1,339	3,521
50 to 99	740	670	1,830
100 to 249	707	628	1,100
250+	352	303	290
Sector			
Primary Sector & Utilities	440	375	857
Manufacturing	738	612	2,091
Construction	902	656	1,731
Wholesale & Retail	1,875	2,072	5,636
Hotels & Restaurants	854	991	2,561
Transport & Storage	328	267	835
Information & Communications	383	445	844
Financial Services	313	220	542
Business Services	1,568	1,934	5,372
Public Admin.	214	209	247
Education	667	572	1,587
Health & Social Work	1,070	1,066	2,568
Arts & Other	680	596	1,836

Source: Employer Skills Survey (2019)

Table A.1.19 Unweighted base sizes (Module B & D) for EPS measures (i.e. number of completed interviews) for all establishments in Northern Ireland, by size and sector (2015 – 2019)

	2014	2016	2019
Northern Ireland total	2,005	2,007	2,003
Size			
2 to 4	524	521	473
5 to 24	940	958	1,067
25 to 49	260	245	247
50 to 99	155	151	141
100 to 249	86	87	56
250+	40	45	19
Sector			
Primary Sector & Utilities	96	120	96
Manufacturing	139	124	194
Construction	148	161	159
Wholesale & Retail	449	531	462
Hotels & Restaurants	173	131	160
Transport & Storage	53	56	53
Information & Communications	63	40	31
Financial Services	56	46	46
Business Services	202	246	226
Public Admin.	68	34	26
Education	153	139	180
Health & Social Work	258	252	222
Arts & Other	147	127	148

Source: Employer Skills Survey (2019)

Table A.1.20 Unweighted base sizes (Module B & D) for EPS measures (i.e. number of completed interviews) for all establishments in Wales, by size and sector (2015 – 2019)

	2014	2016	2019
Wales total	2,007	1,997	3,378
Size			
2 to 4	503	511	1,011
5 to 24	918	942	1,655
25 to 49	315	234	379
50 to 99	134	140	192
100 to 249	96	121	107
250+	41	49	34
Sector			
Primary Sector & Utilities	133	114	182
Manufacturing	134	142	244
Construction	152	143	194
Wholesale & Retail	431	483	697
Hotels & Restaurants	207	222	409
Transport & Storage	51	59	77
Information & Communications	70	43	80
Financial Services	50	38	61
Business Services	230	232	499
Public Admin.	60	51	57
Education	116	107	234
Health & Social Work	239	242	389
Arts & Other	134	121	255

Source: Employer Skills Survey (2019)

Table A.1.21 Size within sector population profile of establishments

Row percentages		Size						
	%	**2 to 4**	**5 to 9**	**10 to 24**	**25 to 49**	**50 to 99**	**100 to 249**	**250+**
Sector								
Primary Sector & Utilities	%	77	14	6	2	1	1	*
Manufacturing	%	44	21	17	8	5	3	1
Construction	%	72	16	8	2	1	*	*
Wholesale & Retail	%	47	27	18	5	2	1	*
Hotels & Restaurants	%	39	27	23	8	2	1	*
Transport & Storage	%	53	20	13	6	4	3	1
Information & Communication	%	70	13	10	4	2	1	1
Financial Services	%	47	25	17	5	3	2	2
Business Services	%	65	18	11	3	2	1	1
Public Administration	%	23	16	22	14	10	8	7
Education	%	23	15	19	19	15	8	2
Health & Social Work	%	29	22	27	12	6	2	1
Arts & Other Services	%	59	24	11	3	2	1	*

Source: ONS Inter-Departmental Business Register
** denotes a figure greater than zero but less than 0.5%*

Table A.1.22 Classification of establishments, by country, size and sector

Row percentages	Unwtd. Base:		Private sector	Third sector	Public sector	Single site	Multi-site
Total	81,013	%	88	8	4	71	29
Country							
England	70,217	%	88	8	3	71	29
Northern Ireland	4,023	%	81	12	5	74	26
Wales	6,773	%	86	8	6	70	30
Size							
2 to 4	20,183	%	91	7	1	81	19
5 to 24	40,611	%	86	9	4	63	37
24 to 49	10,795	%	77	9	13	47	53
50 to 99	5,377	%	71	10	18	41	59
100 to 249	3,122	%	70	12	17	35	65
250+	925	%	69	9	20	28	72
Sector							
Primary Sector & Utilities	2,952	%	98	1	1	88	12
Manufacturing	6,234	%	99	*	*	80	20
Construction	5,249	%	100	*	*	91	9
Wholesale & Retail	17,503	%	95	4	*	57	43
Hotels & Restaurants	7,594	%	93	6	*	64	36
Transport & Storage	2,330	%	97	2	1	69	31
Information & Communications	2,511	%	96	3	*	85	15
Financial Services	1,577	%	94	4	*	68	32
Business Services	15,490	%	95	3	1	74	26
Public Administration	840	%	10	4	83	47	53
Education	5,012	%	31	25	42	68	32
Health & Social Work	8,092	%	43	42	12	50	50
Arts & Other Services	5,629	%	63	29	6	72	28

'' denotes a figure larger than zero but smaller than 0.5*

Source: Employer Skills Survey (2019)

Chapter 2: Where are the current skills bottlenecks?

Table A.2.1 Incidence, number and density of skill-shortage vacancies (SSVs) by country, size and sector

		% of establishments with a skill-shortage vacancy	Number of skill-shortage vacancies	% of vacancies which are SSVs	
	Unwtd. base	*%*	*Rounded to nearest 1,000*	*Unwtd. base*	*%*
Total	81,013	5	214,000	20,775	24
Country					
England	70,217	6	199,000	18,380	25
Northern Ireland	4,023	4	5,000	892	22
Wales	6,773	5	10,000	1,503	24
Size					
2 to 4	20,183	3	30,000	1,473	34
5 to 24	40,611	7	67,000	8,878	29
25 to 49	10,795	14	28,000	4,667	24
50 to 99	5377	17	24,000	2,947	22
100 to 249	3122	21	27,000	2,100	20
250+	925	25	39,000	710	20
Sector					
Primary Sector & Utilities	2,952	3	6,000	382	31
Manufacturing	6,234	8	18,000	1,477	36
Construction	5,249	4	11,000	824	36
Wholesale & Retail	17,503	5	25,000	3,584	22
Hotels & Restaurants	7,594	7	22,000	2,843	21
Transport & Storage	2,330	6	10,000	581	26
Information & Communications	2,511	5	9,000	609	23
Financial Services	1,577	5	4,000	346	13
Business Services	15,490	5	49,000	3,574	27
Public Administration	840	7	7,000	285	13
Education	5,012	7	9,000	1,727	23
Health & Social Work	8,092	9	36,000	3,304	25
Arts & Other Services	5,629	5	9,000	1,239	25

Base: Column 1 and 2: All establishments; Column 3: all establishments with vacancies

Percentages in Column 3 are based on all vacancies, rather than all establishments with vacancies; figures therefore show the proportion of vacancies caused by skill shortages

Table A.2.2 Density of skill-shortage vacancies, by country, size and sector (2013 - 2019)

	% of vacancies which are SSVs							
	2013		2015		2017		2019	
	Unwtd. base	%	*Unwtd. base*	%	*Unwtd. base*	%	*Unwtd. base*	%
Total	17,460	22	22,687	22	23,287	22	20,775	24
Country								
England	15,894	22	20,697	23	21,033	22	18,380	25
Northern Ireland	550	19	713	14	855	21	892	22
Wales	1,016	20	1,277	24	1,399	27	1,503	24
Size								
2 to 4	1,342	31	1,764	28	1,493	31	1,473	34
5 to 24	8,335	26	11,218	26	10,782	26	8,878	29
25 to 49	3,330	21	4,598	21	5,043	22	4,667	24
50 to 99	2,210	19	2,897	20	3,210	19	2,947	22
100 to 249	1,561	18	1,604	19	2,010	17	2,100	20
250+	682	14	606	18	749	16	710	20
All sectors								
Primary Sector & Utilities	329	24	405	28	527	36	382	31
Manufacturing	1,247	30	1,499	30	1,685	29	1,477	36
Construction	639	22	1,092	34	1,201	36	824	36
Wholesale & Retail	2,754	18	3,526	20	3,620	19	3,584	22
Hotels & Restaurants	2,265	19	3,188	18	3,122	17	2,843	21
Transport & Storage	504	25	900	37	892	29	581	26
Information & Communications	626	25	965	24	937	28	609	23
Financial Services	368	11	433	21	503	17	346	13
Business Services	2,909	28	3,633	26	3,676	24	3,574	27
Public Administration	249	23	243	9	303	14	285	13
Education	1,905	12	1,921	15	1,970	22	1,727	23
Health & Social Work	2,176	22	2,920	21	3,102	21	3,304	25
Arts & Other Services	1,489	24	1,962	21	1,749	26	1,239	25

Base: All establishments with vacancies

Table A.2.3 Volume of skill-shortage vacancies by occupation within sector

	Total	Skilled trades occupations	Professionals	Machine Operatives	Caring, leisure and other service staff	Managers	Associate Professionals	Elementary Staff	Sales and customer services staff	Administrative / Clerical Staff
Total	214,306	40,543	40,914	19,494	33,150	5,451	27,009	22,908	11,972	9,346
Manufacturing	18,283	7,615	1,569	5,946	16	303	1,686	291	337	341
Construction	10,744	6,062	724	1,318	0	474	1,020	656	69	419
Primary Sector & Utilities	5,618	1,025	297	1,594	144	152	347	1,489	124	446
Business Services	48,919	6,689	14,188	1,935	3,497	1,089	9,757	5,454	1,658	3,664
Transport and Storage	10,051	876	769	5,568	23	122	967	680	514	329
Health and Social Work	36,310	312	12,270	120	18,679	674	1,969	413	232	582
Arts and Other Services	9,115	643	161	61	5,582	217	1,158	689	174	374
Information and Communications	9,300	1,291	4,613	21	20	194	2,438	73	314	248
Education	8,969	40	2,795	182	4,152	33	976	476	20	266
Wholesale and Retail	24,814	8,139	504	2,039	280	1,112	2,122	1,680	7,714	1,013
Hotels and Restaurants	21,729	7,693	12	679	465	879	229	10,906	295	362
Financial Services	3,583	0	881	0	0	97	1,376	0	455	708
Public Administration	6,871	159	2,131	31	291	105	2,963	100	66	593

Base: All establishments with skill-shortage vacancies

Table A.2.4 Unweighted base sizes for Table 2-2

	Total	Skilled trades occupations	Professionals	Machine Operatives	Caring, leisure and other service staff	Managers	Associate Professionals	Elementary Staff	Sales and customer services staff	Administrative / Clerical Staff
Total	6,529	1,728	1,380	663	1,230	401	1,254	1,118	539	843
Manufacturing	660	569	174	457	2	100	340	129	80	191
Construction	339	415	105	108	0	57	120	73	30	120
Primary Sector & Utilities	149	69	33	113	18	20	38	118	20	49
Business Services	1,231	398	1,069	158	221	171	1,226	271	187	830
Transport and Storage	199	47	19	320	5	32	62	91	42	99
Health and Social Work	962	115	816	46	2,072	160	372	262	60	414
Arts and Other Services	336	91	96	17	458	117	302	214	60	245
Information and Communications	218	62	272	9	3	26	283	17	65	83
Education	469	38	671	22	828	37	231	262	6	251
Wholesale and Retail	955	652	107	327	23	236	350	443	1,852	278
Hotels and Restaurants	854	917	2	144	136	209	72	2,123	111	203
Financial Services	96	1	43	0	0	15	165	0	39	169
Public Administration	61	22	77	13	20	22	125	26	14	108

Base: All establishments with skill-shortage vacancies

Table A.2.5 Volume of skills gaps by occupation within sector

	Total	Elementary staff	Sales and customer services staff	Machine operatives	Skilled trades occupations	Associate professionals	Administrative/clerical staff	Caring, leisure and other service staff	Professionals	Managers
Total	1,245,117	280,330	218,869	122,842	104,240	78,818	135,703	90,233	108,812	105,270
Hotels & Restaurants	147,802	87,028	26,983	1,984	11,375	554	5,317	2,237	727	11,596
Manufacturing	129,863	30,619	5,845	50,867	17,465	5,829	7,758	329	2,881	8,271
Public admin.	60,911	5,035	951	3,231	5,420	11,125	16,807	2,082	12,878	3,382
Wholesale & Retail	217,958	29,012	107,318	19,768	17,935	6,098	15,074	303	3,262	19,188
Business Services	249,838	67,593	32,763	13,803	14,306	27,791	33,614	3,927	34,720	21,319
Primary Sector & Utilities	28,695	7,041	725	10,274	2,842	738	2,968	661	759	2,688
Information & Communications	43,570	1,497	14,767	1,289	5,063	4,850	4,128	0	6,397	5,579
Construction	47,292	7,029	2,022	4,220	20,486	1,952	5,742	0	1,154	4,687
Transport & Storage	51,180	14,674	4,784	15,497	2,538	1,398	6,580	108	1,419	4,181
Financial Services	34,329	257	9,960	0	26	8,428	8,060	0	2,217	5,380
Arts & Other Services	47,183	12,768	5,748	1,374	3,489	3,214	5,211	9,606	1,611	4,162
Health & Social Work	119,241	8,050	5,886	395	2,296	4,120	15,227	49,989	22,193	11,085
Education	67,255	9,726	1,118	142	996	2,721	9,216	20,990	18,594	3,753

Base: All establishments

Table A.2.6 Unweighted base sizes for Table 2-3

	Total	Elementary staff	Sales and customer services staff	Machine operatives	Skilled trades occupations	Associate professionals	Administrative/clerical staff	Caring, leisure and other service staff	Professionals	Managers
Total	81,013	26,003	23,959	13,265	21,410	13,052	48,948	12,802	17,819	77,494
Hotels & Restaurants	7,594	6,055	1,993	348	3,122	313	2,125	526	219	7,231
Manufacturing	6,234	2,064	1,996	3,349	2,961	1,471	4,620	41	1,135	6,070
Public admin.	840	271	110	94	196	267	740	117	242	798
Wholesale & Retail	17,503	4,063	11,353	3893	4,376	1,575	7,812	162	1,464	16,717
Business Services	15,490	1,958	3,471	1,489	2,080	3,833	11,170	641	5,033	14,883
Primary Sector & Utilities	2,952	1,087	288	829	754	202	1,371	139	175	2,719
Information & Communications	2,511	199	887	118	534	806	1,536	15	1,019	2,437
Construction	5,249	1,091	624	872	2,844	655	3,753	18	665	5,057
Transport & Storage	2,330	617	482	1,258	457	258	1,707	61	219	2,199
Financial Services	1,577	86	584	6	46	421	1,274	0	396	1,529
Arts & Other Services	5,629	1,781	1,212	426	1,064	928	3,127	1,942	749	5,096
Health & Social Work	8,092	3,429	724	389	1,828	1,213	5,543	5,111	2,755	7,851
Education	5,012	3,302	235	194	1,148	1,110	4,170	4,029	3,748	4,907

Base: All establishments

Table A.2.7 Incidence, number and density of skills gaps, by size (2013 - 2019)

	2013			2015			2017			2019		
	% of establishments with any skills gaps	Number of staff not fully proficient (skills gaps)	% of staff with skills gaps	% of establishments with any skills gaps	Number of staff not fully proficient (skills gaps)	% of staff with skills gaps	% of establishments with any skills gaps	Number of staff not fully proficient (skills gaps)	% of staff with skills gaps	% of establishments with any skills gaps	Number of staff not fully proficient (skills gaps)	% of staff with skills gaps
Total	15	1,275,000	5.2	14	1,263,000	5.0	13	1,145,000	4.3	13	1,245,000	4.5
Size												
2 to 4	7	64,000	2.9	6	58,000	2.6	6	59,000	2.4	5	57,000	2.2
5 to 24	21	284,000	4.8	19	262,000	4.3	19	263,000	4.2	19	281,000	4.3
25 to 49	32	153,000	5.0	30	145,000	4.5	30	154,000	4.7	32	161,000	4.8
50 to 99	35	163,000	5.1	33	144,000	4.5	31	141,000	4.3	35	160,000	4.6
100 to 249	43	200,000	5.4	39	195,000	5.0	33	188,000	4.6	38	209,000	4.8
250+	47	412,000	6.2	43	458,000	6.8	42	339,000	4.8	39	378,000	5.2

Base: All establishments. Percentage of staff with skills gap measure is based on all employment, rather than all establishments; proportions therefore show the percentage of staff reported as having skills gaps
See Table A.1.1 in Appendix A for base sizes.

Table A.2.8 Incidence, number and density of skills gaps, by sector (2013-2019)

	2013			2015			2017			2019		
	% of establishments with any skills gaps	Number of staff not fully proficient (skills gaps)	% of staff with skills gaps	% of establishments with any skills gaps	Number of staff not fully proficient (skills gaps)	% of staff with skills gaps	% of establishments with any skills gaps	Number of staff not fully proficient (skills gaps)	% of staff with skills gaps	% of establishments with any skills gaps	Number of staff not fully proficient (skills gaps)	% of staff with skills gaps
Sector												
Primary Sector & utilities	9	28,000	4.5	8	25,000	4.0	9	30,000	4.6	9	29,000	4.1
Manufacturing	17	122,000	5.7	19	150,000	6.9	18	124,000	5.6	17	130,000	5.8
Construction	11	54,000	4.8	10	39,000	3.8	10	42,000	3.9	10	47,000	3.9
Wholesale & Retail	17	233,000	5.7	16	223,000	5.4	15	210,000	5.0	15	218,000	5.1
Hotels & Restaurants	21	145,000	8.8	19	127,000	7.2	18	130,000	6.7	19	148,000	6.9
Transport & Storage	14	35,000	3.0	15	48,000	4.2	13	40,000	3.3	12	51,000	3.9
Information & Communications	13	51,000	6.1	11	54,000	5.7	9	44,000	4.6	8	44,000	4.0
Financial Services	18	82,000	8.7	16	33,000	3.6	15	46,000	5.0	16	34,000	3.8
Business Services	13	208,000	5.0	12	231,000	5.2	10	208,000	4.2	11	250,000	4.7
Public Administration	19	63,000	4.9	23	83,000	6.9	20	43,000	3.8	21	61,000	5.3
Education	18	86,000	3.6	19	94,000	3.9	18	68,000	2.8	17	67,000	2.8
Health & Social Work	18	119,000	3.7	16	112,000	3.3	13	114,000	3.3	16	119,000	3.3
Arts & Other Services	13	49,000	4.3	12	43,000	3.7	11	48,000	3.9	12	47,000	3.7

Base: All establishments. Percentage of staff with skills gap measure is based on all employment, rather than all establishments; proportions therefore show the percentage of staff reported as having skills gaps
See Table A.1.1 in Appendix A for base sizes.

Table A.2.9 Density of skills gaps by sector within nation (2017-2019)

	England		Northern Ireland		Wales	
	2017 %	2019 %	2017 %	2019 %	2017 %	2019 %
All sectors	4.3	4.6	3.8	3.3	4.7	4.0
Sector						
Primary Sector & Utilities	4.9	4.4	3.0	2.4	1.9	1.7
Manufacturing	5.6	5.5	5.1	8.3	5.9	8.3
Construction	3.8	3.9	4.8	3.3	4.4	3.7
Wholesale & Retail	4.9	5.2	5.4	4.5	5.6	3.8
Hotels & Restaurants	6.6	6.9	8.3	6.1	7.3	7.2
Transport & Storage	3.3	4.0	3.3	4.2	1.9	3.2
Information & Communications	4.7	4.1	1.7	3.1	2.5	2.8
Financial Services	4.9	3.9	3.2	0.8	7.7	4.8
Business Services	4.2	4.8	4.0	2.0	3.2	3.6
Public Administration	4.0	5.7	0.6	2.0	2.3	1.9
Education	2.8	2.9	3.8	1.2	3.2	1.7
Health & Social Work	3.2	3.4	1.1	1.2	5.7	3.1
Arts & Other Services	3.9	3.7	2.1	1.8	4.9	4.2

Base: All establishments

Densities are based on skills gaps as a proportion of all employment within each occupation by sector, rather than the number of establishments with skills gaps.

Where base between 30 and 49 establishments, figures are shown in italics

Table A.2.10 Unweighted base sizes for previous table (Table A.4.2)

	England		Northern Ireland		Wales	
	2017	2019	2017	2019	2017	2019
Total	71,527	70,217	3,937	4,023	5,913	6,773
Sector						
Primary Sector & Utilities	3,761	2,394	188	194	511	364
Manufacturing	5,498	5,391	252	377	419	466
Construction	5,622	4,531	319	317	481	401
Wholesale & Retail	11,841	15,131	782	930	958	1,442
Hotels & Restaurants	6,917	6,486	384	311	597	797
Transport & Storage	3,317	2,047	155	112	274	171
Information & Communications	3,436	2,305	117	65	168	141
Financial Services	2,195	1,387	122	81	154	109
Business Services	11,582	14,040	499	462	794	988
Public Administration	859	683	54	48	91	109
Education	4,516	4,190	255	359	375	463
Health & Social Work	6,315	6,828	461	439	603	825
Arts & Other Services	5,668	4,804	385	328	488	497

Table A.2.11 Proportion of each occupation lacking full proficiency within country

	Total	England	Northern Ireland	Wales
	%	%	%	%
Managers	2.2%	2.2%	1.5%	1.9%
Professionals	3.0%	3.1%	1.3%	1.5%
Associate professionals	4.3%	4.4%	2.6%	3.2%
Administrative / clerical staff	3.9%	4.0%	2.8%	3.2%
Skilled trades occupations	5.1%	5.1%	4.5%	4.5%
Caring, leisure and other services	3.7%	3.8%	1.6%	3.9%
Sales and customer services	6.4%	6.5%	4.8%	6.3%
Machine operatives	5.2%	5.0%	6.3%	7.0%
Elementary staff	8.0%	8.3%	4.9%	5.9%

Base: All establishments employing each type of occupation (see Table A.2.12 *for base sizes)*

Percentages are based on all employment, rather than all establishments; proportions therefore show the percentage of staff reported as having a skills gap.

Table A.2.12 Unweighted base sizes for previous table (Table A.3.3)

	Total	England	Northern Ireland	Wales
Managers	77,494	67,249	3,836	6,409
Professionals	17,819	15,562	922	1,335
Associate professionals	13,052	11,478	597	977
Administrative / clerical staff	48,948	42,544	2,573	3,831
Skilled trades occupations	21,410	18,535	1,019	1,856
Caring, leisure and other services	12,802	10,831	762	1,209
Sales and customer services	23,959	21,025	1,169	1,765
Machine operatives	13,265	11,476	733	1,056
Elementary staff	26,003	22,357	1,371	2,275

Table A.2.13 Skills shortage vacancy density by LEA

LEA	Unwtd. base	SSV Density	Number of SSVs
Total	*70,217*	24.2%	204,762
Top 10 LEAs with the highest SSV density			
Torbay	*169*	69.8%	1,085
Poole	*194*	48.3%	963
Luton	*148*	48.1%	1,250
Lambeth	*282*	47.9%	4,656
Middlesbrough	*251*	47.6%	720
Windsor and Maidenhead	*163*	43.7%	1,574
Southend on Sea	*186*	43.7%	715
Blackburn with Darwen	*170*	42.7%	858
Lewisham	*181*	42.2%	1,124
Waltham Forest	*157*	41.4%	1,061
Top 10 LEAs with the lowest SSV density			
Walsall	*247*	7.0%	144
Wokingham	*138*	7.2%	297
Blackpool	*154*	7.8%	141
Tower Hamlets	*295*	8.8%	1,117
Gateshead	*431*	9.6%	269
Hillingdon	*316*	9.7%	564
Wirral	*318*	10.5%	470
North Tyneside	*360*	11.7%	327
Bracknell Forest	*102*	12.2%	220
Derby	*302*	12.5%	413

Base: All establishments in England

Table A.2.14 Skills shortage vacancy density by LEP

LEP	Unwtd. base	SSV Density	Number of SSVs
Total	*70,217*	24.2%	204,762
Top 10 LEPs with the highest SSV density			
Lancashire	*1,869*	35.6%	6,708
Worcestershire	*844*	33.4%	2,357
Dorset	*1,064*	33.2%	3,305
Cheshire and Warrington	*1,312*	30.8%	4,870
Heart of the South West	*2,761*	30.7%	6,601
The Marches	*1,165*	30.7%	2,260
Greater Cambridge Greater Peterborough	*2,637*	28.9%	9,009
Buckinghamshire Thames Valley	*639*	28.4%	3,002
Solent	*1,303*	28.1%	4,315
Cumbria	*1,053*	27.9%	2,007
Top 10 LEPs with the lowest SSV density			
Sheffield City Region	*2,229*	18.8%	3,833
York, North Yorkshire and East Riding	*2,227*	19.1%	3,550
Derby, Derbyshire, Nottingham and Nottinghamshire	*2,913*	19.8%	4,107
Cornwall and Isles of Scilly	*979*	20.0%	1,274
Leicester and Leicestershire	*1,358*	20.3%	4,164
Liverpool City Region	*1,378*	20.9%	3,830
Coventry and Warwickshire	*1,105*	20.9%	2,839
London	*10,117*	21.4%	43,002
Leeds City Region	*3,957*	22.1%	9,138
Hertfordshire	*1,380*	22.3%	4,818

Base: All establishments in England

Table A.2.15 Skills gap density by LEA

LEA	Unwtd. base	Skills Gap Density	Number of Skills Gaps
Total	*70,217*	4.5%	1,155,738
10 LEAs with the highest skills gap density			
Blackburn with Darwen	*170*	11.3%	7,356
Knowsley	*89*	10.1%	6,802
Reading	*148*	8.9%	9,141
Lambeth	*282*	8.1%	12,627
Salford	*208*	7.8%	9,713
Southampton	*188*	7.4%	8,151
Luton	*148*	7.3%	6,496
Telford and Wrekin	*200*	6.9%	5,787
Trafford	*286*	6.9%	10,105
Calderdale	*334*	6.8%	6,207
10 LEAs with the lowest skills gap density			
Wokingham	138	1.5%	1,387
Tower Hamlets	295	1.8%	5,150
Hartlepool	155	1.9%	570
Waltham Forest	157	2.0%	1,358
Tameside	207	2.0%	1,302
Hounslow	285	2.2%	3,391
Barking and Dagenham	128	2.3%	1,240
South Gloucestershire	259	2.3%	3,291
Wolverhampton	217	2.5%	2,444
Oldham	181	2.5%	2,033

Base: All establishments in England

Table A.2.16 Skills gap density by LEP

LEP	Unwtd. base	Skills Gap Density	Number of Skills Gaps
Total	*70,217*	4.5%	1,155,738
10 LEPs with the highest skills gap density			
Leicester and Leicestershire	*1,358*	6.1%	28,762
Liverpool City Region	*1,378*	5.9%	36,681
Greater Cambridge Greater Peterborough	*2,637*	5.8%	46,946
Lancashire	*1,869*	5.6%	35,208
Hertfordshire	*1,380*	5.6%	35,380
Gloucestershire	*986*	5.4%	15,340
Greater Lincolnshire	*1,716*	5.2%	22,519
Dorset	*1,064*	5.1%	16,857
Greater Manchester	*2,528*	5.1%	65,373
Cheshire and Warrington	*1,312*	5.0%	24,260
10 LEPs with the lowest skills gap density			
Black Country	*1,079*	3.0%	12,771
Stoke-on-Trent and Staffordshire	*1,242*	3.1%	14,551
Greater Birmingham and Solihull	*1,970*	3.5%	32,719
London	*10,117*	3.6%	182,710
Tees Valley	*1,263*	3.9%	10,007
Buckinghamshire Thames Valley	*639*	3.9%	8,894
North Eastern	*4,039*	4.0%	31,767
West of England	*1,341*	4.1%	23,484
Worcestershire	*844*	4.1%	10,275
Cumbria	*1,053*	4.2%	10,085

Base: All establishments in England

Table A.2.17 Skills shortage vacancy density by job role

Job role	Unwtd. base	SSV Density	Number of SSVs
Top 10 job roles with the highest SSV density			
Carpenters and joiners	136	66.0%	2,645
Welding trades	139	62.4%	1,508
Metal machining setters and setter-operators	127	61.6%	1,426
Butchers	57	58.4%	772
Vehicle technicians, mechanics and electricians	464	51.1%	5,274
Veterinarians	129	50.9%	1,086
Veterinary nurses	83	50.6%	825
Beauticians and related occupations	74	50.5%	925
Hairdressers and barbers	262	49.8%	3,759
Metal working production and maintenance fitters	569	48.9%	5,487
Top 10 job roles with the lowest SSV density			
Library clerks and assistants	60	1.0%	18
Finance officers	82	1.9%	40
Laboratory technicians	50	4.9%	57
Customer service occupations n.e.c.	346	7.4%	950
Cleaning and housekeeping managers and supervisors	57	7.6%	77
Health associate professionals n.e.c.	59	8.3%	141
Finance and investment analysts and advisers	86	8.8%	607
Personal assistants and other secretaries	96	9.1%	152
Records clerks and assistants	157	9.2%	325
School secretaries	91	9.2%	77

Base: All establishments with Vacancies

Vacancies with an unweighted bae of less than 50 have been excluded.

Chapter 3: Which skills are lacking among applicants and the workforce?

Table A.3.1 Skills lacking among applicants over time (prompted)

	2015	2017	2019
Unweighted base	*3,044*	*6,677*	*6,529*
	%	*%*	*%*
Technical and practical skills			
Specialist skills or knowledge needed to perform the role	63	64	67
Solving complex problems requiring a solution specific to the situation	40	39	41
Knowledge of products and services offered by your organisation	37	36	40
Knowledge of how your organisation works	30	31	33
Reading and understanding instructions, guidelines, manuals or reports	27	32	32
Writing instructions, guidelines, manuals or reports	25	27	27
More complex numerical or statistical skills and understanding	29	25	25
Basic numerical skills and understanding	25	29	25
Adapting to new equipment or materials	20	22	22
Computer literacy / basic IT skills	22	22	22
Manual dexterity	15	17	19
Advanced or specialist IT skills	22	20	19
Communicating in a foreign language	15	16	18
None of the above	7	9	8
People and personal skills			
Ability to manage own time and prioritise own tasks	47	50	47
Team working	33	36	36
Customer handling skills	39	38	35
Managing their own feelings, or handling the feelings of others	32	36	35
Managing or motivating other staff	29	33	33
Persuading or influencing others	30	32	28
Instructing, teaching or training people	21	24	23
Sales skills	24	26	23
Setting objectives for others & planning human, financial & other resources	21	24	22
Making speeches or presentations	17	16	16
None of the above	25	22	25

Base: All establishments with skill-shortage vacancies in each occupation – up to two occupations followed up
Percentages are based on all skill-shortage vacancies, rather than all establishments with skill-shortage vacancies; proportions therefore show the percentage of skill-shortage vacancies within each occupation caused by lack of each skill

Table A.3.2 Skills lacking among applicants, overall and by country (prompted)

	Total	England	Northern Ireland	Wales
Unweighted base	*6,529*	*5,785*	*246*	*498*
	%	*%*	*%*	*%*
Technical and practical skills				
Specialist skills or knowledge needed to perform the role	67	67	71	64
Solving complex problems requiring a solution specific to the situation	41	41	54	35
Knowledge of products and services offered by your organisation	40	39	47	38
Knowledge of how your organisation works	33	33	44	32
Reading and understanding instructions, guidelines, manuals or reports	32	32	45	32
Writing instructions, guidelines, manuals or reports	27	26	38	31
More complex numerical or statistical skills and understanding	25	25	41	20
Basic numerical skills and understanding	25	24	41	21
Adapting to new equipment or materials	22	22	42	21
Computer literacy / basic IT skills	22	22	34	25
Manual dexterity	19	19	37	17
Advanced or specialist IT skills	19	18	36	13
Communicating in a foreign language	18	18	35	6
Oral Welsh language skills	1	0	0	20
Written Welsh language skills	1	0	0	18
None of the above	8	8	6	7
People and personal skills				
Ability to manage own time and prioritise own tasks	47	47	56	44
Team working	36	35	51	42
Customer handling skills	35	35	50	32
Managing their own feelings, or handling the feelings of others	35	35	47	34
Managing or motivating other staff	33	33	46	29
Persuading or influencing others	28	28	42	24
Instructing, teaching or training people	23	23	38	30
Sales skills	23	23	38	25
Setting objectives for others & planning human, financial & other resources	22	22	39	17
Making speeches or presentations	16	15	37	19
None of the above	25	26	17	25

Base: All establishments with skill-shortage vacancies – up to two occupations followed up
Percentages are based on all skill-shortage vacancies, rather than all establishments with skill-shortage vacancies; proportions therefore show the percentage of skill-shortage vacancies within each occupation caused by lack of each skill

Table A.3.3 Technical or practical skills lacking among applicants, by sector (prompted)

	Overall	Primary Sector & Utilities	Manufacturing	Construction	Wholesale & Retail	Hotels & Restaurants	Transport & Storage	Information & Communications	Financial Services	Business Services	Public Admin.	Education	Health & Social Work	Arts & Other Services
Unweighted base	*6,529*	*149*	*660*	*339*	*955*	*854*	*199*	*218*	*96*	*1,231*	*61*	*469*	*962*	*336*
	%	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*
Specialist skills or knowledge	67	76	67	74	59	59	67	78	77	70	52	70	68	63
Solving complex problems	41	49	35	50	44	36	41	58	29	48	61	30	32	33
Knowledge of products & services offered	40	28	46	45	48	43	33	53	52	36	37	30	33	41
Knowledge of how organisation works	33	28	26	30	35	40	41	33	23	27	44	37	38	34
Reading/understanding instructions, reports etc.	32	32	40	36	34	38	51	18	16	30	36	25	29	29
Writing instructions, reports, etc	27	30	34	25	24	28	41	20	12	22	41	26	29	23
Complex numerical or statistical skills	25	21	22	31	27	20	27	37	23	27	40	26	18	22
Basic numerical skills	25	36	26	27	28	29	35	15	13	20	17	20	23	31
Adapting to new equipment or materials	22	32	35	31	31	24	30	17	10	16	27	12	15	21
Computer literacy / basic IT skills	22	30	20	17	23	15	28	16	8	22	36	19	27	20
Manual dexterity	19	39	32	34	27	18	23	13	*	16	20	8	10	16
Advanced or specialist IT skills	19	14	15	19	16	7	18	66	27	22	17	15	15	10
Communicating in a foreign language	18	12	28	8	11	22	28	11	3	14	13	13	29	13
None of the above	8	6	5	6	8	14	6	3	6	6	4	12	11	9

Base: All establishments with skill-shortage vacancies – up to two occupations followed up.

'' denotes a figure greater than zero but less than 0.5%.*

Percentages are based on all skill-shortage vacancies, rather than all establishments with skill-shortage vacancies; proportions therefore show the percentage of skill-shortage vacancies within each sector caused by lack of each skill.

Table A.3.4 People and personal skills lacking among applicants, by sector (prompted)

	Overall	Primary Sector & Utilities	Manufacturing	Construction	Wholesale & Retail	Hotels & Restaurants	Transport & Storage	Information & Communications	Financial Services	Business Services	Public Admin.	Education	Health & Social Work	Arts & Other Services
Unweighted base	*6,529*	*149*	*660*	*339*	*955*	*854*	*199*	*218*	*96*	*1,231*	*61*	*469*	*962*	*336*
	%	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*
Ability to manage own time and prioritise own tasks	47	54	34	57	55	63	53	37	29	43	54	40	43	52
Team working	36	50	35	37	37	54	35	31	18	25	47	34	34	44
Customer handling skills	35	32	19	39	47	47	45	33	35	34	27	24	29	48
Managing own feelings, or handling feelings of others	35	40	28	33	38	46	43	28	32	29	42	41	32	43
Managing or motivating other staff	33	37	28	31	33	46	36	25	22	36	22	29	27	36
Persuading or influencing others	28	16	21	23	34	37	36	27	25	27	35	20	26	29
Instructing, teaching or training people	23	25	21	24	24	34	21	15	14	23	30	28	20	21
Sales skills	23	11	13	17	35	33	22	28	31	27	21	6	12	38
Setting objectives for others and planning resources	22	17	18	23	23	28	25	23	16	26	15	16	19	24
Making speeches or presentations	16	10	12	14	14	12	21	29	6	17	33	17	12	26
None of the above	25	22	32	22	19	16	24	29	38	25	13	24	37	21

Base: All establishments with skill-shortage vacancies – up to two occupations followed up.

'' denotes a figure greater than zero but less than 0.5%.*

Percentages are based on all skill-shortage vacancies, rather than all establishments with skill-shortage vacancies; proportions therefore show the percentage of skill-shortage vacancies within each sector caused by lack of each skill.

Table A.3.5 Digital skills found difficult to obtain from applicants, overall and by occupation (unprompted)

	Overall	Managers	Professionals	Associate Professionals	Administrative and Clerical	Skilled Trades	Caring, Leisure and Other Services	Sales and Customer Service	Machine Operatives	Elementary Occupations
Unweighted base	*2,051*	*152*	*495*	*502*	*362*	*476*	*356*	*221*	*177*	*284*
	%	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*
Basic Microsoft Office application skills	36	46	19	28	41	27	56	39	31	52
Foundation digital skills	25	11	9	21	11	23	41	28	29	49
Specialist software or hardware / internal systems	20	15	25	17	24	24	14	26	29	16
Advanced Microsoft Office skills	12	15	13	21	26	8	8	8	5	9
Application programming and development skills	12	8	24	19	4	10	3	4	24	1
Communicating via email	11	7	6	9	10	6	12	10	10	35
Data analysis / analysis / data science skills	7	14	7	14	7	5	2	6	5	4
Graphic design / design engineering skills	6	2	9	15	1	7	1	1	2	*
Other	7	11	5	7	5	12	5	9	2	6

Base: All establishments with skill-shortage vacancies – up to two occupations followed up.

'' denotes a figure greater than zero but less than 0.5%.*

Percentages are based on all skill-shortage vacancies, rather than all establishments with skill-shortage vacancies; proportions therefore show the percentage of skill-shortage vacancies within each sector caused by lack of each skill.

Note: Column percentages exceed 100 per cent because of multiple responses; skill-shortage vacancies unable to be coded to an occupational group have been included in the "Overall" figures, though have not been included in the more detailed breakdown.

Table A.3.6 Technical and practical skills lacking among applicants, overall and by occupation (prompted)

	Overall	Managers	Professionals	Associate Professionals	Administrative and Clerical	Skilled Trades	Caring, Leisure and Other Services	Sales and Customer Service	Machine Operatives	Elementary Occupations
Unweighted base	*6,529*	*289*	*1,222*	*1,022*	*455*	*1,607*	*1,018*	*409*	*558*	*749*
	%	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*
Specialist skills or knowledge needed to perform the role	67	69	77	67	54	77	64	54	61	50
Solving complex problems requiring a solution specific to the situation	41	47	43	46	48	44	38	39	30	39
Knowledge of products and services offered by your organisation and organisations like yours	40	44	31	49	46	46	40	55	27	33
Knowledge of how your organisation works	33	44	30	36	38	27	39	41	28	35
Reading and understanding instructions, guidelines, manuals or reports	32	29	13	24	31	31	42	32	55	49
Writing instructions, guidelines, manuals or reports	27	27	17	25	27	23	39	18	44	28
More complex numerical or statistical skills and understanding	25	28	24	30	40	26	26	23	15	17
Basic numerical skills and understanding	25	20	9	18	31	26	34	26	38	28
Adapting to new equipment or materials	22	18	11	21	14	29	22	23	39	22
Computer literacy / basic IT skills	22	25	13	22	30	17	29	27	19	25
Manual dexterity	19	7	6	13	8	38	15	14	24	26
Advanced or specialist IT skills	19	23	26	28	34	15	15	15	4	9
Communicating in a foreign language	18	10	22	12	9	17	21	11	22	22
None of the above	8	5	8	6	5	7	10	8	5	14

Base: All establishments with skill-shortage vacancies in each occupation – up to two occupations followed up

Percentages are based on all skill-shortage vacancies, rather than all establishments with skill-shortage vacancies; proportions therefore show the percentage of skill-shortage vacancies within each occupation caused by lack of each skill. '' denotes a figure greater than zero but less than 0.5%.*

Note: Column percentages exceed 100 per cent because of multiple responses; skill-shortage vacancies unable to be coded to an occupational group have been included in the "Overall" figures, though have not been included in the more detailed breakdown.

Table A.3.7 People and personal skills lacking among applicants, overall and by occupation (prompted)

	Overall	Managers	Professionals	Associate Professionals	Administrative and Clerical	Skilled Trades	Caring, Leisure and Other Services	Sales and Customer Service	Machine Operatives	Elementary Occupations
Unweighted base	*6,529*	*289*	*1,222*	*1,022*	*455*	*1,607*	*1,018*	*409*	*558*	*749*
	%	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*
Ability to manage own time and prioritise own tasks	47	41	28	41	45	51	59	58	42	66
Team working	36	34	19	32	30	36	47	37	45	46
Customer handling skills	35	43	21	36	43	30	46	60	29	44
Managing their own feelings, or handling the feelings of others	35	40	24	32	34	34	44	42	37	40
Managing or motivating other staff	33	52	28	28	31	34	35	33	30	44
Persuading or influencing others	28	46	20	38	27	24	31	46	16	29
Instructing, teaching or training people	23	35	18	24	19	23	27	24	17	31
Sales skills	23	29	16	35	25	14	22	55	8	36
Setting objectives for others and planning human, financial and other resources	22	42	22	22	23	23	26	21	14	19
Making speeches or presentations	16	15	22	21	14	10	17	19	6	10
None of the above	25	21	41	24	22	27	18	12	24	16

Base: All establishments with skill-shortage vacancies in each occupation – up to two occupations followed up

Percentages are based on all skill-shortage vacancies, rather than all establishments with skill-shortage vacancies; proportions therefore show the percentage of skill-shortage vacancies within each occupation caused by lack of each skill.

Note: Column percentages exceed 100 per cent because of multiple responses; skill-shortage vacancies unable to be coded to an occupational group have been included in the "Overall" figures, though have not been included in the more detailed breakdown

Table A.3.8 Digital skills found difficult to obtain from applicants, overall and by occupation (unprompted)

	Overall	Managers	Professionals	Associate Professionals	Administrative and Clerical	Skilled Trades	Caring, Leisure and Other Services	Sales and Customer Service	Machine Operatives	Elementary Occupations
Unweighted base	*2,051*	*152*	*495*	*502*	*362*	*476*	*356*	*221*	*177*	*284*
	%	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*
Basic Microsoft Office application skills	36	46	19	28	41	27	56	39	31	52
Foundation digital skills	25	11	9	21	11	23	41	28	29	49
Specialist software or hardware / internal systems	20	15	25	17	24	24	14	26	29	16
Advanced Microsoft Office skills	12	15	13	21	26	8	8	8	5	9
Application programming and development skills	12	8	24	19	4	10	3	4	24	1
Communicating via email	11	7	6	9	10	6	12	10	10	35
Data analysis / analysis / data science skills	7	14	7	14	7	5	2	6	5	4
Graphic design / design engineering skills	6	2	9	15	1	7	1	1	2	*

Base: All establishments with skill-shortage vacancies in each occupation – up to two occupations followed up

Percentages are based on all skill-shortage vacancies, rather than all establishments with skill-shortage vacancies; proportions therefore show the percentage of skill-shortage vacancies within each occupation caused by lack of each skill.

Note: Column percentages exceed 100 per cent because of multiple responses; skill-shortage vacancies unable to be coded to an occupational group have been included in the "Overall" figures, though have not been included in the more detailed breakdown

Table A.3.9 Skills lacking among staff over time (prompted)

	2015	2017	2019
Unweighted base	*8,526*	*16,519*	*16,169*
	%	*%*	*%*
Technical and practical skills			
Specialist skills or knowledge needed to perform the role	48	47	53
Knowledge of products and services offered by your organisation	37	39	43
Solving complex problems requiring a solution specific to the situation	39	36	41
Knowledge of how your organisation works	37	35	40
Adapting to new equipment or materials	32	28	36
Reading and understanding instructions, guidelines, manuals or reports	30	31	34
Computer literacy / basic IT skills	30	25	28
Writing instructions, guidelines, manuals or reports	22	23	24
Basic numerical skills and understanding	20	21	24
More complex numerical or statistical skills and understanding	25	20	23
Advanced or specialist IT skills	27	19	20
Manual dexterity	14	12	18
Communicating in a foreign language	12	13	17
None of the above	9	10	7
People and personal skills			
Ability to manage own time and prioritise own tasks	59	59	60
Team working	55	50	50
Managing their own feelings, or handling the feelings of others	46	43	49
Customer handling skills	46	45	45
Managing or motivating other staff	41	37	41
Persuading or influencing others	39	35	38
Instructing, teaching or training people	29	27	30
Setting objectives for others & planning human, financial & other resources	31	25	28
Sales skills	24	26	26
Making speeches or presentations	17	16	19
None of the above	12	12	14

Base: All establishments with skills gaps – up to two occupations followed up

Percentages are based on all skills gaps, rather than all establishments with skills gaps; proportions therefore show the percentage of skills gaps attributed to each cause.

Table A.3.10 Technical and practical skills lacking among staff with skills gaps, by sector (prompted)

	Overall	Primary Sector & Utilities	Manufacturing	Construction	Wholesale & Retail	Hotels & Restaurants	Transport & Storage	Information & Comms	Financial Services	Business Services	Public Admin.	Education	Health & Social Work	Arts & Other Services
Unweighted base	*16,169*	*434*	*1,548*	*892*	*3,521*	*2,208*	*413*	*382*	*328*	*2,638*	*173*	*1,090*	*1,614*	*928*
	%	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*
Specialist skills or knowledge	53	46	65	60	43	45	48	62	73	54	42	59	64	55
Knowledge of products & services offered	43	36	48	35	50	50	43	54	63	36	24	31	34	46
Solving complex problems	41	40	34	48	37	37	44	59	53	40	26	43	51	39
Knowledge of how organisation works	40	38	39	27	40	45	49	40	48	34	27	36	48	39
Adapting to new equipment or materials	36	43	37	37	37	31	40	36	24	38	47	26	39	29
Reading and understanding instructions, reports etc.	34	50	49	35	33	32	43	15	31	32	19	30	36	24
Computer literacy / basic IT skills	28	37	23	23	31	19	30	17	36	24	29	36	48	27
Writing instructions, guidelines, etc	24	39	33	25	19	20	24	28	34	22	15	21	34	20
Basic numerical skills	24	40	36	18	22	27	29	11	7	19	11	18	35	19
Complex numerical or statistical skills	23	35	33	23	18	16	21	40	33	23	11	20	32	19
Advanced or specialist IT skills	20	13	16	17	16	9	20	52	22	23	16	30	33	15
Manual dexterity	18	40	27	30	14	14	19	9	2	25	11	4	9	12
Communicating in a foreign language	17	25	16	13	10	18	15	5	3	25	9	12	25	6
None of the above	7	9	4	9	8	11	7	6	8	6	10	8	5	9

Base: All establishments with skills gaps – up to two occupations followed up

Percentages are based on all skills gaps, rather than all establishments with skills gaps; proportions therefore show the percentage of skills gaps attributed to each cause.

'' denotes a figure greater than zero but smaller than 0.5.*

Table A.3.12 Digital skills lacking among staff with skills gaps, by sector (unprompted)

	Overall	Primary Sector & Utilities	Manufacturing	Construction	Wholesale & Retail	Hotels & Restaurants	Transport & Storage	Information & Communications	Financial Services	Business Services	Public Admin.	Education	Health & Social Work	Arts & Other Services
Unweighted base	*6,408*	*145*	*606*	*310*	*1381*	*551*	*175*	*222*	*122*	*1181*	*84*	*525*	*754*	*352*
	%	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*
Basic Microsoft Office skills	35	50	39	40	26	42	38	15	63	36	21	46	29	45
Specialist software or hardware /internal systems	26	13	21	22	19	16	30	18	12	29	60	19	43	19
Foundation digital skills	19	8	16	17	28	28	22	4	3	13	18	20	21	16
Advanced Microsoft Office skills	18	37	16	24	13	11	14	29	30	21	16	30	10	14
Communicating via email	10	4	11	16	7	14	15	1	*	14	6	15	12	12
Data analysis / analytics / data science skills	6	4	8	9	6	2	4	29	2	5	6	6	3	4
Skills using new or updated company software or systems	5	31	3	1	6	3	3	3	6	5	1	7	2	3
Application ('app') programming and development skills	5	17	6	5	5	3	2	7	3	5	2	6	2	3
Using the internet to find solutions to problems	5	1	*	2	4	5	3	*	1	12	0	7	3	3

Base: All establishments with skills gaps – up to two occupations followed up

Percentages are based on all skills gaps, rather than all establishments with skills gaps; proportions therefore show the percentage of skills gaps attributed to each cause.

'' denotes a figure greater than zero but smaller than 0.5.*

Table A.3.13 People and personal skills lacking among staff with skills gaps, by sector (prompted)

	Overall	Primary Sector & Utilities	Manufacturing	Construction	Wholesale & Retail	Hotels & Restaurants	Transport & Storage	Information & Communications	Financial Services	Business Services	Public Admin.	Education	Health & Social Work	Arts & Other Services
Unweighted base	*16,169*	*434*	*1,548*	*892*	*3,521*	*2,208*	*413*	*382*	*328*	*2,638*	*173*	*1,090*	*1,614*	*928*
	%	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*
Ability to manage own time and prioritise own tasks	60	66	49	62	65	70	56	58	56	56	45	60	71	60
Team working	50	65	49	51	50	61	52	45	46	39	40	56	64	53
Managing their own feelings, or handling feelings of others	49	55	46	44	48	55	46	58	39	39	47	59	66	52
Customer handling skills	45	34	15	32	54	66	46	50	49	38	27	35	54	57
Managing or motivating other staff	41	43	41	30	40	48	44	34	36	36	37	45	52	33
Persuading or influencing others	38	29	24	26	38	41	42	50	42	40	35	40	50	37
Instructing, teaching or training people	30	32	27	24	27	38	32	30	26	24	31	42	39	26
Setting objectives for others and planning resources	28	17	33	27	22	26	24	41	33	27	23	32	40	21
Sales skills	26	9	8	12	42	44	16	47	39	24	3	9	10	34
Making speeches or presentations	19	10	12	12	15	15	14	25	28	21	31	23	29	20
None of the above	14	15	12	21	11	8	12	7	24	25	18	10	7	12

Base: All establishments with skills gaps – up to two occupations followed up

Percentages are based on all skills gaps, rather than all establishments with skills gaps; proportions therefore show the percentage of skills gaps attributed to each cause.

Table A.3.14 Technical and practical skills lacking among staff with skills gaps, by occupation (prompted)

	Overall	Managers	Professionals	Associate Professionals	Administrative and Clerical	Skilled Trades	Caring, Leisure and Other Services	Sales and Customer Service	Machine Operatives	Elementary Occupations
Unweighted base	*16,169*	*2,567*	*1,379*	*1,312*	*3,432*	*2,545*	*1,822*	*3,548*	*1,595*	*3,414*
	%	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*
Specialist skills or knowledge needed to perform the role	53	54	77	68	43	65	63	45	51	46
Knowledge of products and services offered by your organisation and organisations like yours	43	28	29	45	43	40	38	57	42	44
Solving complex problems requiring a solution specific to the situation	41	50	51	53	48	45	40	38	34	30
Knowledge of how your organisation works	40	33	47	41	38	29	42	44	32	42
Adapting to new equipment or materials	36	25	33	25	29	40	32	32	48	45
Reading and understanding instructions, guidelines, manuals or reports	34	25	16	26	30	35	44	29	47	41
Computer literacy / basic IT skills	28	36	31	26	32	24	37	28	29	23
Writing instructions, guidelines, manuals or reports	24	36	18	24	22	26	32	16	27	25
Basic numerical skills and understanding	24	17	23	9	18	19	25	19	34	34
More complex numerical or statistical skills and understanding	23	31	36	31	30	21	17	18	23	19
Advanced or specialist IT skills	20	32	42	29	38	18	15	17	9	10
Manual dexterity	18	7	3	4	7	30	14	9	34	31
Communicating in a foreign language	17	10	24	4	10	10	14	9	19	30
None of the above	7	9	6	8	6	10	7	9	5	7

Base: All establishments with skills gaps in each occupation – up to two occupations followed up

Percentages are based on all skills gaps, rather than all establishments with skills gaps; proportions therefore show the percentage of skills gaps attributed to each cause.

'' denotes a figure greater than zero but smaller than 0.5.*

Table A.3.15 Digital skills lacking among staff with skills gaps, by occupation (unprompted)

	Overall	Managers	Professionals	Associate Professionals	Administrative and Clerical	Skilled Trades	Caring, Leisure and Other Services	Sales and Customer Service	Machine Operatives	Elementary Occupations
Unweighted base	*6,408*	*1,034*	*533*	*547*	*1831*	*691*	*657*	*1,182*	*403*	*775*
	%	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*
Basic Microsoft Office skills	35	34	17	37	41	33	43	28	40	40
Specialist software or hardware /internal systems	26	15	56	24	29	25	17	20	27	22
Foundation digital skills	19	15	2	6	9	21	39	26	24	23
Advanced Microsoft Office skills	18	31	18	23	31	17	9	15	16	5
Communicating via email	10	11	4	2	5	13	20	4	11	24
Data analysis / analytics / data science skills	6	8	5	7	7	6	3	10	4	2
Skills using new or updated company software or systems	5	5	4	2	4	4	3	5	11	6
Application ('app') programming and development skills	5	3	6	4	3	9	4	5	10	2
Using the internet to find solutions to problems	5	4	3	1	1	3	6	3	2	15

Base: All establishments with skills gaps – followed up caused by a lack of IT skills

Percentages are based on all skills gaps, rather than all establishments with skills gaps; proportions therefore show the percentage of skills gaps attributed to each cause.

Table A.3.16 People and personal skills lacking among staff with skills gaps, by occupation (prompted)

	Overall	Managers	Professionals	Associate Professionals	Administrative and Clerical	Skilled Trades	Caring, Leisure and Other Services	Sales and Customer Service	Machine Operatives	Elementary Occupations
Unweighted base	*16,169*	*2,567*	*1,379*	*1,312*	*3,432*	*2,545*	*1,822*	*3,548*	*1,595*	*3,414*
	%	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*
Ability to manage own time and prioritise own tasks	60	60	72	56	57	59	65	65	57	56
Team working	50	54	53	42	41	48	61	48	57	51
Managing their own feelings, or handling the feelings of others	49	56	53	48	44	41	61	51	44	48
Customer handling skills	45	35	45	42	49	31	49	65	23	45
Managing or motivating other staff	41	70	60	49	30	37	42	33	34	37
Persuading or influencing others	38	54	57	42	36	29	38	43	25	33
Instructing, teaching or training people	30	46	51	35	24	31	30	23	28	24
Setting objectives for others and planning human, financial and other resources	28	58	54	43	22	22	23	20	16	23
Sales skills	26	23	15	25	24	17	13	56	6	25
Making speeches or presentations	19	33	45	36	20	13	16	15	8	11
None of the above	14	14	11	13	12	22	10	9	15	20

Base: All establishments with skills gaps in each occupation – up to two occupations followed up.

Percentages are based on all skills gaps, rather than all establishments with skills gaps; proportions therefore show the percentage of skills gaps attributed to each cause.

Chapter 4: Addressing skills shortages

Table A.4.1 Main causes of skills gaps, by sector (prompted)

	Overall	Primary Sector & Utilities	Manufacturing	Construction	Wholesale & Retail	Hotels & Restaurants	Transport & Storage	Information & Communications	Financial Services	Business Services	Public Admin.	Education	Health & Social Work	Arts & Other Services
Unweighted base	*16,169*	*434*	*1,548*	*892*	*3,521*	*2,208*	*413*	*382*	*328*	*2,638*	*173*	*1,090*	*1,614*	*928*
	%	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*
They are new to the role	67	73	58	59	63	73	63	63	80	74	69	60	68	60
Their training is currently only partially completed	61	57	61	68	58	63	61	47	78	67	75	50	45	60
Staff lack motivation	38	47	38	36	38	46	46	31	32	34	18	33	49	32
They have been on training, but their performance has not improved sufficiently	33	42	37	27	35	41	40	18	34	29	14	31	33	27
Unable to recruit staff with the required skills	32	45	33	33	28	37	38	25	31	25	22	31	45	28
Problems retaining staff	29	37	33	24	21	31	37	31	29	38	18	28	27	22
The introduction of new working practices	29	36	20	18	30	26	31	21	39	26	38	38	46	21
They have not received the appropriate training	28	33	29	26	24	24	25	24	33	31	30	22	33	23
The introduction of new technology	25	33	21	18	28	15	27	32	41	23	25	21	37	15
The development of new products and services	20	22	22	10	22	19	15	21	38	15	30	15	27	13

Base: All establishments with skills gaps – up to two occupations followed up.

Percentages are based on all skills gaps, rather than all establishments with skills gaps; proportions therefore show the percentage of skills gaps attributed to each cause.

Table A.4.2 Main causes of skills gaps, by occupation (prompted)

	Managers	Professionals	Associate Professionals	Administrative and Clerical	Skilled Trades	Caring, Leisure and Other Services	Sales and Customer Service	Machine Operatives	Elementary Occupations
Unweighted base	*2,567*	*1,379*	*1,312*	*3,432*	*2,545*	*1,822*	*3,548*	*1,595*	*3,414*
	%	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*%*
They are new to the role	55	66	74	67	60	65	69	73	70
Their training is currently only partially completed	48	50	70	62	69	60	59	69	60
Staff lack motivation	37	32	33	24	30	38	39	38	51
They have been on training, but their performance has not improved sufficiently	28	19	28	23	26	38	36	35	41
Unable to recruit staff with the required skills	23	38	42	22	39	36	24	43	30
Problems retaining staff	21	23	29	16	22	29	24	33	46
The introduction of new working practices	31	45	31	35	23	33	27	29	23
They have not received the appropriate training	31	31	30	25	30	23	23	31	29
The introduction of new technology	31	32	29	25	25	24	25	27	18
The development of new products and services	18	28	25	21	18	15	20	27	14
Summary: New to the role / training not complete (transient factors)	71	79	85	79	83	79	80	83	77

Base: All establishments with skills gaps in each occupation – up to two occupations followed up

Percentages are based on all skills gaps, rather than all establishments with skills gaps; proportions therefore show the percentage of skills gaps attributed to each cause.

Table A.4.3 Actions taken to overcome difficulties finding candidates to fill hard-to-fill vacancies (unprompted), by country and size

		Country			Size					
	Total	England	Northern Ireland	Wales	2 to 4	5 to 24	25 to 49	50 to 99	100 to 249	250+
Unweighted base	*8,928*	*7,876*	*382*	*670*	*748*	*3,920*	*1,976*	*1,172*	*820*	*292*
Any Action	88	88	89	80	84	88	90	94	95	93
Using NEW recruitment methods or channels	37	37	29	37	34	36	38	45	46	51
Increasing advertising / recruitment spend	37	37	38	35	33	37	41	38	42	42
Redefining existing jobs	13	12	16	16	10	15	12	12	11	13
Increasing / expanding trainee programmes	9	9	11	10	7	8	11	14	12	15
Bringing in contractors to do the work, or contracting it out	9	9	11	6	9	8	10	14	12	11
Increasing the training given to your existing workforce	8	8	17	6	5	8	12	13	13	12
Being prepared to offer training to less well qualified recruits	8	8	12	9	8	7	10	9	10	13
Increasing salaries	5	5	9	4	3	5	8	10	8	10
Recruiting workers who are non-UK nationals	3	3	10	2	3	3	3	5	3	6
Making the job more attractive e.g. recruitment incentives	3	3	1	4	1	3	4	6	3	3
Nothing	11	10	10	19	14	11	8	5	4	6

Base: All establishments with hard-to-fill vacancies that are all as a result of skill shortages

Table A.4.4 Actions taken to overcome difficulties finding candidates to fill hard-to-fill vacancies (unprompted), by sector

	Unwtd. base		Any Action	Increasing advertising / recruitment spend	Using NEW recruitment methods or channels	Redefining existing jobs	Being prepared to offer training to less well qualified recruits	Increasing the training given to your existing workforce	Increasing / expanding trainee programmes	Bringing in contractors to do the work, or contracting it out	Increasing salaries	Recruiting workers who are non-UK nationals	Making the job more attractive e.g. recruitment incentives	Nothing
Total	*5,951*	%	88	37	37	13	9	9	8	8	5	3	3	11
Sector														
Primary Sector & Utilities	*130*	%	86	33	38	16	6	13	5	6	3	1	4	14
Manufacturing	*606*	%	88	40	30	11	14	10	12	9	5	3	3	10
Construction	*326*	%	83	31	27	9	7	15	10	6	4	5	*	16
Wholesale & Retail	*904*	%	85	37	34	15	8	6	6	7	5	3	2	13
Hotels & Restaurants	*709*	%	90	33	40	18	9	5	10	7	6	4	3	9
Transport & Storage	*188*	%	93	33	43	10	12	13	16	18	8	5	2	7
Information & Communications	*203*	%	89	45	34	7	9	10	6	8	4	4	4	8
Financial Services	*91*	%	80	44	37	9	11	5	8	2	8	3	1	14
Business Services	*1,164*	%	87	39	33	10	9	9	7	8	5	3	2	11
Public Admin.	*54*	%	93	49	44	13	22	7	11	5	7	4	7	7
Education	*424*	%	94	39	46	18	8	12	9	7	7	2	4	5
Health & Social Work	*850*	%	93	41	49	13	9	13	10	9	8	5	4	6
Arts & Other Services	*302*	%	87	33	45	13	8	4	10	11	5	2	3	12

Base: All establishments with hard-to-fill vacancies that are all as a result of skill shortages

Table A.4.5 Recruitment methods/strategies used by employers in the last 12 months (prompted)

	2014	2016	2019				
	Total	Total	Total	Have SSVs	No SSVs	Have any skills gaps	Do not have any skills gaps
Unweighted base	*8,962*	*9.546*	*10,990*	*1,271*	*9,719*	*3,031*	*7,959*
	%	*%*	*%*	*%*	*%*	*%*	*%*
Recruitment methods							
Word of mouth or personal recommendations	30	79	71	87	69	74	70
Adverts on own website using internal resources	21	54	48	63	47	55	46
Adverts on social media using internal resources	7	46	47	70	45	54	45
Some form of paid-for recruitment service	19	44	38	61	36	45	36
School, college or university job fairs or careers services	7	19	17	38	14	23	15
A government recruitment service or scheme	8	38	15	27	14	19	14
Paid someone to place adverts on your website or social media on your behalf	N/A	10	11	21	10	15	10
Word of mouth only	11	11	15	4	16	10	16
Any social media	7	49	51	75	48	59	48
Any external resource	N/A	69	57	82	54	67	54
Any internal resource	N/A	91	87	97	86	90	86
External resources only	N/A	6	8	3	9	8	8
Internal resources only	N/A	28	39	17	41	31	41
Single approach	N/A	18	28	7	30	21	30

All establishments who have had vacancies (Module D)

Table A.4.6 Factors that employers look for when recruiting (prompted)

	2014	2016	2019				
	Total	Total	Total	Have SSVs	No SSVs	Have any skills gaps	Do not have any skills gaps
Unweighted base	*14,044*	*14,019*	*16,031*	*1,271*	*14,760*	*3,351*	*12,680*
	%	*%*	*%*	*%*	*%*	*%*	*%*
Factors looked for in candidates (% is proportion saying each factor is critical / significant)							
Relevant work experience	66	65	63	79	62	65	62
Maths and English GCSE to at ast level 2 or A*-C	58	56	52	56	52	54	52
A relevant vocational ualification	50	49	47	58	46	49	47
Particular academic qualifications such as GCSEs, A levels or a degree	49	46	42	46	42	42	42
A degree or degree-equivalent ualifications	N/A	N/A	20	27	19	18	20
None important	N/A	N/A	17	7	18	14	18

All establishments (Module D)

Table A.4.7 Use of skills policy initiatives by employers, broken down by employers with different skills needs (MD_SD20, MD_SD21_ALL)

	Total	Have SSVs	No SSVs	Have any skills gaps	Do not have any skills gaps
Unweighted base	*16,070*	*1,351*	*14,719*	*3,127*	*12,943*
Apprenticeships					
Number of apprentices currently at site	496,400	122,600	373,700	204,000	292,400
	%	*%*	*%*	*%*	*%*
Currently offer apprenticeships at site	9	22	8	17	8
Currently have any staff undertaking formal apprenticeships at site	10	25	10	28	8
Plan to offer apprenticeships in the future	30	59	29	51	27
Expect number of apprentices at site to increase in the next 2 years	30	46	27	32	29
Interest in providing work placements to T-Levels students					
Very Interested/Quite interested	36	64	35	54	33
Not very interested/Not at all interested	57	32	58	39	60
Traineeships					
Whether anyone had undertaken a traineeship in last 12 months	3	5	2	4	2
Awareness of the National Occupation Standards for the organisation's industry or sector					
Have not heard of National Occupational Standards	47	37	48	43	48
Any awareness	51	62	50	55	50
Aware of National Occupation Standards and have at least some knowledge about them	30	40	29	30	30
How National Occupational Standards are used (prompted)					
To develop training plans to meet establishment's skills needs	13	21	13	13	14
For staff appraisals or performance management	11	16	11	12	11
To develop job descriptions or guide recruitment criteria	11	16	11	12	11
For succession planning or competency frameworks	10	14	10	9	10
National Occupational Standards are not used by this establishment	8	10	8	8	8
Used in any way	19	26	19	20	19
Not used	78	70	79	78	78

Base: Apprentices: all establishments in Module A; expect number of apprentices at site to increase in the next 2 years: all establishments in Module A that currently have apprentices. T-levels: all establishments in England in Module C; Traineeships: all establishments in England in Module A; National Occupational Standards: all establishments in Northern Ireland and Wales in Module D; use of National Occupational Standard: all establishments in Northern Ireland and Wales in Module D that have at least some knowledge of National Occupational Standards.

Chapter 5: Future skills requirements

Table A.5.1 Need for upskilling by country, size and sector

	% of establishments with a need for upskilling			
	2017		2019	
	Unweighted base	*%*	*Unweighted base*	*%*
Total	*40,373*	62	*32,088*	64
Country				
England	*35,490*	62	*26,707*	64
Northern Ireland	*1,945*	62	*2,003*	63
Wales	*2,938*	63	*3,378*	68
Size				
2 to 4	*8,087*	57	*8,016*	59
5 to 24	*21,577*	66	*16,156*	68
25 to 49	*5,793*	74	*4,147*	78
50 to 99	*2,947*	78	*2,163*	79
100-249	*1,480*	79	*1,263*	82
250+	*489*	81	*343*	89
Sector				
Primary Sector & Utilities	*2,214*	57	*1,135*	59
Manufacturing	*3,142*	57	*2,529*	59
Construction	*3,170*	54	*2,084*	56
Wholesale & Retail	*6,690*	61	*6,795*	63
Hotels & Restaurants	*3,873*	53	*3,130*	55
Transport & Storage	*1,905*	58	*965*	56
Information & Communications	*1,846*	71	*955*	73
Financial Services	*1,216*	71	*649*	74
Business Services	*6,361*	67	*6,097*	70
Public Admin.	*470*	81	*330*	80
Education	*2,594*	73	*2,001*	73
Health & Social Work	*3,659*	71	*3,179*	73
Arts & Other Services	*3,236*	59	*2,239*	62

Base: All establishments in Modules B and D.

Need for upskilling calculated as the percentage of establishments which mentioned any cause of a need for new skills.

Table A.5.2 Reasons for expected need for upskilling by country and size

	The development of new products and services		The introduction of new working practices		The introduction of new technologies or equipment		New legislative or regulatory requirements		Increased competitive pressure		The UK's decision to leave the EU	
	2017	2019	2017	2019	2017	2019	2017	2019	2017	2019	2017	2019
Total	35	35	35	35	39	41	38	42	24	22	13	18
Country												
England	35	35	35	35	38	41	38	42	24	22	13	18
Northern Ireland	32	30	36	34	39	36	39	39	25	22	17	23
Wales	37	38	39	40	42	44	41	46	23	24	11	17
Size												
2 to 4	31	30	29	29	35	37	34	38	21	19	12	15
5 to 24	39	40	39	40	40	42	41	44	26	25	13	19
25 to 49	43	47	48	51	49	53	48	52	30	30	16	23
50 to 99	46	45	50	53	55	56	52	54	32	30	17	26
100-249	48	51	54	59	57	64	55	59	33	39	21	32
250+	54	62	60	64	65	75	59	70	39	47	27	42

Base: All establishments in Modules B and D

'' denotes a figure greater than zero but smaller than 0.5.*

Table A.5.3 Reasons for expected need for upskilling by sector (prompted)

	The development of new products and services		The introduction of new working practices		The introduction of new technologies or equipment		New legislative or regulatory requirements		Increased competitive pressure		The UK's decision to leave the EU	
	2017	2019	2017	2019	2017	2019	2017	2019	2017	2019	2017	2019
Sector												
Primary Sector & Utilities	22	25	29	31	38	40	37	42	18	22	16	20
Manufacturing	34	35	29	28	37	38	29	32	23	20	12	18
Construction	28	28	31	32	33	33	36	39	17	16	7	10
Wholesale & Retail	41	41	33	35	40	43	31	37	28	25	13	18
Hotels & Restaurants	33	30	34	34	29	28	32	35	24	21	15	15
Transport & Storage	29	21	32	28	35	33	35	40	23	20	14	22
Information & Communications	48	53	29	29	57	60	29	37	30	27	17	22
Financial Services	44	46	39	40	36	42	59	61	23	23	18	23
Business Services	35	35	35	35	41	44	45	49	25	26	15	21
Public Admin.	33	37	58	55	52	58	62	61	13	13	16	24
Education	36	31	49	49	42	45	56	57	25	18	12	16
Health & Social Work	35	39	49	51	40	45	53	53	23	21	12	16
Arts & Other Services	35	35	34	34	35	37	31	34	20	18	9	12

Base: All establishments in Modules B and D

'' denotes a figure greater than zero but smaller than 0.*

Table A.5.4 Technical and practical skills that will need developing among workforce by country and size (prompted)

			Country			Size					
	%	Total	England	Northern Ireland	Wales	2 - 4	5 - 24	25 - 49	50 - 99	100 - 249	250+
Unweighted Base		*19,901*	*16,507*	*1,247*	*2,147*	*4,347*	*9,994*	*2,929*	*1,530*	*862*	*239*
Specialist skills or knowledge needed	%	50	50	42	51	44	53	58	61	65	66
Knowledge of products and services offered	%	48	48	42	47	44	52	52	50	53	48
Adapting to new equipment or materials	%	45	45	40	48	43	46	47	48	51	54
Solving complex problems	%	38	38	34	37	35	40	42	43	49	42
Computer literacy / basic IT skills	%	30	30	30	35	30	29	31	32	35	35
Reading and understanding instructions, etc.	%	30	30	28	29	29	31	32	31	35	36
Knowledge of how your org. works	%	30	30	28	31	25	34	39	36	39	37
Advanced or specialist IT skills	%	29	29	28	28	31	27	29	29	35	31
Writing instructions, guidelines, manuals or reports	%	23	23	23	25	22	24	27	25	31	25
More complex numerical skills	%	18	18	18	19	18	18	19	20	25	25
Basic numerical skills	%	16	16	17	17	16	16	15	15	17	16
Manual dexterity	%	14	14	12	16	15	13	12	10	14	18
Communicating in a foreign language	%	9	9	10	7	9	9	10	10	9	14

Base: All establishments in Modules B and D anticipating a need to upskill their workforce

(*) Denotes a figure greater than 0 but smaller than 0.5

Table A.5.5 Technical and practical skills that will need developing among workforce by sector (prompted)

		Primary Sector & Utilities	Manufacturing	Construction	Wholesale & Retail	Hotels & Restaurants	Transport & Storage	Information & Communications	Financial Services	Business Services	Public Admin.	Education	Health & Social Work	Arts & Other Services
Unweighted base	*%*	*657*	*1,486*	*1,176*	*4,061*	*1,715*	*532*	*671*	*463*	*4,023*	*236*	*1,379*	*2,157*	*1,345*
Specialist skills or knowledge needed	%	47	49	43	48	41	47	55	62	52	63	57	54	47
Knowledge of products and services offered	%	40	41	40	57	50	38	51	67	45	48	35	46	49
Adapting to new equipment or materials	%	57	57	53	51	47	42	38	25	36	44	39	45	48
Solving complex problems	%	36	37	35	38	35	36	46	46	39	47	35	39	32
Computer literacy / basic IT skills	%	41	27	27	35	30	33	22	25	28	38	30	33	27
Reading and understanding instructions, etc.	%	33	27	31	33	36	32	23	32	29	31	23	30	26
Knowledge of how your org. works	%	30	26	23	34	42	28	19	35	27	41	29	34	33
Advanced or specialist IT skills	%	22	24	24	24	18	22	63	23	36	34	31	28	24
Writing instructions, guidelines, manuals or reports	%	23	20	22	22	26	24	21	23	24	30	22	27	19
More complex numerical skills	%	18	16	17	18	21	22	20	23	19	18	19	17	13
Basic numerical skills	%	22	13	15	19	25	17	11	15	13	16	11	14	13
Manual dexterity	%	29	24	21	18	17	15	9	1	8	11	6	7	12
Communicating in a foreign language	%	5	8	7	10	16	9	9	5	8	8	13	10	10

Base: All establishments in Modules B and D anticipating a need to upskill their workforce

(*) Denotes a figure greater than 0 but smaller than 0.5

Table A.5.6 People and personal skills that will need developing among workforce by country and size (prompted)

			Country			Size					
		Total	England	Northern Ireland	Wales	2 - 4	5 - 24	25 - 49	50 - 99	100 - 249	250+
Unweighted Base		*19,901*	*16,507*	*1,247*	*2,147*	*4,347*	*9,994*	*2,929*	*1,530*	*862*	*239*
Ability to manage my own time and prioritise own tasks	%	41	41	41	43	35	46	50	50	54	49
Team working	%	37	37	37	38	29	43	50	51	54	56
Managing or motivating other staff	%	36	36	35	37	28	42	49	50	55	52
Customer handling skills	%	34	34	33	35	29	39	40	38	39	41
Managing their own feelings, or handling the feelings of others	%	33	33	33	36	26	38	45	48	51	54
Instructing, teaching or training people	%	31	31	29	31	25	36	43	41	46	47
Setting objectives for others and planning human, financial and other resources	%	28	28	29	28	23	30	36	38	41	46
Sales skills	%	27	28	25	26	26	30	25	21	23	20
Persuading or influencing others	%	27	27	26	26	24	29	34	34	44	44
Making speeches or presentations	%	15	15	15	14	13	16	19	21	22	28

Base: All establishments in Modules B and D anticipating a need to upskill their workforce

(*) Denotes a figure greater than 0 but smaller than 0.5

Table A.5.7 People and personal skills that will need developing among workforce by sector (prompted)

		Primary Sector & Utilities	Manufacturing	Construction	Wholesale & Retail	Hotels & Restaurants	Transport & Storage	Information & Communications	Financial Services	Business Services	Public Admin.	Education	Health & Social Work	Arts & Other Services
Unweighted base	*%*	*657*	*1,486*	*1,176*	*4,061*	*1,715*	*532*	*671*	*463*	*4,023*	*236*	*1,379*	*2,157*	*1,345*
Ability to manage my own time and prioritise own tasks	%	41	39	36	43	48	39	40	42	39	48	45	46	42
Team working	%	41	34	29	39	47	37	29	36	32	50	38	46	39
Managing or motivating other staff	%	35	32	27	38	48	30	29	33	32	52	43	45	38
Customer handling skills	%	24	27	28	40	48	34	32	38	33	32	21	34	36
Managing their own feelings, or handling the feelings of others	%	34	30	25	35	44	30	27	33	29	42	40	44	36
Instructing, teaching or training people	%	25	29	25	33	41	26	29	29	28	39	43	38	33
Setting objectives for others and planning human, financial and other resources	%	28	22	22	27	35	21	25	29	27	39	32	32	27
Sales skills	%	18	25	19	36	38	17	35	34	29	10	10	17	27
Persuading or influencing others	%	26	23	21	27	35	22	27	27	28	40	27	29	28
Making speeches or presentations	%	8	10	11	12	14	9	16	21	18	30	18	19	15

Base: All establishments in Modules B and D anticipating a need to upskill their workforce

(*) Denotes a figure greater than 0 but smaller than 0.5

Table A.5.8 Digital skills that will need developing among workforce by country and size (unprompted)

			Country			Size					
		Total	England	Northern Ireland	Wales	2 - 4	5 - 24	25 - 49	50 - 99	100 - 249	250+
Unweighted Base		*9,273*	*7,651*	*590*	*1,032*	*2,084*	*4,494*	*1,377*	*749*	*455*	*114*
Skills using new or updated company software or systems	%	39	39	40	43	36	42	43	43	47	37
Basic Microsoft Office application skills	%	16	15	23	19	15	16	17	19	18	22
Specialist software or hardware / internal systems	%	10	11	6	7	9	12	13	16	14	13
Advanced Microsoft Office skills	%	10	10	15	9	10	10	11	12	12	13
Foundation digital skills	%	9	9	11	11	9	9	8	9	12	19
Graphic design / design engineering	%	5	5	5	6	7	4	3	3	3	*
Web development skills	%	5	5	5	7	6	4	2	2	2	5
Application programming and development skills	%	5	5	7	3	5	4	5	5	5	4

Base: All establishments in Modules B and D anticipating a need to upskill their workforce

(*) Denotes a figure greater than 0 but smaller than 0.5

Table A.5.9 Digital skills that will need developing among the workforce by sector (unprompted)

		Primary Sector & Utilities	Manufacturing	Construction	Wholesale & Retail	Hotels & Restaurants	Transport & Storage	Information & Communications	Financial Services	Business Services	Public Admin.	Education	Health & Social Work	Arts & Other Services
Unweighted base	*%*	*314*	*592*	*476*	*1,904*	*656*	*225*	*445*	*187*	*1,996*	*126*	*695*	*1,045*	*612*
Skills using new or updated company software or systems	%	30	36	35	41	30	43	41	47	42	44	41	40	37
Basic Microsoft Office application skills	%	24	16	19	15	24	16	6	18	12	20	16	22	19
Specialist software or hardware / internal systems	%	9	11	7	12	9	13	7	14	10	7	12	12	11
Advanced Microsoft Office skills	%	5	11	14	8	10	6	9	14	10	21	11	14	10
Foundation digital skills	%	16	6	9	10	11	6	3	4	7	6	12	12	14
Graphic design / design engineering	%	1	12	11	3	1	*	6	1	10	*	1	2	3
Web development skills	%	2	4	4	5	5	1	9	3	6	6	2	4	7
Application programming and development skills	%	3	7	4	3	3	4	15	4	4	2	6	4	6

Base: All establishments in Modules B and D anticipating a need to upskill their workforce

(*) Denotes a figure greater than 0 but smaller than 0.5

Appendix B: Definitions for skills and causes of skills gaps groupings

Table B.1 Grouped technical and practical skills

Complex analytical skills	Operational skills	Digital skills	Basic skills
Solving complex problems requiring a solution specific to the situation	Knowledge of products and services offered by your organisation and organisations like yours	Computer literacy / basic IT skills	Computer literacy / basic IT skills
More complex numerical or statistical skills and understanding	Knowledge of how your organisation works	Advanced or specialist IT skills	Reading and understanding instructions, guidelines, manuals or reports

Table B.2 Grouped people and personal skills

Management and leadership skills	Sales and customer skills	Self-management skills
Persuading or influencing others	Sales skills	Ability to manage own time and prioritise own tasks
Managing or motivating staff	Customer handling skills	Managing their own feelings, or handling the feelings of others
Setting objectives for others and planning human, financial and other resources		

Table B.3 Grouped digital skills

Design, animation and graphics skills	Basic internet skills	Basic digital skills
Animation skills	Communicating via email	Foundation digital skills – such as turning on devices typing changing passwords connecting to the internet
Multimedia production skills	Completing transactions online	Basic Microsoft Office applications skills (Word Excel PowerPoint Outlook etc.)
Graphic design / design engineering skills (incl. Computer Aided Design [CAD] skills)	Using the internet to find solutions to problems	
	Being safe and legal online – e.g. understanding online risks and threats	

Table B.4 Grouped causes of skills gaps

Transient factors	Positive transformational factors
They are new to the role	The introduction of new working practices
Their training is currently only partially completed	The introduction of new technology

Appendix C: Industry coding

Each establishment was allocated to one of 13 sectors, based on their Standard Industrial Classification (SIC). SIC 2007 was used to classify establishments using the following method. Using the four-digit Standard Industrial Classification (SIC) supplied for each record from the Market Location or IDBR database, a description of business activity was read out to each respondent. If they agreed that this description matched the main activity undertaken at the establishment, then the SIC on Market Location's database or IDBR was assumed to be correct. If, however, the respondent felt the description did not correspond to their main business activity at the site (around a fifth of cases), a verbatim response was collected to find out what they do. At the analysis stage this was coded to a four-digit SIC which was then used as the basis for allocation into sector.

The table below shows the 13 sectors and their corresponding SIC 2007 definitions.[28]

Sector	SIC 2007
Primary Sector and Utilities	A - Agriculture, forestry and fishing (01-03) Including farming, hunting and other related service activities, forestry and logging, fishing and aquaculture B - Mining and quarrying (05-09) Including mining of coal, metals, sand/stone/clay, and extraction of crude petroleum and natural gas D - Electricity, gas, steam and air conditioning supply (35) E - Water supply, sewerage, waste management and remediation activities (36-39) Including electric power generation, transmission and distribution, manufacture of gas and distribution of gaseous fuels, steam and air conditioning supply, water collection, treatment and supply, sewerage and waste collection
Manufacturing	C - Manufacturing (10-33) Including manufacture of food and beverage, textiles, chemicals and chemical products, basic pharmaceutical products, other mineral products, manufacture of metals and metal products, machinery, computer and electronic products and equipment, motor vehicles and other transport equipment, furniture, and repair and installation of machinery and equipment

[28] UK Standard Industrial Classification of Economic Activities 2007 (SIC 2007), Source: Companies House, *Standard industrial classification of economic activities (SIC)* (2008)

Sector	SIC 2007
Construction	F - Construction (41-43) Including the construction of buildings, civil engineering (constructing roads, railways and other utility projects), demolition, and specialised activities such as electrical installation, roofing and scaffold erection
Wholesale and Retail	G - Wholesale and retail trade; repair of motor vehicles and motor cycles (45-47) Including sale, maintenance and repair of motor vehicles, parts and accessories, non-vehicle wholesale (for example agriculture, food, household goods), and the retail trade of all products whether in stores, stalls, markets, mail order or online
Hotels and Restaurants	I - Accommodation and food service activities (55-56) Including hotels, campsites, youth hostels, holiday centres, villages and other short stay accommodation, restaurants and takeaways, event catering and licensed clubs, pubs and bars
Transport and Storage	H - Transport and storage (49-53) Including land, water and air transport (passenger and freight), warehousing and support activities for transportation, postal and courier activities,
Information and Communications	J - Information and communication (58-63) Including publishing (books, journals, newspapers etc. and software/computer games), television, film and music production, broadcasting, telecommunications, computer programming and consultancy, information service activities (e.g. data processing and hosting)
Financial Services	K - Financial and insurance activities (64-66) Including banks and building societies, activities of holding companies, trusts, funds and similar financial entities, credit granting, pensions, insurance and reinsurance
Business services	L - Real estate activities (68) M - Professional, scientific and technical activities (69-75) N - Administrative and support service activities (77-82) Including the buying, selling and renting of real estate, legal activities, accounting, bookkeeping and auditing, management consultancy, architectural and engineering activities, scientific research and development, advertising and market research, specialist design, photographic activities, translation and interpretation, veterinary activities, renting and leasing of tangible goods (motors, household, machinery), employment agencies, travel agencies and tour operations, security and investigation activities, office administration and business support
Public Administration	O - Public administration and defence; compulsory social security (84)

Sector	SIC 2007
	Including administration of the State and economic and social policy of the community, provision of services to the community such as defence activities, foreign affairs, justice and judicial activities, fire service and compulsory social security activities
Education	P - Education (85) Including pre-primary, primary, secondary and higher education, other education (such as sports, driving schools, cultural education), educational support activities
Health and Social Work	Q - Human health and social work activities (86-88) Including Hospitals, medical and dental practices, residential care, social work activities
Arts, entertainment, recreation and other service activities	R - Arts, entertainment and recreation (90-93) S - Other service activities (94-96) Including performing arts, libraries and museums, gambling and betting, sports facilities, amusement and recreation activities, activities of membership organisations (religious, political, trade union, professional), personal services (hairdressing, beauty, textile cleaning, well-being activities, funeral activities)
NOT COVERED IN SURVEY	T - Activities of households as employers; undifferentiated goods and services producing activities of households for own use (97-98) U - Activities of extraterritorial organisations and bodies (99) Including households as employers of domestic personnel, private households producing goods for own use

Appendix D: Occupational Coding

The occupational data collected in the survey were collected both pre-coded and verbatim. The former included the occupational breakdown of employment (question SD5A to SD8) where respondents were asked how many of their workforce fell into each of the nine major (one-digit) Standard Occupation Classification (SOC) 2010 categories (Managers, Directors and Senior Officials through to Elementary occupations). However, on vacancy measures (for example the occupations in which vacancies exist – question SC7) this information was collected verbatim. This was then coded at the analysis stage, where possible to a four-digit level SOC, if not three, two- or one-digit level.

Examples of what might fall into each occupational band are as follows:

Occupational group	Primary sectors (Primary Sector & Utilities, Manufacturing, Construction	Service sectors (Retail, Business, Finance, Transport, etc.)	Public sector (Public Admin, Health, Education, etc.)
Managers, Directors and Senior Officials	Site managers, Department Heads, Shift Managers (not supervisors)	Directors, Managers / Branch/site managers, shift managers (not supervisors	Police inspectors and above, department heads, Head teachers, Senior Officials
Professionals	Professional engineers, software and IT professionals, accountants, chemists, scientific researchers	Solicitors, lawyers, accountants, IT professionals, economists, architects, actuaries	Doctors, nurses, midwives, teachers, social workers, librarians
Associate Professionals	Science and engineering technicians, lab technicians, IT technicians, accounting technicians	Insurance underwriters, finance/investment analysts and advisers, writers/journalists, buyers, estate agents	Junior police/fire/prison officers, therapists, paramedics, community workers, H&S officers, housing officers
Administrative staff	Secretaries, receptionists, PAs, telephonists, bookkeepers	Secretaries, receptionists, PAs, communication operators, market research interviewers, clerks	Secretaries, receptionists, PAs, local government officers and assistants, office assistants, library and database assistants
Skilled Trades	Farmers, electricians, machine setters / tool makers, carpenters, plasterers	Motor mechanics, printers, TV engineers, butchers	Chefs
Caring, Leisure and Other Service Occupations	Care assistants, nursery nurses	Travel agents, travel assistants, hairdressers, housekeepers	Care assistants, home carers, nursery nurses, ambulance staff, pest control, dental nurses, caretakers
Sales and customer service occupations	Customer facing roles: sales staff and call centre agents	Sales assistants and retail cashiers, telesales, call centre agents	Customer care operations
Process, plant and machine operatives	Routine operatives, drivers, machine	HGV, van, fork-lift, bus and taxi drivers	Drivers, vehicle inspectors

Occupational group	Primary sectors (Primary Sector & Utilities, Manufacturing, Construction	Service sectors (Retail, Business, Finance, Transport, etc.)	Public sector (Public Admin, Health, Education, etc.)
	operators, sorters and assemblers		
Elementary occupations	Labourers, packers, goods handling and storage staff	Bar staff, shelf fillers, catering assistants, waiters/waitresses, cleaners	Labourers, cleaners, road sweepers, traffic wardens, security guards

Appendix E: Sampling error and statistical confidence

Sampling errors for the survey results overall and for key sub-groups are presented in Table E.1. Figures have been based on a survey result of 50% (the 'worst' case in terms of statistical reliability) and have used a 95% confidence level. Where the table indicates that a survey result based on all respondents has a sampling error of ±0.34%, this should be interpreted as follows: 'for a question asked of all respondents where the survey result is 50%, we are 95% confident that the true figure lies within the range 49.66% to 50.34%'. Significance testing on employer measures use the unweighted respondent base, while employment measures, and density measures such as the proportion of the workforce with skills gaps and skills-shortage vacancy density, have been calculated on the basis of the unweighted employment (or vacancy) base.

As a note, the calculation of sampling error has taken into account the finite population correction factor to account for cases where we are measuring a significant portion of the population universe (i.e. even if two sample sizes are the same, the sampling error will be lower if in one case a far higher proportion of the population was covered).

These confidence intervals are based on the assumptions of probability random sampling and a normal distribution of responses.

Table E.1 Sampling error (at the 95% confidence level) associated with findings of 50%

	Population	Number of interviews	(Maximum) Sampling Error
Overall	**1,831,000**	**81,013**	**± 0.34**
By country			
England	1,683,000	70,217	± 0.36
Northern Ireland	59,000	4,023	± 1.49
Wales	89,000	6,773	± 1.14
By size			
2 to 4	998,000	20,183	± 0.68
5 to 9	381,000	20,012	± 0.67
10 to 24	267,000	20,599	± 0.66
25 to 49	98,000	10,795	± 0.89
50 to 99	50,000	5,377	± 1.26
100 to 249	27,000	3,122	± 1.65
250+	11,000	925	± 3.09
By sector			
Primary Sector & Utilities	99,000	2,952	± 1.78
Manufacturing	94,000	6,234	± 1.20
Construction	179,000	5,249	± 1.33
Wholesale and Retail	348,000	17,503	± 0.72
Hotels and Restaurants	172,000	7,594	± 1.10
Transport and Storage	62,000	2,330	± 1.99
Information and Communications	91,000	2,511	± 1.93
Financial Services	37,000	1,577	± 2.41
Business Services	426,000	15,490	± 0.77
Public Administration	15,000	840	± 3.29
Education	55,000	5,012	± 1.32
Health and Social Work	120,000	8,092	± 1.05
Arts and Other Services	134,000	5,629	± 1.28

Source for population data is the ONS Inter-Departmental Register (IDBR). Populations have been rounded to the nearest 1,000.

Appendix F: Survey population estimates (weighted)

	Total	England	Northern Ireland	Wales
Overall number of establishments	1,830,802	1,683,072	58,663	89,067
With a vacancy	309,543	287,541	8,274	13,279
With a hard-to-fill vacancy	137,437	127,197	3,839	6,400
With a skill-shortage vacancy	100,012	92,754	2,482	4,775
With at least one skills gap	241,392	224,344	5,757	11,292
With at least one employee with more qualifications and skills than job role requires	775,395	711,881	25,055	38,459

Base: All establishments

Appendix G: References

Companies House, *Standard industrial classification of economic activities (SIC)* (2008)

Department for Education, *Technical Education Reform: the case for change* (2016)

Hogarth, Terrence and Wilson, Rob, *Skills Matter: a synthesis of research on the extent, causes and implications of skill deficiencies* (2001)

NHS Improvement, *Quarterly performance of the NHS provider sector: quarter 4 2018/19* (2019)

Office for National Statistics, *International comparisons of productivity: 2016* (2018)

Office for National Statistics, *Labour market overview: June 2019* (2019)

Office for National Statistics, UK l*abour market February 2020* (2020)

Office for National Statistics, *Migration statistics quarterly report: February 2020* (2020)

Office for National Statistics, *Labour productivity, UK: April to June 2019* (2019)

Office for National Statistics, *Quarterly national accounts time series dataset* (2020)

Department for Education

Reference: DFERPPU 2018061/2

ISBN: 978-1-83870-204-5

For any enquiries regarding this publication, contact us at:
www.education.gov.uk/contactus

This document is available for download at www.gov.uk/government/publications