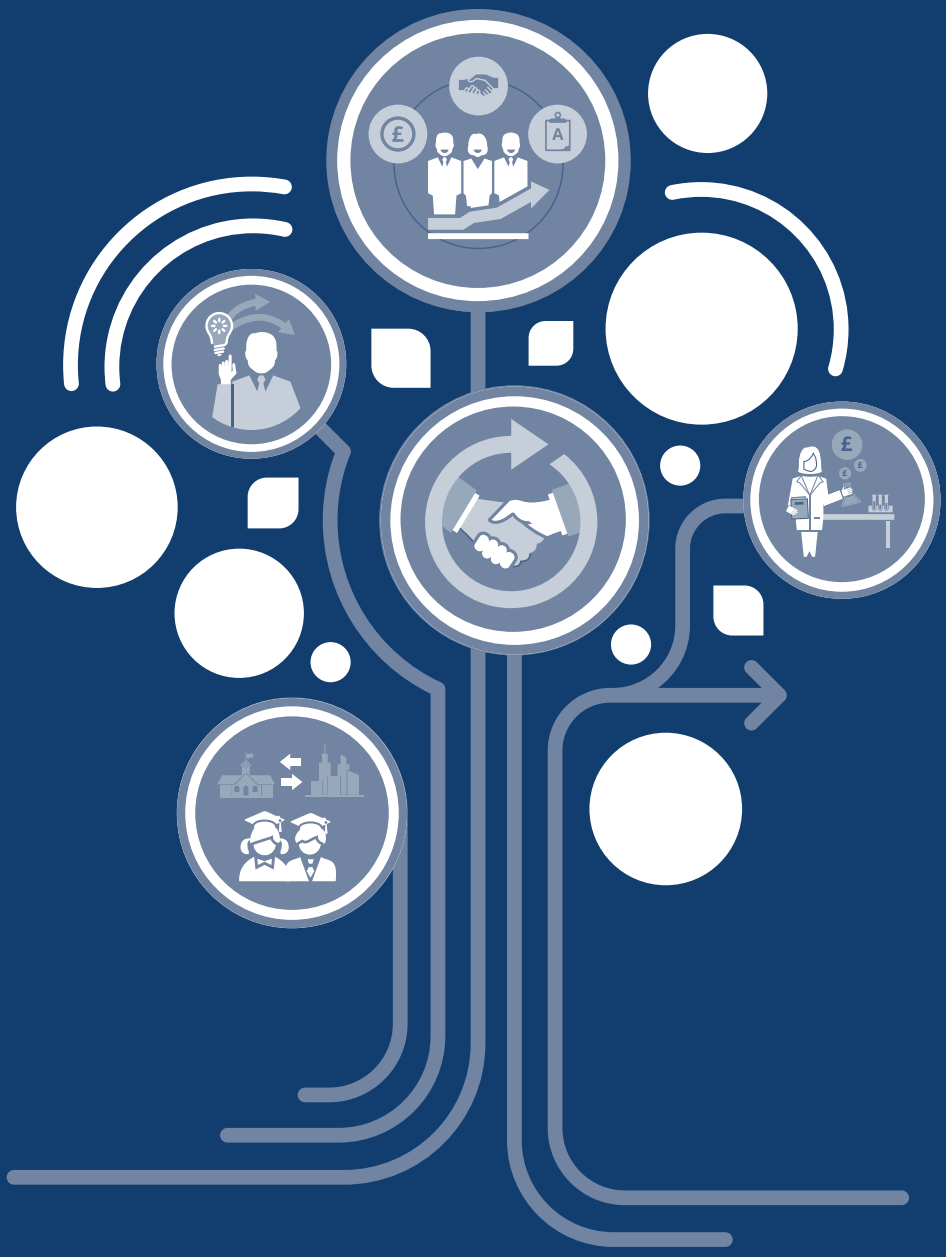
High Performance Working: a new segmentation of smaller workplaces



UK COMMISSION FOR EMPLOYMENT AND SKILLS

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High Performance Working: a new segmentation of smaller workplaces

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Growth through People: Evidence and Analysis
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SUMMARY: Segmenting small-to-medium sized workplaces (between 5 and 99 employees) according to their reported adoption of high performance working practices highlights a range of paths, with different choices between talent development and employee autonomy. After setting out the approach, seven segments of HPWP adoption are identified and analysed for difference in establishment strategy, size, sector and operating context. Substantial differences emerge which suggest that such analysis offers a foundation to further understand the motivations and outcomes of HPWP adoption.

1 Introduction

The UK Commission for Employment and Skills has long been concerned not only with the development of workforce skills, but ensuring that they are harnessed and nurtured in the workplace. In *Growth through People: Evidence and Analysis*[1] we set out an evidence-based narrative about the critical role of the workplace, especially in its difficulty adapting to changed economic circumstances. Specifically, while we have had a more qualified – and hopefully therefore, more skilled – workforce in every year, the recession has hit workplace productivity hard.

There are lots of reasons why measured productivity has been hit so hard, and certainly we would take the view that in a predominantly service-driven economy, the measurement of intangible investment becomes all the more important. And certainly, any decline in workplace performance owes something to external factors – be it adverse shocks to our terms of trade, or weaknesses in the financial system. But those external factors can and will change the business environment; but it is worrying how difficult many UK workplaces have found it to adapt over the past 6 years.

One particular dimension of this is the measurement of so-called High Performance Working Practices (HPWP). UKCES has been measuring adoption of HPWP for some time through our biannual Employer Skills Surveys, which are some of the largest sampled exercises of their kind in the world. Like its predecessors, UKCESS13[2] asks those managing workplaces about their adoption of a battery of HPWPs. Where in the main report, we focused on the overall quantitative level of HPWP adoption, we wanted to drill down a bit further.

The rationale for such an approach is that we wanted to unpick the different paths to HPWP adoption, and the points at which different workplaces tend to end up. An

[1] UKCES (2015). Growth through people: evidence and analysis. Report. Wath-upon-Dearne: UK Commission for Employment and Skills.
[2] M. Winterbotham et al. (2014). The UK Commission's Employer Skills Survey 2013: UK Results. Evidence Report 81. Wath-upon-Dearne: UK Commission for Employment and Skills.

important part of the HPWP literature is the emphasis on high performance working as a holistic approach, and so therefore the 'tick-box' method of evaluating HPWP adoption as if all are equal may be missing out an important part of the story for many workplaces.

The rest of this paper proceeds as follows: first, we look at the method employed and the limits of the analysis; second, we identify our key segments of HPWP adoption; third, we consider how those segments are composed in terms of a range of other indicators about the workplace; and fourth, a brief concluding commentary on the findings and their implications for future HPWP research.

2 Method

The approach to analysis is relatively straightforward. After selecting the right sample, we run an exploratory factor analysis across the battery of HPWPs. Five factors are identified, and resultant factor scores are standardised according to establishment weights. We then classify respondent establishments into a set of clusters using a *k*-means algorithm, where $k = 7$. These define a set of segments, which we then use for a set of descriptive analyses, to understand the associations between segment membership and wider workplace context and practice.

2.1 Data and scoping

Only around half of the UKCESS13 sample were asked about HPWPs; it constitutes one of two modules within the survey, each of which are only used with a subset of the full sample. We make a further scoping decision here, which is to limit the analysis to those establishments with between 5 and 99 employees.[3] That furnishes a sample of $N = 34,045$.

Earlier versions of the analysis did not apply the size limit. The result was that two large clusters end up dominating the 2-4 and 100+ employee size categories, with either very few or very many HPWPs adopted, respectively. Those clusters then drew away the lowest and highest scoring establishments from across the size range, limiting the explanatory range for other clusters.

The obvious explanation for the existence of these size-driven clusters at either size extreme is that formal HPWP adoption is more likely to fail the cost-benefit test in establishments with 2 or 3 employees, while larger establishments' dedicated HRM resource lowers those costs and makes adoption more typical than not. It's worth considering whether low marginal cost and cultural norms make large establishments likely to adopt HPWPs as a formality, with implementation highly variable. For 5-99 employee establishments, the greater diversity in adoption suggests that that most HPWPs are feasible for adoption, and that implementation will typically be of some quality because they have made a conscious decision for adoption.

For completeness, it's worth noting that the factor analysis produced with and without the size restriction ended up with very similar loadings.

2.2 Factor analysis

The five identified factor explain around 30 per cent of the variation in the data. The five factors are identified according to their natural place in the 4As model (e.g. Tamkin,

[3]UKCESS13 respondents are establishments, which can be an entire business, or a part of a larger organisation.

Domain	Name	HPWPs
Application	Planning	Training plan, annual performance review, training budget, work shadowing, business plan, equal opportunities policy, training needs assessment.
Application	Organisation	Training budget, IIP, ISO 9000, Trade Union consultation, working in teams, identifying talent.
Ability	Skills	Training, formal performance review after training.
Attitude	Rewards	Bonus scheme, performance related pay, flexible benefits.
Attitude	Autonomy	Task variety, task discretion, flexible working.

Table 1: Highest loading HPWPs for each factor

2005); there are two each for Application and Attitude, and then another for Ability (no factor seemed to naturally lend itself to Access). Table 1 identifies the HPWPs against each factor where they load most strongly:

The names have been selected to reflect the loadings. So, the two Application factors relate to Planning and then investment in Organisation; the Ability one looks at investment in Skills; and the two Attitude factors break into Rewards and employee Autonomy.

3 Segmentation

The cluster analysis then classifies establishments according to their standardised factor scores. As the scores are standardised, 0 is an average level across all establishments for that factor; +1 or -1 is one standard deviation above or below the mean level, and so on.

3.1 Seven segments

Each cluster lends itself to a description from the scores, as set out in Figure 1. It's worth saying that we're painting in broad strokes here, on the basis of average tendencies within the segments, and on the basis of HPWPs described at a high level. That caveat aside:

Organisers score well for planning, but especially for their commitment to organisation (+1.9 SD), while also being more likely to train and more likely to reward employees for their performance.

Developers are better than average in planning. Where they excel is in developing employees (+1 SD), and then giving them autonomy (+1.1 SD) and rewarding their performance.

Recruiters are significantly better than average in planning, but they focus on rewarding employees and giving them autonomy (+1.1 SD), but they are less likely to train (-0.8 SD)

Trainers are focused on training (+1 SD), while being above average in planning and below average in organisation. While they reward employees for performance, they give them limited autonomy (-0.8 SD).

Figure 1: Factor scores for seven named segments

Freeriders are above average at planning, but they avoid training and development (-0.8 SD) and while they do tend to reward for performance, they give them limited autonomy (-0.8 SD).

Plodders are below average at planning and in most other respects – where they stand out is in their avoidance of performance-based rewards for employees (-1.9 SD).

Survivors are poor at planning and organisation (-1.7 and -0.6 SD), train little (-0.6 SD) and give little reward for performance (-0.6 SD), and are average for autonomy.

To summarise some obvious patterns: Organisers and Developers are clearly the 'best' adopters of HPWP. Recruiters are similar to Developers in all but one way, their lack of training and development. Freeriders and Trainers have a similar relationship at a lower level; they both seem competent in planning and both reward for performance, but both are less likely to give autonomy, and differ in their willingness to train. Plodders and Survivors are two categories we can consider unwilling to embrace HPWP – they score highly on none of the factors, and score poorly one or more.

3.2 Scaling the segments

As a first step to understanding the segments, it's worth looking at their respective shares of employment and the number of establishments. Figure 2 shows the breakdown, and helps us to see, reassuringly, that the Plodders and Survivors are relatively small categories, each accounting for less than a tenth of the 5-99 employee workforce, although between them accounting for around a quarter of establishments.[4]

[4] As we are only looking at establishments with 5 to 99 employees, we are accounting for less than a half of all employment, around 13.1 million employees. 750,000 establishments are in scope, but this is a relatively small share of the total, the majority of which consists of establishments with 5 or fewer employees.

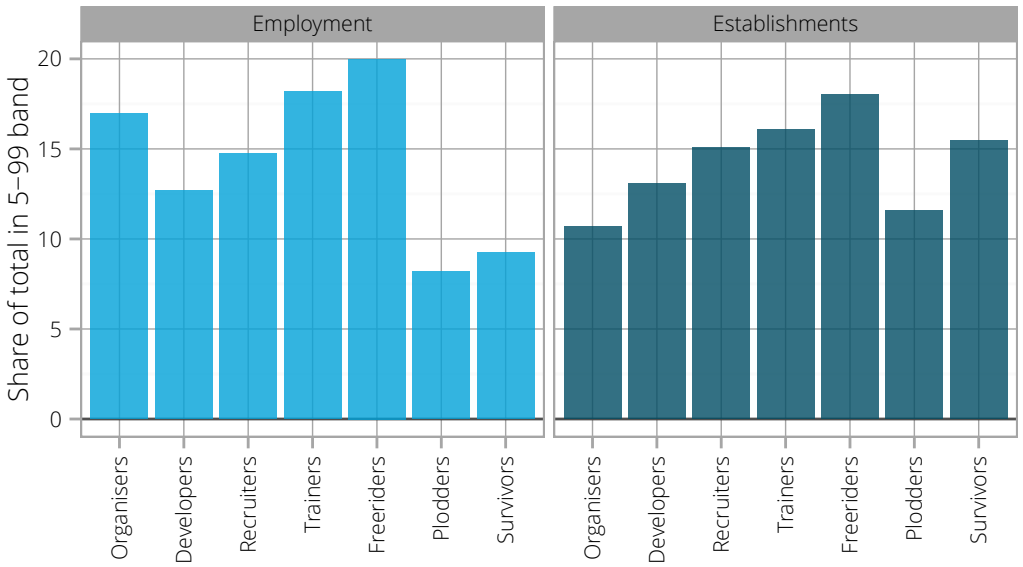

Figure 2: Segment shares of employment and total number of establishments

For the most part, employment and establishment shares follow a similar pattern, with some obvious exceptions: Organisers account for 17 per cent of employees and 10.7 per cent of establishments, while Survivors account for 9.2 per cent of employees and 15.5 per cent of establishments. That reflects, as we shall see, a reflection of the wider size bias of HPWP adoption, with Organisers typically being large workplaces – and so fewer establishments account for more employees – and Survivors are typically small.

4 Analysis

In this section, we consider the seven segments through a series of different indicators, looking at the make-up of the segments by size, sector, strategy and workforce. Except where noted, we focus on distributions by employment rather than number of establishments, because of the size bias detected in two segments (Organisers and Survivors).

4.1 Size distribution

As noted above, Organisers and Survivors have clear size biases; but what about the rest? Table 2 looks at the distribution across sizebands, as well as average establishment size. As expected, Organisers are largest – 41 per cent of employment in 50-99 establishments, only 6.4 per cent in 5-9 establishments, with an average establishment size of 26 employees. Again, as expected, Survivors offer almost the reverse pattern – 44.9 per cent employed in 5-9 establishments, 7.9 per cent in 50-99 establishments, with around 10 employees in the average workplace.

Aside from Plodders, which are somewhat similar to Survivors in size distribution, the remaining four categories (Developers, Recruiters, Trainers and Freeriders) are all

Cluster	5-9	10-24	25-49	50-99	Median	Mean
Organisers	6.4	23.5	29.2	40.9	20.0	26.3
Developers	20.4	31.3	24.7	23.5	13.0	16.1
Recruiters	19.7	30.6	26.5	23.1	13.0	16.2
Trainers	14.1	31.2	26.8	27.9	15.0	18.7
Freeriders	15.4	29.4	26.9	28.3	15.0	18.4
Plodders	34.6	34.7	16.1	14.5	10.0	11.7
Survivors	44.9	33.4	13.7	7.9	8.0	9.9

Table 2: % share of employment by sizeband and average employee nos.

much more evenly distributed across the sizebands and all have average employee numbers in similar territory, 16 to 19 employees. That's an important finding because it suggests that, although there is a size bias across the whole range (including micro and large establishments) in HPWP reporting, all of the segments here, and especially these latter four, show behaviours that cut across the 5-99 employee sizeband. We can say, for example, that a Developer approach to HPWP adoption is not simply a reflection of establishment size.

4.2 Sector profile

Looking at the sector profile of segments helps to shed more light on the kinds of businesses involved, and the market contexts in which they operate. Figure 3 first sets out the profile of employment across sectors for each segment, relative to the entire group of workplaces; so here, a straight line at $y = 100$ would perfectly reflect the whole group, and deviations above and below 100 highlight the relative presence (or absence) of segment establishments in a sector. We find that:

Organisers are most common in the public sector, especially within public administration. They also have a high profile in the utility (EGWS: electricity, gas and water supply) sector, but are less common in manufacturing and construction.

Developers are found most in financial services, real estate and business activities, and transport, storage and communications. They are least common in the public sectors, especially education, and in mining and quarrying.

Recruiters are found especially in the two major public service categories, education and health and social work, as well as in the public sector more generally. Aside from agriculture and construction, they are less common in other sectors.

Trainers are similar to developers in being under-represented in the public sector and found commonly in financial services, real estate and business activities, and transport, storage and communications. But they are also somewhat over-represented in mining and quarrying and in manufacturing.

Freeriders are found in the two major public service categories, education and health and social work, as well as in mining and quarrying. They are under-represented in wholesale and retail and in several other private sector services.

Plodders are significantly under-represented in all of the public sector, and more common in wholesale and retail trade, transport, storage and communications, hotels and restaurants, and somewhat in manufacturing.

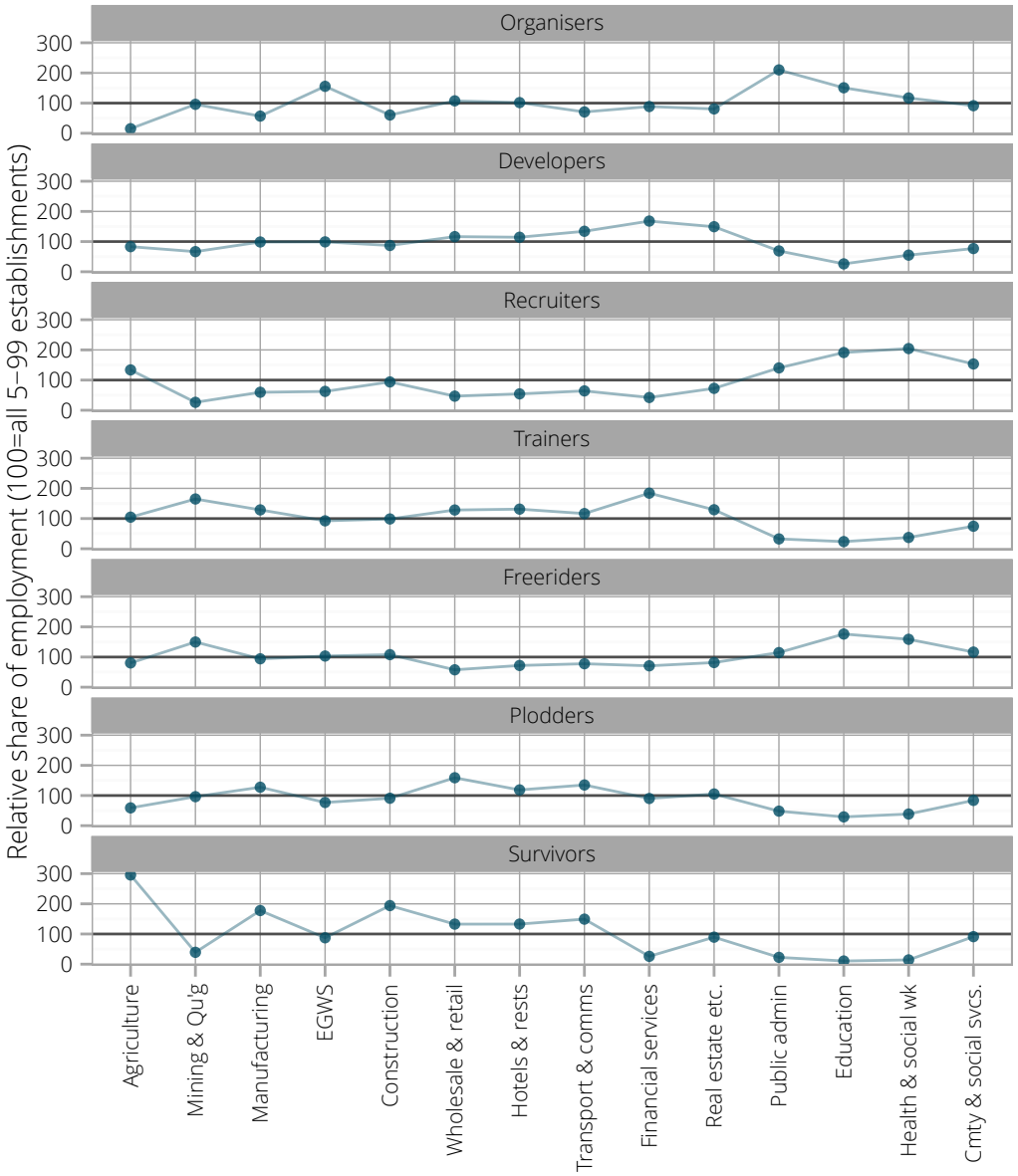

Figure 3: Sector employment profile by segment

Survivors are extremely common in agriculture, and also in manufacturing and construction. They are also common in wholesale and retail trade, hotels and restaurants, and transport, storage and communications. But they are uncommon in the public sector, in financial services, and in mining quarrying.

In considering these results, a few points of context are necessary. First, public sector employment is dominated by large establishments outside the scope of this analysis; so any pattern across the public sector needs to be handled with care. Even within our 5 to 99 employee size bracket, most public sector employment is in larger establishments.[5] The consequence is that the high profile among Organisers accounts for a very large share of the workforce, with 23.6 per cent of employees in public administration, education and health and social work in Organiser establishments, while there is just 4.1 per cent in Plodders or Survivors.

Still, within these small-to-medium sized public sector establishments, there are large numbers of Recruiter (28.5 per cent of employment) and Freerider (32.2 per cent) workplaces. The numbers of employees working for Developers (5.8 per cent) or Trainers (5.8 per cent) is small; there seems to be a real divide between those public sector establishments which embrace HPWP adoption and those which only do so with a blindspot for employee development; but very few who fail to adopt at all.

A second point of context is the very clear bias of the higher value service sectors – especially financial services – to train and develop their employees. On the other hand, service sectors with large shares of lower value activity – wholesale and retail trade, hotels and restaurants – tend to feature heavily in Plodders and Survivors. Although all of these sectors are highly dependent on their workforce for their overall business performance, the skills intensity of some sectors seems to be reflected in their approach to HPWP adoption.

4.3 Strategy indicators

We turn now to what we know about the segments' wider approach to managing and developing their organisation. First, for private sector workplaces, we look at the composite 'product-market strategy' indicator in UKCESS13, which looks at the establishment's ambition in bringing new products and services to market, or seeking out new markets. Table 3 breaks down employment on this measure, and identifies that employees working for Organisers, Developers and Recruiters are both much more likely than average to be working to a strategy with High or Very High ambition. Trainers are the most average group, spread across Low, Medium and High, with Freeriders and Plodders more likely Low or Medium, and Survivors showing the greatest tendency to be Low or Very Low. So here there's a clear sense in which HPWP adoption associates with more ambitious product-market strategies.

Next, we look at the organisational structure surrounding the establishments. Remember, we are looking here at workplaces with between 5 and 99 employees – but that doesn't preclude them being part of larger multisite organisations. Table 4 sets out the employment breakdown across three categories: those establishments defining a single organisation; those which are a subsidiary part of larger multisite organisations; and those forming the headquarters of a larger multisite organisation.

Reflecting their high level of public sector and larger workplaces, it isn't surprising that employees in Organiser establishments are least likely to be working for single-workplace organisations; and conversely, that Survivor employees are most likely to be so. Perhaps most interesting here is the somewhat smaller proportions of employees

[5]Across public administration, education, and health and social work, 36 per cent of 5-99 employment is in the 50-99 sizeband, and just 9 per cent in the 5-9 sizeband.

Cluster	Very Low	Low	Medium	High	Very High	DK
Organisers	1.4	6.6	21.8	36.7	23.7	9.9
Developers	1.1	4.9	18.0	35.5	30.2	10.2
Recruiters	2.0	9.2	21.1	33.1	22.5	12.0
Trainers	1.7	9.3	26.7	34.9	18.2	9.1
Freeriders	2.4	13.2	27.9	29.5	13.9	13.1
Plodders	3.1	10.3	24.0	31.3	18.6	12.7
Survivors	5.9	17.3	29.1	25.0	8.8	14.0

Table 3: % share of employment by product-market strategy (private sector only)

Cluster	One organisation	Multisite orgn.	HQ of multisite orgn.
Organisers	23.4	65.8	10.6
Developers	41.9	44.2	13.9
Recruiters	57.6	32.0	10.2
Trainers	38.8	46.5	14.7
Freeriders	55.3	33.3	11.3
Plodders	50.6	40.4	8.8
Survivors	78.2	12.7	9.0

Table 4: % share of employment by organisational structure

in Developer and Trainer establishments working for single-workplace organisations, and the high proportions working in head offices of multisite organisations.

On a related note, employees in Developer and Trainer workplaces are not only more likely to be working for a head office, but where they aren't, they are much more likely to be working for an organisation led from outside the UK. Among multisite establishments, 12.2 per cent of Developer employees and 11.6 per cent of Trainer employees are working for foreign-led organisations, compared to an average of 7.2 per cent. The high profile of international influence in these more HPWP-adoptive establishments perhaps reflects the wider finding of literature on management practice, that multinational workplaces tend to be better managed (Bloom and Reenen, 2010).

4.4 Workforce context

Our final set of indicators involves the labour market context for the different segments. Our concern here is to look at how segments' HPWP adoption reflects their differences in circumstance in terms of the types of people they employ, and their difficulties in finding new members of staff and ensuring that their employees are competent. We look first at the make-up of their workforce.

We look at three indicators of workforce composition here. First, the share of 'high-skill' employees, which are those in managerial, professional, and associate professional or technical roles.[6] These allow us to see the knowledge-intensity of the workplace, reflecting the hypothesis that the greater the dependency upon employee skills and knowledge, the more that HPWP adoption will become valuable to an employer. Second, we look at the share of service-intensive employees, which are those in care and leisure related roles, or those in sales and customer service.[7] That reflects the

[6] Under the Standard Occupational Classification, these are SOC Major Groups 1, 2 and 3.
[7] SOC Major Groups 6 and 7.

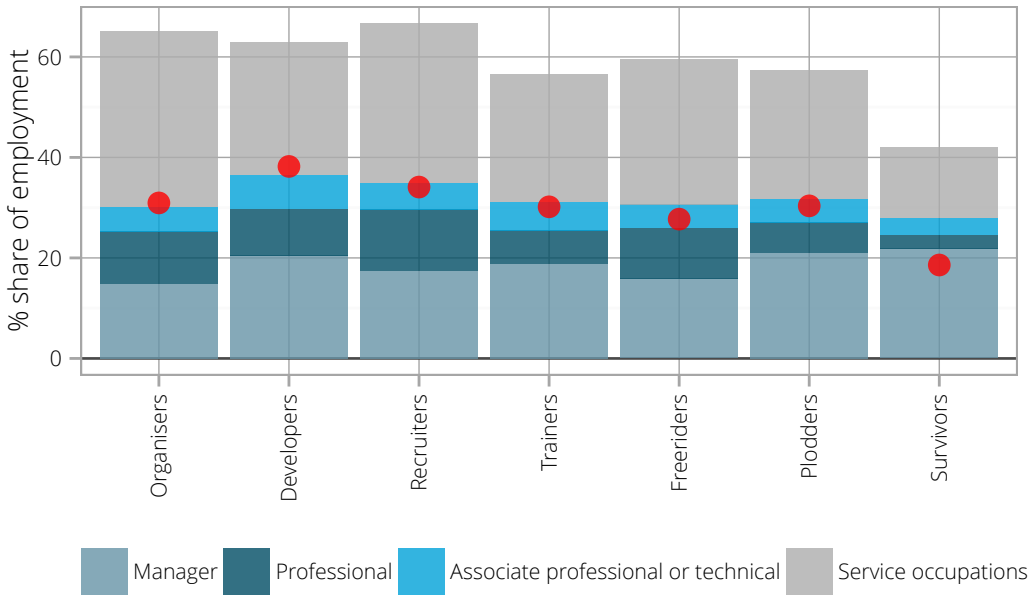

Figure 4: Shares of workers by occupation and Level 4 plus qualifications (red dots)

clear difference in the sector analysis between higher- and lower-value service sectors. Alongside high-skill roles, service sectors have also been and look set to be the major source of employment growth. Third, to give another view on knowledge and skills intensity, we look at the share of employees with Level 4 or higher qualifications.

Figure 4 shows the breakdown of workforce composition. Given the size bias in Organisers and Survivors (and to an extent, Plodders), the Manager shares can be misleading; the more small establishments, the higher will be the share of managers. The shares of Professionals and Associate Professionals are far more informative in this regard, with a clearly greater presence in the workforces of Organisers, Developers, Recruiters, and Freeriders (all with around 15 per cent of their workforce in these roles), and fewer in Trainers, Plodders and Survivors (Plodders and Survivors both have less than 10 per cent in these roles). The pattern of service occupation employees is also revealing, again favouring the more HPWP-adoptive establishments. Survivors make this point clearly – their workforces are made up of employees in middle-skill and manual labour-intensive roles, jobs often characterised by declining employment.

There is also a very clear association with the share of employees with Level 4 plus qualifications (represented by the red dots), with again more HPWP-adoptive segments employing greater numbers of highly-qualified employees. This is especially the case in Developers and Recruiters; in both cases, more than a third of workers are qualified to this level. Once more, the contrast with Survivors is revealing, with less than a fifth of the workforce qualified to this level.

Finally, we turn to look at the problems the different segments report in getting employees with the skills they need, and ensuring their workforce have the necessary skills to do their jobs. Figure 5 looks at both. 'Skills gaps' are the share of the workforce reported as being in need of improved skills to be proficient in their jobs. 'Skills shortage vacancies' are the numbers of vacancies reported as hard to fill specifically because of skills, and are reported here as a proportion of 1,000 existing workers in the establishments' workforces.

What we find is that there is some – but not clear-cut – relation between HPWP

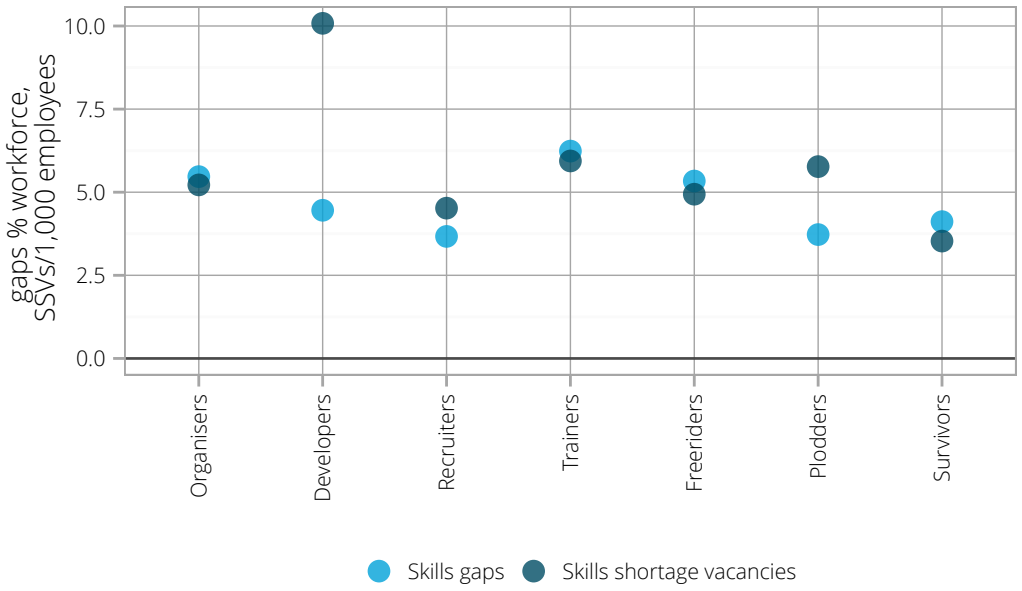

Figure 5: Skills shortages and skills shortage vacancies by segment

adoption and difficulties in finding skills. Survivors report few difficulties with either skills gaps or skills shortages, perhaps reflecting their limited skill requirements. Perhaps most interesting are the differences between the two matching pairs, Developers and Recruiters first, and then Trainers and Freeriders. These pairs 'match' in the sense that their HPWP adoption is similar except for the low levels of training and development reported in the latter case of each pair (i.e. Recruiters and Freeriders). Interestingly, in each case, the training and development-oriented segment reports a somewhat higher level of skills problem – acutely so with Developers and skills shortage vacancies. That suggests that in these segments, greater problems of getting the skills they need from the labour market lead them to be more willing to invest in their existing workforce's skills.[8]

5 Conclusion

This paper makes a number of new contributions to the evidence base on HPWP adoption. Focusing in on establishments with 5 to 99 employees, it distils the UKCESS13 battery of indicators into five factor scores, and uses these to identify seven segments which seem to differ in coherent ways in their approach to HPWP adoption. Those differences are interesting – establishments which plan and organise are more likely to adopt HPWP overall, but there are differences surrounding training and development and the approach to employee autonomy and rewards.

There is a size dimension in HPWP adoption; that is why this analysis was scoped around small-to-medium sized establishments. Even then, the most and least HPWP-adoptive segments retain something of a size bias. But the remaining five segments for

[8]We do not cover here the possibility that these are simply differences in perception driving behaviour. While there is certainly potential, overall skills shortage vacancies do seem informative as to differences in performance; see e.g. Haskel and Martin, 1993. If future research were able to assess performance differences between segments, it may shed some light on this question.

the most part cut across size dimensions, suggesting that HPWP adoption is not simply a reflection of the greater formalism of larger establishments. But that question of formalism among larger establishments does suggest an opportunity for future research to explore the potential for an implementation gap in larger workplaces; likewise, there is an argument for understanding the costs and benefits for micro establishments in adopting formal HPWPs.

If a policy aim is to see wider HPWP adoption, then this analysis suggests some pitfalls and opportunities. The pitfalls are that many of those establishments which adopt very few HPWPs have a sector, strategy and workforce make-up which suggests why that is. If a workplace is in an uncompetitive market with a business model little reliant on skills, and is led with managers showing little ambition, it is perhaps understandable why HPWP adoption seems to offer more costs than benefits. For these establishments – especially those Survivors and Plodders – only changes in market conditions seem likely to make HPWP more attractive.

Some Plodders do suffer skills shortages, and so at the margin may be moveable to a Freerider position; they are more likely than other segments to report a wish to have provided more training. But it is more likely that it is in the Freerider, Trainers and Recruitment segments themselves that there is room to influence behaviour. For Freeriders however, the ambition may be limited; they have adopted only a few HPWPs, but the big difference would be made if they were to commit to training and development. Freeriders do report above-average skills gaps, and so there may be room for change here.

Trainers represent perhaps the greatest potential for improvement. They cut across sizes and sectors, they train and yet perceive significant, above-average skills gaps and skills shortages. If there are organisations who could benefit from managing their workforce more smartly, they are Trainers.

Recruiters meanwhile could be characterised as High Performance Workplaces in many ways, except for their lack of training and development. They would in fact look much the same as Developers were they to do so. But they clear hire well; considering their profile of high-skill and high-qualified employees, they have relatively average levels of skills gaps and skills shortages. If they find themselves typically able to 'buy in' necessary skills, they may prove difficult to move to train.

Developers in many ways represent our ideal type; they cut across size bands, and they both train and give their employees rewards and autonomy. Their presence in higher-value, competitive service sectors, their importance as head offices and their higher likelihood of forming part of overseas organisations all suggest a great deal about the conditions which drive their HPWP adoption. But, as a future development of the analysis set out here, it would be valuable to see the extent to which their greater HPWP adoption helps them to achieve higher business performance.

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