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The adoption of High Performance Work Practices in small businesses: the influence of market characteristics, business structure and HR expertise

Abstract

This paper explores the extent to which the adoption of High Performance Work Practices (HPWPs) in small businesses with less than 50 employees is associated with the nature of the market in which the business operates, its structural characteristics and its access to HR expertise. Drawing on data from the 2004 Workplace Employment Relations Survey, the analysis suggests the uptake of HPWPs is higher in small businesses that require a highly-skilled workforce. The analysis also finds that the use of HPWPs is higher in small businesses that have contact with external sources of HR advice via membership of business advisory networks or Investors in People (IiP) recognition. Overall, the findings suggest that rather than depicting employment practices in small businesses as the inevitable consequence of market circumstances, government policies to encourage greater small business involvement with business advisory networks and IiP may have the potential to increase the adoption of HPWPs in the sector.

Introduction

Considerable debate has emerged recently over the role that High Performance Work Practices (HPWPs) might play in enhancing small business performance. Despite concerns that the additional labour costs associated with using HPWPs may outweigh their productivity-enhancing benefits (Faems, Sels, de Winne and Maes 2005; Way 2002), HPWPs have been found in small businesses to raise labour productivity and reduce voluntary turnover (Deshpande and Golhar 1994; Faems et al.2005; Messersmith and Guthrie 2010; Sels et al. 2006; Way 2002), and to be associated with financial performance and profitability (Sels et al. 2006, p. 319; Wu, Hoque and Bacon 2011). It would appear, therefore, that the positive relationship identified between HPWPs and performance in firms more generally (for reviews of the HPWP-performance literature, see: Becker and Huselid 1998; Combs, Liu, Hall and Ketchen 2006) may also exist within small businesses.

The existence of an HPWP-performance link in small businesses has also been acknowledged by both small business employers' associations and the British government (Federation of Small Businesses 2010; Small Business Service 2002, p. 4), and given this, a variety of policies have been introduced in Britain aimed at boosting the adoption of HPWPs within the sector. Examples include the Small Firms Initiative aimed at increasing the uptake of Investors in People (iP) (Curran and Blackburn 2000, p.12), and the support services offered to small businesses through the Jobcentre Plus Small Business Recruitment Service, which provides professional and financial support and advice on recruitment, pre-employment training, on-the-job training, apprenticeships and work trials. The British government views support of this nature as particularly important given the role that small businesses play in generating employment and economic growth, with UK businesses employing fewer than 50 employees accounting for 99.2% of private sector enterprises, 46.2% of private sector employment and 34.9% of private sector turnover (in terms of the value of sales, work done and services rendered) (BIS 2011).

However, while HPWPs are not completely absent within small businesses (Bacon, Ackers, Storey and Coates 1996; Forth, Bewley and Bryson 2006), it is generally accepted that their uptake is somewhat limited (Dundon and Wilkinson 2003; Wilkinson 1999). There may, therefore, be considerable value in seeking to identify the factors that are associated with the adoption of HPWPs within the sector. The aim of this paper is to draw on data from the 2004 Workplace Employment Relations Survey (WERS) (Department of Trade and Industry 2005) to provide such an analysis. This will have the potential to provide advice to small business managers and inform the design and development of government policies to support small businesses. Following the approach taken by the OECD (2005, p. 17), the European Commission

(2003) and the U.S. Small Business Administration (2003), small businesses are defined in this paper as private sector businesses that have fewer than 50 employees.

What factors might influence the adoption of HPWPs in small businesses?

The extant literature suggests that the approach small businesses take to HRM (and hence the likelihood that they will introduce HPWPs) will be contingent on a range of influences. These influences arguably fall into three categories. The first concerns the nature of the market in which the business operates, the second concerns the structural characteristics of the business, and the third concerns the extent to which the business has access to HR expertise. The ensuing sections explore these three categories in turn.

Market-related factors

Four factors relating to the market in which small businesses operate are explored here: the competitiveness of the market; the presence of large/ dominant customers; the workforce skill-mix required by the firm's product market strategy; and industry sector.

Turning to the first of these factors, small businesses are arguably particularly susceptible to market competition (Kinnie et al. 1999) given the difficulties they face in shifting into alternative markets in the face of severe competitive threats (Edelman, Brush and Manolova 2005; Storey 1994). In terms of the uptake of HPWPs, market competition has the potential to drive down prices and reduce the resources available for HR investments, thus lowering the likelihood that HPWPs will be adopted. Against this, however, market competition might also drive businesses to identify and adopt the most efficient practices, thus resulting in the introduction of HPWPs (Osterman 1994).

Second, large or dominant customers – a particular feature of the small business customer base (Forth et al. 2006, p.13) – have been found to be influential in encouraging the small businesses that supply to them to adopt more sophisticated HRM approaches (Gales and Blackburn 1990; Hendry, Arthur and Jones 1995; Hunter, Beaumont and Sinclair 1996; Kinnie et al. 1999, p. 218; Moule 1998). Large customers may provide their small business suppliers with a blueprint for the introduction of HPWPs as part of efforts to ensure that the products and services they supply are delivered to specification (Goss, Adam Smith and Gilbert 1994). However, large or dominant customers are also in a position to exercise market power over their small business suppliers, and they may use this to drive down prices. This in turn may result in small businesses adopting low cost strategies characterised by authoritarian management, tight supervision and low wages (Rainnie 1989). In such an environment, HPWPs may be viewed as a largely irrelevant and unnecessary expense.

The third market-related factor concerns the workforce skill-mix required to support the product market strategy the business adopts. Businesses pursuing a quality enhancer or innovator strategy, for example, are more likely to require highly skilled employees than are those pursuing a cost reducer or price leadership strategy (Schuler and Jackson 1989). Given this, they will need to provide training in order to maintain skills levels, and to design jobs according to HPWP principles (adopting teamworking and multi-skilling, for example) in order to provide employees with opportunities to contribute discretionary effort and ensure they are motivated to do so. Competitive terms and conditions, life-long learning and opportunities for development may also be required given the need to attract and retain highly-skilled employees (Goss 1991).

The final market factor relates to the industry in which the small business operates (Tocher and Rutherford 2009). Variation in the uptake of HPWPs by industry sector might be

expected for several reasons. Small businesses in the health and social work sectors, for example, have been found to be more likely to offer training to their employees than small businesses in the manufacturing sector (Hoque and Bacon 2006), arguably because of the need for employees in these sectors to be provided with continuing professional development. It is also argued that service sector businesses in general may adopt more HPWPs than those in manufacturing given the need to motivate employees to engage in extra-role activities that lead to higher customer satisfaction (Morrison 1996; Schneider et al. 2006). It is quite possible that similar pressures exist in the small firm sector also.

Business structure

A number of factors relating to business structure might influence the extent of adoption of HPWPs in small businesses. Four such characteristics are considered here: business size; business age; whether the business is single or multi-sited; and the structure of ownership.

Turning first to business size, the returns to HPWPs within small businesses are likely to be affected by relative economies of scale, hence a size threshold may exist above which the benefits from HPWPs begin to exceed their costs. De Grip and Sieben (2009) suggest that HPWPs are unlikely to improve financial performance within micro-businesses (with fewer than ten employees) as they lack the necessary economies of scale to spread the costs of developing and operating such practices. Roberts, Sawbridge and Bamber (1992) propose that small businesses with 20 or more employees will need to introduce formal practices, as beyond this size, informal approaches to management will be inadequate to deal with increasing levels of complexity. Hence, one might anticipate variation in the uptake of HPWPs between the upper and lower ends of the small business size spectrum.

Second, with regard to business age, some empirical studies show that small businesses that have been in operation for several years tend to have more HPWPs in place than those with a short operation history (Faems et al. 2005; Wager 1998). This may be because the focus of attention within small businesses in their start-up phase will be on staff recruitment rather than on the introduction of HPWPs aimed at employee retention, development and motivation (Hoque and Bacon 2006). In addition, small businesses are well known for their high failure rates (Robinson, O’Leary and Rincon 2006, pp. 73-74). Given that it may take several years for investments in HPWPs to pay off, small business managers may only be willing to make such investments once they have become sufficiently confident that the business has a long-term future. As such, a survival effect may make HPWPs more attractive to small businesses the longer they last beyond the initial start-up phase. Against this, however, Ichniowski, Shaw and Prennushi (1997, p. 308) find innovative HPWPs to be more prevalent within new establishments given the lower transaction costs involved in introducing HPWPs in such instances. Although this finding relates to all firms rather than small businesses in particular, it is possible that similar effects exist in the small business sector also.

The third structural characteristic that might influence the uptake of HPWPs in small businesses is whether they operate on single or multiple sites. Knocke and Kalleberg (1994) argue that formalised procedures to minimise principal-agent problems are more likely to be necessary in the latter than the former instance. Supporting this, Cully, Woodland, O’Reilly and Dix (1999) found, using data from WERS 1998, that small workplaces that are part of a larger organisation are likely to have a wider range of sophisticated employment practices than are small stand-alone workplaces.

Finally, the nature of proprietary control might influence the adoption of HPWPs in small businesses. In owner-managed small businesses, lower agency costs may encourage reliance on informal direct management and personal networks based on a sense of mutual obligation (Ram and Edwards 2003) that render HPWPs obsolete. By contrast, non-family-owned businesses (and also non-owner-managed family businesses) need to employ managers from outside the family, and these managers may import into the business the knowledge, skills and experience necessary to introduce HPWPs (Bacon and Hoque 2005). Hence, one might anticipate the uptake of HPWPs to be lower in small owner-managed family businesses than in other small businesses.

Access to expertise

The final category of factors that might influence the adoption of HPWPs in small businesses concerns their access to HR expertise. One way in which HR expertise can be accessed is by hiring a personnel/ HR specialist. Although small businesses are considerably less likely to employ such specialists than are larger firms (Boxall and Purcell 2008; Cully et al. 1999; Forth et al. 2006) given the lack of economies of scale to justify their presence, one might nevertheless anticipate that in the few instances where they are present, the adoption of HPWPs will be greater. Indeed, previous research has found the presence of personnel/ HR specialists to be positively related to training in small and medium-sized enterprises (SMEs) (Hoque and Bacon 2006). However, Guest and Bryson (2009) found no association between the presence of personnel/ HR specialists and the adoption of innovative HR practices in a representative sample of British workplaces. The association between the presence of such specialists and the adoption of HPWPs in small businesses may similarly be open to question.

A further route by which small businesses might access HR expertise is via business advisory networks such as employers' associations, local chambers of commerce and Sector Skills Councils. SMEs have been found to make greater use of such advice than large firms (Forth et al. 2006, p. x), with SME use of external advice on personnel and recruitment issues having more than doubled in the 1990s (Bennett and Robson 2003). This is perhaps unsurprising given the lack of HR expertise within SMEs and the extent to which such advice can reduce the search costs associated with finding solutions to employment-related problems. ACAS (2002) report the impact of such advice on employment practices in small businesses to be significant. Similarly, Erickson and Jacoby (2003) and Hoque and Bacon (2006) find that SMEs that are members of multiple business advisory networks are more likely to train their employees than are non-members of such networks. However, Bennett and Robson (2003) report the use of external advice increases once firms grow beyond the small firm size threshold, as business growth requires owner-managers to increase employee training and improve recruitment processes rather than retain their own personal approach to management (Curran and Blackburn 2000, p. 183; Small Business Service 2001, p. 43). The use and influence of business advisory networks on the uptake of HPWPs in small businesses may therefore remain open to question.

Government-sponsored initiatives might, however, provide another important source of external expertise for small businesses. For example, initiatives such as Investors in People (IiP) offer best practice blueprints for small businesses to work towards, hence one might expect HPWPs to have been more widely adopted in small businesses that have secured IiP recognition (Goss et al. 1994). Against this, however, if small businesses have been compelled to seek IiP (as a requirement from a larger customer, for example), they may view it as a procedural requirement that has no subsequent impact on employment practice once recognition has been

secured (Ram 2000). In addition, Gibb (2000) argues that the formalised approach to management encouraged by IiP may not necessarily be appropriate in small businesses. Hence, in instances where they have gained IiP recognition, they may have done so in order to secure its reputational effects rather than because of a desire to implement HPWPs. Supporting this view, Hoque and Bacon (2006, 2008) found non-management training to be no higher in IiP than non-IiP small businesses. Given this, it remains open to question whether one would expect IiP recognition to be associated with the adoption of HPWPs in the small business sector.

Finally, trade unions may provide a further source of expertise on HPWPs for small businesses. However, unions are recognised in only 2% of small business workplaces (Forth et al. 2006, p. 48), and it is not clear whether their impact on the adoption of HPWPs will be positive or negative. On the one hand, if they are successful in securing higher pay for their members, employers may compensate for this by reducing non-pecuniary benefits (Meng 1990, p. 1642). On the other hand, the collective voice/ institutional response model of unionism suggests that unions will voice employee demands for fair treatment and improved terms and conditions (Freeman and Medoff 1984), and managers may respond to this by adopting HPWPs. Additionally, unions might play an ‘internal consultant’ advisory role (Guest 1995), seeking to improve the terms and conditions of their members by increasing managers’ awareness of HPWPs and encouraging their adoption. Supporting this latter interpretation, union recognition in small businesses has been found to be associated with higher training levels (Frazis, Herz and Horrigan 1995; Green 1993), and (within SMEs more broadly) with the more widespread adoption of formal induction, discipline and grievance procedures (Bacon and Hoque 2005). Hence, in the few instances where they are present, unions may be positively associated with the extent of adoption of HPWPs within small businesses.

Data and method of analysis

The analysis is conducted using data from the WERS 2004 management survey. WERS is designed to be nationally representative of British workplaces with five or more employees within Standard Industrial Classification major groups D to O (agriculture, hunting, forestry and fishing and mining and quarrying are excluded) when probability weighted to account for the complex nature of the WERS survey design. The survey comprises 2,295 observations with a response rate of 64% (Kersley et al. 2005). Respondents to the survey are the most senior manager in the workplace with responsibility for employee relations matters.

As discussed above, the analysis follows the OECD's (2005, p. 17), the European Commission's (2003) and the U.S. Small Business Administration's (2003) method of defining small businesses as having fewer than 50 employees. Once the public sector and observations with missing data are omitted, this gives a total unweighted subsample of 298 workplaces. The workplaces included within the subsample can either be single-site businesses (whereby the whole business consists of a single workplace) or part of a multi-site business. In the latter instance, it is the size of the business as a whole that is important in determining whether the workplace is in scope. For example, a workplace with 10 employees is only defined as in scope if the organisation to which it belongs has fewer than 50 employees. If the organisation to which it belongs has more than this number of employees it is excluded from the analysis. Also, given that the WERS question on organisation size asks about the number of employees in the organisation within its UK operations, workplaces that are part of businesses with overseas subsidiaries are excluded to ensure the sample does not include businesses with significant numbers of employees outside the UK.

In conducting the analysis, a multivariate approach is adopted within which the dependent variable is a count measure of 17 HPWPs commonly identified as important within previous research (Appelbaum, Bailey, Berg and Kalleberg 2000; Combs et al. 2006; Hoque 2000; Huselid 1995; Wood and de Menezes 1998). Appendix Table 2 presents a full description of the practices and an explanation of how they are constructed. The analysis is conducted using survey Poisson, this being viewed as the standard model where the dependent variable is a count measure (Cameron and Trivedi 1998, p. 9), given the highly non-normal nature of such measures (Greene 1997). Further to this, separate analysis is conducted on each of the 17 individual HPWPs used to construct the count measure, in order to identify the different factors associated with the adoption of each practice. Given the dichotomous nature of the 17 individual HPWP variables, survey probit maximum likelihood analysis is used.

INSERT TABLE 1 HERE

The independent variables used in the analysis are described in Table 1. For the analysis of business size and business age, the sample is restricted to single-site businesses (n=259). For business size, this is because the minimum cut point in the question in WERS concerning the size of the whole organization is 50 employees. Hence, to explore variation by business size in businesses with fewer than this number, restricting the analysis to single site workplaces allows the workplace size measure to be used as a proxy for business size (as in such instances workplace size and business size are one and the same). Where business age is concerned, the relevant question in WERS asks about the age of the workplace and not the business. Therefore, restricting the analysis to single site businesses is important as using workplace age as a proxy

for business age risks the possibility that some workplaces could be newly-established workplaces of old businesses (hence workplace age could be considerably lower than business age).

The multivariate analysis is weighted throughout by the inverse probability of the selection of the workplace into the sample. This accounts for the stratified nature of the WERS survey design within which certain industry sectors and larger workplaces are disproportionately represented. This is essential if unbiased population estimates are to be achieved.

Results

Factors associated with the HPWP count measure in the small business sector

The analysis of the factors associated with the adoption of the HPWP count variable is reported in Table 2. Where market-related factors are concerned, the results suggest that while a large proportion of small businesses appear to operate in competitive markets (68%) and have a dominant customer that accounts for more than a quarter of business output (34%) (Table 1), there is no evidence in Table 2 that either of these factors are associated with the extent of adoption of HPWPs. Workforce skill mix is, however, associated with the greater use of HPWPs, with workplaces in which 75% or more of the workforce are unskilled having adopted fewer HPWPs than have workplaces in which none of the workforce is unskilled. In relation to the industry sector in which the small business operates, HPWPs appear to be more prevalent in small businesses in education, health and other community services, and slightly more prevalent (at the 10% significance level) in transport, finance and other services, than in the manufacturing reference category. They are, however, slightly less prevalent (at the 10% significance level) in wholesale and retail than in manufacturing.

Turning to structural factors, there is no evidence of a size threshold above which HPWPs become particularly prevalent. Where business age is concerned, small businesses that have been in operation for 20 or more years have adopted fewer HPWPs than small businesses that have been in operation for four years or less. Contrary to expectations, HPWPs are less widely adopted in multi-site than in single-site small businesses. The adoption of HPWPs is higher in non-owner-managed family businesses (but not non-family-owned businesses) than in owner-managed family businesses.

Turning to expertise factors, the adoption of HPWPs where a personnel/ HR specialist is present is no higher than where a specialist is not present. However, HPWPs are more prevalent in small businesses that are members of business advisory networks than in those that are not members of such networks. HPWPs are also more prevalent in small businesses with IiP recognition than in those without IiP, and they are slightly more prevalent (at the 10% significance level) in the few small business workplaces that have trade union recognition.

INSERT TABLE 2 HERE

Factors associated with individual HPWPs within small businesses

The next stage of the analysis evaluates the antecedents of the 17 individual HPWPs that have been used to construct the HPWP count measure discussed above separately. The analysis, reported in Tables 3 and 4, is restricted to the factors that are significantly associated with the count measure of HPWPs in the analysis reported in the previous section. As above, market-related factors, factors associated with structural characteristics and factors associated with access to HR expertise are examined in turn.

INSERT TABLE 3 HERE

i) Market-related factors: With regard to the skill-mix of the workforce, the results in Table 3 suggest that sophisticated recruitment, off-the-job training and performance-related pay are all less prevalent in small businesses in which 75% or more of the workforce is unskilled than in those where none of the workforce is unskilled. There is also weak evidence (at the 10% significance level) that internal labour markets, employee attitude surveys and grievance procedures are less prevalent. In addition, none of the businesses in which 75% or more of the workforce is unskilled have the form of consultation committee, benefits package or equal opportunities practices as described in Appendix Table 2 in place. Beyond this, several of the HPWPs under observation are more prevalent in small businesses in which none of the workforce is unskilled than in those in which 50-74%, 25-49% or up to 25% of the workforce is unskilled. The overall pattern within the results, therefore, suggests a positive association between workforce skill mix and the extent of adoption of a range of HPWPs.

Where industry sector is concerned, induction, off-the-job training, performance appraisal, employee attitude surveys, quality circles, equal opportunities policies and grievance procedures are more prevalent in small businesses in education, health and other community than in small businesses in the manufacturing reference category. Performance appraisal and grievance procedures are more prevalent, and quality circles and equal opportunities policies are slightly more prevalent (at the 10% significance level) in transport, finance and other services than in manufacturing, while job security policies are slightly less prevalent. Teamworking is slightly less prevalent (at the 10% level) in wholesale and retail than in manufacturing. In the

construction sector, off-the-job training and equal opportunities policies are more prevalent than in manufacturing, whereas internal labour markets, functional flexibility and flexible working/family friendly practices are slightly less prevalent (at the 10% level). Hence, the results confirm the conclusion drawn from the analysis of the count measure that the adoption of HPWPs is higher in the education, health and other community sectors than in manufacturing. They suggest, however, somewhat inconsistent differences in the adoption of HPWPs between the other non-manufacturing industry sectors and the manufacturing sector.

ii) Structural characteristics: The results for business age in Table 4 suggest that internal labour markets and teamworking are less prevalent in businesses that are 20 years old or older than in businesses that are between 0 and 4 years old. Hence, while the analysis of the HPWP count measure (Table 2) suggests that businesses that are 20 years old or older have adopted fewer HPWPs than have those that are between 0 and 4 years old, this would appear to be driven by a particularly low adoption of just two of the 17 practices under observation. Internal labour markets, teamworking, equal opportunities policies and grievance procedures are less prevalent in small businesses that are 10-19 years old than in those that are 0-4 years old. Flexible working/ family friendly practices are, however, more prevalent. Sophisticated recruitment and flexible working/ family friendly practices are more prevalent in small businesses that are 5 to 9 years old than in those that are 0-4 years old. Overall, therefore, the results suggest a somewhat inconsistent pattern in the relationship between the age of the business and the extent of adoption of HPWPs in the small business sector.

INSERT TABLE 4 HERE

Turning to single-site small businesses, Table 3 suggests that sophisticated recruitment, off-the-job training, internal labour markets and flexible working/ family-friendly practices are more prevalent in such businesses than in multi-site small businesses.

Finally, where family ownership is concerned, Table 3 suggests that induction, benefits packages and equal opportunities practices are more prevalent in non-owner-managed family businesses than in owner-managed family businesses. Off-the-job training is also slightly more prevalent (at the 10% significance level). However, none of the non-owner-managed family businesses have a consultation committee in place, and employee attitude surveys and job security policies are less prevalent than in owner-managed family businesses. Non-family-owned businesses are more likely than owner-managed family businesses to have adopted a benefits package, but they are less likely to have quality circles. The analysis would therefore appear to suggest that the relationship between proprietary control and the adoption of HPWPs in small businesses is somewhat inconsistent.

iii) Access to HR expertise: Table 3 suggests that off-the-job training, performance appraisals, employee attitude surveys and flexible working/family-friendly practices are more prevalent, and internal labour markets and quality circles are also slightly more prevalent (at the 10% significance level) in small businesses that are members of two business advisory networks than in those that are not members of any networks. Businesses that are members of a single network are more likely to have performance appraisals and grievance procedures than are businesses that are not members of any networks. Therefore, membership (particularly multiple

memberships) of employer networks would appear to be associated with the likelihood of adoption of a reasonably wide range of HPWPs in the small business sector.

Where IiP is concerned, performance-related pay, consultation committees, employee attitude surveys and quality circles are more prevalent in small businesses with IiP than in those without IiP, while off-the-job training, teamworking, equal opportunities policies and grievance procedures are slightly more prevalent (at the 10% significance level). IiP would appear, therefore to be associated with the greater uptake of a range of HPWPs in small businesses.

Where union recognition is concerned, consultation committees and grievance procedures (practices one might associate with union recognition) are more prevalent in unionised than non-unionised small businesses, while performance appraisals are slightly less prevalent (at the 10% level). Hence, while the analysis of the HPWP count measure suggests that HPWPs are slightly more prevalent in unionised small businesses than in non-union small businesses, this would appear to be driven by a particularly high adoption of just two of the 17 practices under observation.

Discussion and Conclusions

This paper sought to identify the extent to which a range of factors relating to the market in which small businesses operate, their structural characteristics and their access to HR expertise are associated with the adoption of HPWPs. In the event, the analysis revealed a number of notable findings.

Turning first to market-related factors, in contrast to previous research, there was no support for the argument that the degree of market competition either prevents or stimulates the introduction of HPWPs in the sector (Kinnie et al. 1999). There was also no support for the

argument that large or dominant customers influence the likelihood of adoption of HPWPs either by encouraging the adoption of more sophisticated approaches (Gales and Blackburn 1990; Goss et al. 1994; Hendry et al. 1995; Hunter et al. 1996; Kinnie et al. 1999; Moule 1998) or by exercising market power over small business suppliers (Rainnie 1989). This suggests that small businesses should not be viewed as victims of circumstance whereby market factors such as the degree of competition, their position in the supply chain and subsequent dominance by large business customers dictate the approach they are able to adopt towards managing their employees. As discussed earlier, while a large proportion of small businesses operate in competitive markets (68%) and have a large/ dominant customer (34%), this does not appear to influence their ability to implement HPWPs. Hence, the findings presented here suggest small businesses may have greater scope to make strategic choices with regard to employee management than is often supposed.

The analysis did however demonstrate a positive relationship between workforce skill mix and the adoption of a wide range of HPWPs, thus supporting the findings of previous research on this issue (Goss 1991; Hoque and Bacon 2006). From a policy perspective, while this suggests that small businesses with a highly skilled workforce are likely to be receptive to government efforts to encourage the adoption of HPWPs, it also suggests that governments may find it more difficult to persuade small businesses to adopt HPWPs if they have a cost reducer or price leadership strategy that does not require a high number of skilled employees.

The analysis also identified differences in the uptake of HPWPs by industry, with HPWPs being particularly prevalent among workplaces in the education, health and other community services sector. However, HPWPs were found to be only slightly more prevalent in small businesses in transport, finance and other services, no more prevalent in hotels and

restaurants, and slightly less prevalent in wholesale and retail than in manufacturing. Hence, the findings provide at best only partial support for the argument that service sector businesses are likely to adopt more HPWPs than those in manufacturing because of the need to offer service workers motivational incentives to engage in extra-role activities that lead to higher customer satisfaction (Morrison 1996; Schneider et al. 2006).

Turning to structural factors, the analysis did not find the uptake of HPWPs to vary between different-sized small businesses, thus suggesting that if there is a threshold above which HPWPs become particularly prevalent, it is likely to be in excess of the 50 employees size cut-point for small businesses. The results for business age were somewhat inconsistent, especially where the analysis of individual HPWPs was concerned. Nevertheless, on balance they provided greater support for Ichniowski et al.'s (1997) argument that the adoption of HPWPs will be more widespread in younger than older firms, rather than the survival effects hypothesis that older small businesses will be more likely to adopt HPWPs (Faems et al. 2005; Wager 1998). In relation to differences between multi and single-site small businesses, the findings did not support the argument that formalised procedures will be particularly prevalent in multi-site businesses (Knocke and Kalleberg 1994). Instead, the results demonstrated the opposite, suggesting that managers may have a greater preference for coordination via HPWPs in single-site business. There was also little support for Ram and Edwards' (2003) argument (particularly in the analysis of the adoption of individual HPWPs) that the nature of proprietary control in small businesses has a particular influence on the adoption of HPWPs.

Turning to small business access to HR expertise, similar to Guest and Bryson's (2009) findings for firms overall, the analysis found no relationship between the presence of HR specialists and the adoption of HPWPs in the small business sector. The analysis also found little

evidence of a union effect. Although union recognition was associated with policies to express employee voice in small businesses (consultation committees and grievance procedures), it was not positively associated with the adoption of any of the other HPWPs.

By contrast, membership of business advisory networks was found to be positively associated with the adoption of a range of HPWPs in small businesses, thus supporting the findings of previous research (ACAS 2002; Erickson and Jacoby 2003; Hoque and Bacon 2006) concerning the influence of such networks. The analysis also found a positive relationship between IiP recognition and the adoption of a range of HPWPs. These results have important implications from a policy perspective. In particular, they suggest that the encouragement of employer engagement with business advisory networks and with IiP could be two key routes by which the government might stimulate the adoption of HPWPs in small businesses. As demonstrated by Table 1, 47% of small business workplaces are not members of any business advisory networks, and 90% of small business workplaces within the sample do not have IiP recognition. Should the government be successful in encouraging greater small business engagement with these initiatives, one might argue that this will lead to a significant increase in the uptake of HPWPs.

There are, however, reasons to caution against reaching this conclusion too readily. In particular, it is not possible to draw clear causal inferences from the analysis conducted here with regard to the relationship between business advisory networks and IiP recognition and the adoption of HPWPs given the cross-sectional nature of the data used. Therefore, it is possible that many of the small businesses that engage with business advisory networks and have secured IiP recognition are among those that already had a considerable number of HPWPs in place, hence these initiatives may not have led to an increase in the use of HPWPs *per se*. This suggests

a need for further research to ascertain the extent to which the relationships within the sector between the adoption of HPWPs and business advisory networks and IiP are causal. Should future research be able to demonstrate such causality, this will provide further grounds on which to argue that encouraging greater small business engagement with these initiatives has a potentially important role to play in increasing the adoption of HPWPs within the sector.

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Table 1 Factors potentially associated with the adoption of HPWPs in small businesses

Factors	%
<u>Market-related factors</u>	
Highly competitive market	67.8
<i>Largest customer</i>	
Largest customer accountable for $\leq 25\%$ of output	65.7
Largest customer accountable for $\geq 26\%$ of output	34.3
<i>Skill-mix</i>	
No unskilled employees	58.5
>0-24% unskilled	17.4
25-49% unskilled	7.6
50-74% unskilled	5.8
75%+ unskilled	10.7
<i>Industry sectors</i>	
Manufacturing	18.4
Construction	8.4
Wholesale and retail	18.7
Hotels and restaurants	12.8
Transport, finance and other services	21.7
Education, health and other community services	20.0
<u>Structural characteristics</u>	
<i>Business size¹</i>	
5-9 employees	46.7
10-19 employees	35.5
20-34 employees	12.8
35-49 employees	5.1
<i>Business age¹</i>	
0-4 years old	16.2
5-9 years old	16.5
10-19 years old	24.8
20+ years old	42.5
Single-site business ¹	84.5
<i>Family ownership</i>	
Owner-managed family business	51.4
Non-owner-managed family business	7.1
Non-family-owned	41.4
<u>Access to HR expertise</u>	
Personnel/HR specialist	10.9
<i>Business advisory network²</i>	
Not a member of any business advisory networks	47.7
Member of 1 network	39.2
Member of 2 networks	13.1
liP recognition	10.4
Union recognition	2.8

Notes: All percentages are weighted. N=298.

¹ Analysis restricted to single-site businesses (N=259).

² The business advisory networks under consideration are: employers'/trade associations, chamber of commerce, Federation of Small Businesses and some other similar group. No small workplaces in the sample are members of more than two.

Table 2 Factors associated with the uptake of HPWPs in small businesses

	Model 1	Model 2 ¹
<u>Market-related factors</u>		
Highly competitive market	0.080 (0.082)	
<i>Reference category: Largest customer accountable for ≤25% of output</i>		
Largest customer accountable for ≥26% of output	-0.146 (0.090)	
<i>Reference category: No unskilled employees</i>		
>0-24% unskilled	0.008 (0.101)	
25-49% unskilled	-0.355 (0.180)*	
50-74% unskilled	-0.034 (0.205)	
75%+ unskilled	-0.541 (0.191)***	
<i>Reference category: Manufacturing</i>		
Construction	0.103 (0.171)	
Wholesale and retail	-0.315 (0.173)*	
Hotels and restaurants	-0.235 (0.231)	
Transport, finance and other services	0.300 (0.155)*	
Education, health and other community services	0.516 (0.152)***	
<u>Structural characteristics</u>		
<i>Reference category: Small business: 5-9 employees</i>		
10-19 employees		-0.031 (0.097)
20-34 employees		-0.184 (0.118)
35-49 employees		0.129 (0.142)
<i>Reference category: Small business: 0-4 years old</i>		
5-9 years old		0.186 (0.135)
10-19 years old		-0.126 (0.140)
20+ years old		-0.274 (0.131)**
Single-site business	0.277 (0.120)**	
<i>Reference category: Owner-managed family business</i>		
Non-owner-managed family business	0.294 (0.115)**	
Non-family-owned	0.018 (0.090)	
<u>Access to HR expertise</u>		
Personnel/HR specialist	-0.030 (0.126)	
<i>Reference category: Not a member of any business advisory networks</i>		
Member of 1 network	0.191 (0.084)**	
Member of 2 networks	0.369 (0.123)***	
liP recognition	0.362 (0.093)***	
Union recognition	0.310 (0.173)*	
N	11.19	9.32
F	0.000	0.000
Prob > F	298	259

Notes: Survey Poisson analysis.

All estimations are weighted. Coefficients given (standard errors in brackets).

¹All variables in Model 1 are included in Model 2 except for 'single-site businesses'. Only the coefficients for business size and business age are reported here.

*** significant at 1% ** significant at 5% * significant at 10%.

Table 3 Factors¹ associated with individual HPWPs in small businesses

	Sophisticated recruitment	Induction	Off-the-job training	Internal labour market	Performance-related pay	Performance appraisal	Teamworking	Team briefing
<u>Market-related factors</u>								
<i>Skill-mix: Ref. category: No unskilled employees</i>								
>0-24% unskilled	0.338 (0.249)	-0.298 (0.234)	0.386 (0.248)	-0.314 (0.284)	-0.416 (0.247)*	0.008 (0.255)	0.008 (0.228)	-0.231 (0.262)
25-49% unskilled	-0.187 (0.397)	-0.591 (0.399)	-0.682 (0.388)*	-0.036 (0.440)	-0.908 (0.388)**	-0.623 (0.435)	-0.161 (0.427)	-0.114 (0.387)
50-74% unskilled	-0.421 (0.402)	-0.476 (0.424)	-0.167 (0.399)	-0.910 (0.580)	-0.319 (0.520)	-0.385 (0.451)	0.598 (0.427)	0.564 (0.519)
75%+ unskilled	-0.827 (0.342)**	-0.471 (0.358)	-0.810 (0.350)**	-0.779 (0.406)*	-0.959 (0.354)***	-0.280 (0.509)	0.314 (0.400)	-0.540 (0.412)
<i>Industry sector: Ref. category: Manufacturing</i>								
Construction	-0.073 (0.439)	-0.010 (0.432)	0.910 (0.429)**	-0.863 (0.446)*	-0.160 (0.427)	0.643 (0.416)	0.482 (0.409)	0.509 (0.414)
Wholesale and retail	-0.378 (0.373)	0.199 (0.333)	-0.458 (0.372)	-0.251 (0.368)	0.169 (0.379)	-0.319 (0.359)	-0.599 (0.346)*	-0.299 (0.381)
Hotels and restaurants	-0.145 (0.420)	0.002 (0.420)	-0.403 (0.484)	-0.038 (0.456)	-0.518 (0.520)	0.685 (0.548)	-0.556 (0.461)	0.085 (0.483)
Transport, finance and other services	0.404 (0.327)	0.407 (0.303)	0.594 (0.358)	-0.107 (0.339)	0.339 (0.372)	0.822 (0.314)***	0.119 (0.319)	0.440 (0.337)
Education, health and other community	0.254 (0.332)	0.835 (0.307)***	0.811 (0.354)**	-0.418 (0.335)	-0.033 (0.393)	1.534 (0.331)***	0.377 (0.331)	0.381 (0.343)
<u>Structural characteristics</u>								
Single-site business	0.603 (0.284)**	0.369 (0.277)	0.726 (0.321)**	0.692 (0.305)**	0.138 (0.299)	0.370 (0.264)	-0.239 (0.257)	-0.246 (0.287)
<i>Family ownership: Ref. category: Owner-managed family business</i>								
Non-owner-managed family business	0.260 (0.376)	1.041 (0.330)***	0.664 (0.370)*	0.093 (0.341)	0.456 (0.365)	0.251 (0.334)	0.491 (0.353)	-0.069 (0.327)
Non-family-owned	0.087 (0.212)	-0.152 (0.201)	0.220 (0.243)	-0.136 (0.222)	0.031 (0.249)	0.011 (0.225)	0.186 (0.209)	-0.216 (0.221)
<u>Access to HR expertise</u>								
<i>Business advisory network: Ref. category: Not a member of any networks</i>								
Member of 1 network	0.222 (0.212)	-0.102 (0.203)	0.136 (0.215)	0.191 (0.238)	-0.192 (0.230)	0.547 (0.207)***	0.137 (0.197)	0.490 (0.214)
Member of 2 networks	0.151 (0.272)	0.114 (0.282)	0.830 (0.279)***	0.523 (0.292)*	-0.020 (0.309)	0.922 (0.290)***	-0.166 (0.266)	0.491 (0.309)
HiP recognition	0.293 (0.279)	-0.041 (0.298)	0.576 (0.322)*	0.318 (0.288)	0.792 (0.297)***	0.255 (0.314)	0.552 (0.296)*	-0.213 (0.297)
Union recognition	-0.053 (0.373)	0.471 (0.424)	0.397 (0.425)	0.312 (0.430)	-0.257 (0.506)	-0.687 (0.389)*	0.255 (0.401)	-0.118 (0.378)
N	298	298	298	298	298	298	298	298
F	1.57	1.94	3.59	1.26	2.21	3.66	1.77	1.02
Prob > F	0.077	0.017	0.000	0.225	0.005	0.000	0.035	0.432

<i>(Cont.)</i>	Consultation committee	Employee attitude survey	Quality circles	Functional flexibility	Benefits package	Flexible working/family friendly	Equal opportunities practices	Grievance procedures	Job security
<u>Market-related factors</u>									
<i>Skill-mix: Ref. category: No unskilled employees</i>									
>0-24% unskilled	0.346 (0.363)	0.301 (0.258)	0.163 (0.253)	0.402 (0.261)	-0.043 (0.278)	-0.499 (0.280)*	-0.894 (0.466)*	(f)	0.031 (0.313)
25-49% unskilled	0.415 (0.477)	-0.434 (0.342)	-1.027 (0.556)*	0.809 (0.394)**	-1.290 (0.495)***	-0.757 (0.464)	0.225 (0.453)	-0.026 (0.243)	0.266 (0.445)
50-74% unskilled	-0.458 (0.587)	0.216 (0.562)	-0.772 (0.390)**	0.458 (0.525)	(e)	-0.198 (0.553)	-0.125 (0.464)	-0.184 (0.408)	-0.053 (0.575)
75%+ unskilled	(a)	-1.005 (0.570)*	-0.956 (0.651)	-0.568 (0.423)		-0.273 (0.605)	(a)	-0.663 (0.350)*	1.000 (0.565)*
<i>Industry sector: Ref. category: Manufacturing</i>									
Construction	-0.002 (0.455)	-0.251 (0.420)	-0.458 (0.432)	-0.791 (0.435)*	-0.480 (0.376)	-0.829 (0.441)*	1.462 (0.544)***	0.302 (0.460)	0.535 (0.452)
Wholesale and retail	(b)	-0.165 (0.394)	0.116 (0.400)	-0.082 (0.348)	(d)	-0.179 (0.405)	0.156 (0.593)	0.094 (0.403)	-0.532 (0.436)
Hotels and restaurants		0.033 (0.644)	-0.300 (0.458)	-0.107 (0.463)		-0.462 (0.608)	0.202 (0.666)	0.355 (0.411)	-0.460 (0.656)
Transport, finance and other services	-0.056 (0.502)	0.263 (0.320)	0.641 (0.328)*	-0.316 (0.325)	0.005 (0.308)	0.059 (0.360)	0.997 (0.510)*	0.703 (0.317)**	-0.913 (0.505)*
Education, health and other community	0.495 (0.432)	0.695 (0.315)**	1.019 (0.344)***	-0.367 (0.316)	-0.205 (0.337)	0.207 (0.349)	1.575 (0.448)***	0.849 (0.311)***	0.468 (0.420)
<u>Structural characteristics</u>									
Single-site business	-0.585 (0.391)	0.554 (0.389)	-0.161 (0.291)	0.382 (0.319)	0.438 (0.328)	0.743 (0.358)**	-0.405 (0.343)	-0.120 (0.255)	0.240 (0.388)
<i>Family ownership: Ref. category: Owner-managed family business</i>									
Non-owner-managed family business	(c)	-0.666 (0.337)**	0.125 (0.408)	-0.590 (0.475)	1.010 (0.399)**	0.527 (0.382)	0.877 (0.386)**	-0.054 (0.338)	-1.055 (0.513)**
Non-family-owned	-0.054 (0.307)	-0.320 (0.221)	-0.648 (0.241)***	0.269 (0.238)	0.455 (0.216)**	0.019 (0.253)	0.075 (0.281)	-0.132 (0.203)	-0.150 (0.316)
<u>Access to HR expertise</u>									
<i>Business advisory network: Ref. category: Not a member of any networks</i>									
Member of 1 network	0.299 (0.325)	-0.116 (0.230)	0.007 (0.245)	0.081 (0.224)	-0.042 (0.238)	0.317 (0.238)	-0.200 (0.266)	0.437 (0.204)***	0.382 (0.263)
Member of 2 networks	0.031 (0.425)	0.685 (0.295)**	0.620 (0.327)*	0.305 (0.307)	0.178 (0.272)	0.689 (0.326)**	0.235 (0.357)	-0.037 (0.288)	-0.214 (0.350)
IiP recognition	1.253 (0.401)***	1.031 (0.310)***	0.734 (0.334)**	-0.126 (0.364)	-0.191 (0.314)	0.439 (0.325)	0.568 (0.310)*	0.484 (0.276)*	-0.351 (0.444)
Union recognition	1.710 (0.474)***	0.171 (0.398)	0.636 (0.400)	-0.095 (0.482)	0.551 (0.400)	0.548 (0.391)	0.696 (0.458)	0.955 (0.417)**	-0.203 (0.482)
N	298	298	298	298	298	298	298	298	298
F	3.2	2.5	3.96	1.14	2.03	2.24	3.01	2.11	1.97
Prob > F	0.000	0.001	0.000	0.320	0.014	0.005	0.000	0.010	0.015

Notes: Survey probit analysis. Coefficients given (standard errors in brackets). *** significant at 1% ** significant at 5% * significant at 10%.

¹Only variables that demonstrate significant associations with any of the factors described in Model 1 (see in Table 2) are reported here.

(a) Two skill-mix categories ('50-74% unskilled' and '75%+ unskilled') are combined as none of the workplaces in the latter have a consultation committee/ equal opportunity practices.

(b) 'Construction', 'Hotels and restaurants' and 'Wholesale and retail' are combined as none of the workplaces in the first two categories have a consultation committee.

(c) The two family business categories are combined as none of the workplaces in the 'Non-owner-managed family business' category have the consultation committee or offer the equal opportunities practices described in Appendix 2.

(d) 'Construction', 'Hotels and restaurants' and 'Wholesale and retail' are combined as none of the workplaces in 'Construction' and only 1 'Hotels and restaurants' workplace offers the benefits package described in Appendix 2.

(e) Three skill-mix categories ('25-40% unskilled', '50-74% unskilled' and '75%+ unskilled') are combined as none of the workplaces in the last two categories offer the benefits package described in Appendix 2.

(f) Two skill-mix categories ('>0-24% unskilled' and '25-49% unskilled') are combined as none of the workplaces in the former offer the grievance procedures described in Appendix 2.

Table 4 The association between single-site businesses and individual HPWPs¹ in small businesses

	Sophisticated recruitment	Internal labour market	Teamworking
Business age: <i>Ref. category=0-4 years old</i>			
5-9 years old	1.067 (0.369)***	-0.408 (0.386)	-0.364 (0.356)
10-19 years old	0.511 (0.365)	-0.942 (0.375)**	-0.719 (0.318)**
20+ years old	0.404 (0.346)	-1.074 (0.384)***	-0.792 (0.313)**
N	259	259	259
F	1.83	1.74	1.84
Prob > F	0.013	0.020	0.012

	Flexible working/family friendly	Equal opportunities practices	Grievance procedures
Business age: <i>Ref. category=0-4 years old</i>			
5-9 years old	1.245 (0.459)***	-0.141 (0.353)	-0.114 (0.353)
10-19 years old	0.876 (0.415)**	-0.951 (0.371)**	-0.710 (0.332)**
20+ years old	0.488 (0.418)	-0.517 (0.378)	-0.295 (0.301)
N	259	259	259
F	2.16	3.06	2.39
Prob > F	0.002	0.000	0.001

Notes: Survey probit analysis. Coefficients given (standard errors in brackets).

All equations include variables used in Model 2 in Table 2.

¹Only HPWPs that demonstrate significant associations with single-site businesses are reported here.

*** significant at 1% ** significant at 5% * significant at 10%.

Appendix 1 HPWP variable means

HPWPs

Sophisticated recruitment	0.281
Induction	0.352
Off-the-job training	0.239
Internal labour market	0.150
Performance-related pay	0.212
Performance appraisal	0.442
Teamworking	0.441
Team briefing	0.190
Consultation committee	0.036
Employee attitude survey	0.160
Quality circles	0.136
Functional flexibility	0.183
Benefits package	0.158
Family-friendly/flexible working	0.166
Equal opportunities practices	0.088
Grievance procedures	0.167
Job security	0.107

Notes: All means are weighted.
N=298

Appendix 2 The construction of HPWP variables

HPWPs	Items
Sophisticated recruitment	Either a personality/attitude test or performance/competency test is conducted in filling largest occupational group (LOG) vacancies.
Induction	A standard induction programme designed to introduce new non-managerial employees belonging to the LOG to the workplace and such induction activities normally last for at least 2 days (if counted in days) or at least 16 hours (if counted in hours).
Off-the-job training	At least 60% of experienced workers in the LOG have been given time off from their normal daily work duties to undertake training over the past 12 months.
Internal labour market	Preference is given to internal applicants, other things being equal, over external applicants; or internal applicants are the only source when filling vacancies.
Performance-related pay	At least 60% of non-managerial employees at the workplace are paid according to results or receive merit pay.
Performance appraisal	At least 60% of non-managerial employees at the workplace have their performance appraised at least annually.
Teamworking	At least 60% of the LOG at the workplace are working in formally designated teams.
Team briefing	Meetings held at least weekly between line managers or supervisors and all the workers for whom they are responsible.
Consultation committee	Committees of managers and employees at the workplace, primarily concerned with consultation rather than negotiation (joint consultative committees, works councils or representative forums).
Employee attitude survey	Employer or a third party has conducted a formal survey of employees' views or opinions during the past two years and the results of the survey have been made available in written form to employees that took part.
Quality circles	At least 60% of the LOG at the workplace have been involved in problem-solving groups, quality circles or continuous improvement groups.
Functional flexibility	At least 60% of the LOG are formally trained to do jobs other than their own.
Benefits package	Three or more of the following non-pay terms and conditions apply to the LOG: employer pension scheme, private health insurance, more than four weeks of paid annual leave (excluding public holidays), sick pay in excess of statutory requirements.
Flexible working/family-friendly practices	Three or more of the following are practised at the workplace: working at or from home in normal working hours; job sharing schemes; flexitime where an employee has no set start or finish time but there is an agreement to work a set number of hours per week or per month; any female employees going on maternity leave receive their normal full rate of pay; working only during school term-time; workplace nursery or nursery linked with workplace; financial help with child-care; financial help with the care of older adults; a specific period of leave for carers of older adults.
Equal opportunities practices	Recruitment and selection have been monitored or reviewed to identify indirect discrimination by at least three of gender, ethnic background, disability and age; or promotion procedures have been monitored or reviewed to identify indirect discrimination by at least three of gender, ethnic background, disability and age.
Grievance procedures	Workplaces that have all of the following four items are deemed as having a formal grievance procedure: a formal procedure for dealing with individual grievances raised by any employee at the workplace; employees are required to set out in writing the nature of the grievance; employees are asked to attend a formal meeting with a manager to discuss the nature of their grievance; and employees have a right to appeal against a decision made under the procedure.
Job security	Job security or no-compulsory redundancy policy applies to the LOG.