



# THE IMPACT OF DIVERSITY AND EQUALITY MANAGEMENT ON FIRM PERFORMANCE: BEYOND HIGH PERFORMANCE WORK SYSTEMS

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*This article demonstrates that a diversity and equality management system (DEMS) contributes to firm performance beyond the effects of a traditional high-performance work system (HPWS), which consists of bundles of work practices and policies used extensively in high-performing firms. A DEMS typically includes diversity training and monitoring recruitment, pay, and promotion across minority or other disadvantaged groups. Our analysis of quantitative data from service and manufacturing organizations in Ireland confirms that HPWS practices are associated with positive business performance and finds specifically that DEMS practices are positively associated with higher labor productivity and workforce innovation and lower voluntary employee turnover.*  
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**Keywords:** diversity and equality management, high performance work system, labor productivity, workforce innovation, voluntary turnover, firm-level performance

## Introduction

I see three main points to make the business case for diversity: (1). a talent shortage that requires us to seek out and use the full capabilities of all our employees, (2).the need to be like our customers, including the need to understand and communicate with them in terms that reflect their concerns, (3). diverse teams produce better results. This last point is not so easy to sell as the first two—especially to engineers who

want the data. *What I need is the data, the evidence that diverse groups do better* (emphasis added).—Lew Platt, former CEO of Hewlett, Packard, *Comments to the Diversity Research Network, Stanford Business School, March 18, 1998*

In organizations today considerable emphasis is placed on facilitating diversity and encouraging equality, assuming that, if properly embraced, diversity and equality management can lead to improved firm performance (Jackson, Joshi, & Erhardt, 2003; Thomas & Ely, 1996).

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Concrete evidence that demonstrates the bottom-line effects of diversity and equality management, however, is much less evident, and, when tentative evidence has been found, it has tended to be context specific (e.g., Jack-

son & Joshi, 2004; Kochan et al., 2003). What was initially termed “equal opportunity” began as an effort to meet legislative requirements (Wilson, 1996). In many organizations, however, it has become a strategic priority for improving performance (Carnevale & Stone, 1994; European Commission, 2005), despite little tangible evidence showing that equal opportunity initiatives are an appropriate use of resources (Chartered Institute of Personnel and Development (CIPD), 2006; Jayne & Dipboye, 2004).

Although many definitions of the term “diversity management” exist (e.g., Ellis & Sonnenfeld, 1993; Kandola & Fullerton, 1994; Thomas & Ely, 1996), two are especially helpful in capturing the concept’s essence. The first states that diversity management is “an approach to workplace equality [that] draws its distinctiveness largely from its focus on equality through ‘difference’ rather than ‘sameness’” (Gagnon & Cornelius, 2002, p. 36). The second states that managing diversity involves “understanding that there are differences among employees and that these differences, if properly managed, are an asset to work being done more efficiently and effectively” (Bartz, Hillman, Leher, & Mayhugh, 1990, p. 321).

Diversity and equality management systems (DEMS) may be composed of many facets, including written policies on diversity and equality management, diversity/equality training for staff, and monitoring recruitment, promotion, and relative pay by gender, age, and ethnic origin. In general, however, diversity and equality management

systems provide challenges to the way people conceptualize and tackle issues that are related to equality, sameness, difference, discrimination, and injustice in employment. (For an in-depth analysis of these areas, see Liff & Wajcman, 1996; Noon & Ogbonna, 2001.)

For organizations to make informed decisions regarding the use of scarce resources to improve performance, they must be able to compare the effects of different potential initiatives. In this study, we demonstrate that investing in DEMS can contribute significantly to organizational performance. We also suggest that the traditional definition of HPWS should be expanded to include diversity and equality management.

## Theoretical Framework and Hypotheses

### *Expanding the Definition of High Performance Work Systems*

A growing body of research has suggested that using a package or system of HR practices that includes comprehensive employee recruitment and selection procedures, compensation and performance management, extensive communication and employee involvement, and training and development can improve acquiring, developing, and retaining a workforce that is a source of potential competitive advantage (Datta, Guthrie, & Wright, 2005). These HR practices are referred to as high involvement (Guthrie, 2001), high commitment (Arthur, 1994), or high performance (Datta et al.; Huselid, 1995; Pfeffer, 1995) work systems (HPWS).

Much of the analysis of HPWS originates from the study of strategic human resource management (hereafter strategic HRM), where researchers have examined the impact of bundles of HR practices on firm outcomes such as productivity. The idea that a system of HR practices may be more than the sum of the parts has given rise to debate concerning the specific configuration of practices that should constitute a high performance system. Recently, the International Labour

Organization (ILO, 2006) suggested that high-performing workplaces shared five main characteristics:

1. People management: A focus on HR/people issues, including fair and open recruitment, effective management, and well-established discipline and grievance procedures.
2. Employee involvement: A focus on employee involvement that encourages teamwork and developing responsibility, trust, and communication.
3. Training and development: A focus on continuously developing employees.
4. Diversity and equality: A commitment to equality and a diverse workforce by promoting equal opportunity.
5. Work organization: A variety of working patterns, including flexible work arrangements, work-life balance, family-friendly policies, and organizing work to match demand.

Despite ILO's inclusion of diversity and equality (characteristic 4, above), no research of which we are aware has investigated the impact of diversity and equality management systems, including work organization, beyond the influence of traditional HPWS practices (captured in characteristics 1–3, above) on firm performance. The goal of this research is to address this gap.

### ***The Effect of Traditional HPWS on Firm Performance***

In many instances, the term *strategic HRM* is used interchangeably with *HPWS*, and numerous strategic HRM studies have examined the impact of bundles of HR practices on firm outcomes (Doty, Glick, & Huber, 1993). According to some proponents, however, the language used in relation to these high-performing practices differs slightly from traditional HR strategy in that “these practices enable and motivate workers to develop, share, and apply their knowledge and skills more fully than do traditional practices, with positive implications for the quality of jobs as well as for performance” (Godard, 2004, p. 349).

Notably, Huselid's (1995) landmark study examined the relationship between using HPWS and firm performance. His main finding was that greater use of HR practices such as comprehensive recruitment and selection and extensive training and development was associated with decreased rates of employee turnover and higher levels of productivity and profitability. Since that seminal work was published, many studies have found a positive relationship between adopting specific bundles of HR practices and firm-level performance outcomes, including productivity and innovation (Appelbaum, Bailey, Berg, & Kal-leberg, 2000; Becker & Huselid, 1998; CIPD, 2006; Datta et al., 2005; Flood, Guthrie, Liu, & MacCurtain, 2005; Guthrie, 2001; Huselid, 1995; MacDuffie, 1995). Further supporting HPWS, Becker and Huselid (1998) stated:

As firms move away from centralized command and control management structures, HPWS should be able to provide a significant, and increasingly important, source of value creation. Within this context, a firm's workforce and its systems for managing people are seen as an investment rather than a cost to be minimized. (p. 92)

Clearly, previous studies have researched the impact of HPWS on firm performance in depth. In light of our interest in highlighting the significant impact of DEMS over and above that of traditional HPWS, however, we must first ascertain the impact of HPWS on firm performance in our sample. Guided by previous evidence, we test the following hypothesis:

*Hypothesis 1: Increased use of high performance work systems results in increased labor productivity, increased workforce innovation, and decreased voluntary employee turnover.*

### ***Adopting Diversity and Equality Management Systems***

The question of distinguishing between employment opportunity initiatives and managing diversity is an interesting one.

Some researchers have suggested that employment opportunity initiatives and managing diversity are at opposite ends of the same continuum and merely indicate a progression in developing equality in organizations (McDougall, 1998), while others have suggested that it is not useful to distinguish between them (Malvin & Girling, 2000). Currently, managing diversity is enjoying a high profile in organizational debate, partly due to changes in workforce demographics, increased

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globalization, and changes in organizational structures (Cope & Kalantzis, 1999). It is not possible, however, to separate managing diversity in the workplace and providing equal employment opportunities because legislation supports and shapes the ways in which diversity is managed (Monks, 2007).

Across the developed world, significant efforts have targeted making workforces more representative of the general population. In Europe, Article 13 of the Amsterdam Treaty (1997) provides the European Union with powerful legal channels through which the battle against discrimination and the support of equality in all arenas, including the workplace, have been strengthened. In the United States, federal legislation such as Title VII of the Civil Rights

Act (1964), the Age Discrimination in Employment Act of 1967, and many state laws (which often go further than federal laws) require firms to adopt specific targets for the composition of their workforces. In India, the Equal Remuneration Act (1976) enforces equal pay for men and women, and the Persons with Disabilities Act (1995) sets an employment target of 3% for persons with disabilities in government organizations. India has also adopted some stringent affirmative action rules in an effort to undo damage associated with the caste system. For example, 22.5% of all government jobs, seats in state-sponsored educational institutions, and electoral constituencies are reserved for per-

sons who belong to scheduled castes and tribes and are considered to be at a greater disadvantage than the general population. In China, under the Employment Promotion Law (2008) and earlier legislation, discrimination on the basis of race, ethnicity, sex, and religion has been prohibited since 1995. Further, discrimination against disabled persons has been prohibited since 1991, hepatitis B carriers since 2007, and human immunodeficiency virus (HIV) carriers, acquired immunodeficiency syndrome (AIDS) sufferers, and their family members since 2006.

Ireland's workplace equality principles are founded in European legislation, such as the Amsterdam Treaty (1997). The Irish legislation that ensures workplace equality derives mainly from the Employment Equality Act (1998) and the Equality Act (2004), which forbid discrimination against employees and those seeking employment in relation to gender, age, race, religious affiliation, disability, marital status, family status, sexual orientation, and membership in the traveler community (an indigenous ethnic Irish group). People cannot be treated less favorably on the basis of any of these criteria in relation to dismissal, pay, harassment and sexual harassment, working conditions, promotion, access to employment, and several other areas.

### ***Business Benefits and Challenges of Diversity and Equality Management***

While considerable research on diversity has been undertaken since the mid-1990s, relatively little hard data supports the claim that diversity and equality initiatives influence firm performance (Monks, 2007). In general, studies that have examined firm performance have usually used financial indicators such as return on investment, revenue, costs, and profits (Jayne & Dipboye, 2004). Organizations frequently protect such hard data because it is potentially commercially sensitive (Monks). Several qualitative studies have shown broadly positive results, but the ability to translate equality and diversity policies into improved performance is highly context-specific (Jayne & Dipboye; Kochan et al., 2003;



Triandis, 1995; Yasbek, 2004), and the results are seldom readily generalizable.

Thus, an obvious question is, Why do we expect DEMS to result in improved organizational performance? Theoretical support for the idea comes from Appelbaum et al.'s (2000) AMO theory of performance, which states that performance is a function of employee ability, motivation, and opportunity. In applying AMO theory to the context of the current study, therefore, we argue that performance depends on a workforce that is (1) competent and able (through both non-discriminatory recruiting and training and development practices), that is (2) motivated (meaningful work combined with a sense of workplace justice), and that has (3) opportunities (employee involvement practices that provide employees with the opportunity to contribute within the firm). If a diverse workforce is managed effectively (e.g., provided with relevant training and development and high levels of involvement), its contribution to the organization will be greater. While most of the diversity literature has focused on the relationship between diversity and individual and team outcomes, focus has increased on managing diversity and its impact at the firm level (Richard, 2000). Moss-Kanter (1983) noted that companies that effectively managed diversity had higher levels of innovation, specifically noting that these companies performed better than most in eradicating racism and sexism and employing a diverse workforce. In a study of the effects of racial diversity in the banking industry, Richard found that effectively managed cultural diversity contributed to firm competitive advantage. Cox and Blake (1991) argued that the effective management of diversity can create a competitive advantage that focuses on cost, attracting high-caliber employees, creativity and innovation, market success, and organizational flexibility. While limited evidence explicitly demonstrates a relationship between managing diversity and firm-level outcomes, evidence exists that the failure to manage diversity effectively can adversely affect the firm's competitive advantage. For example, studies of male and female managers in the

United States found links between ineffective (gender) diversity management and turnover (Schwartz, 1989).

Recently, the European Commission investigated the use of diversity and equality procedures and policies in European companies and the business case for such policies. Their results indicated that 48% of responding companies were engaged actively in promoting workplace diversity and an anti-discrimination agenda (European Commission, 2005). The practices associated with this active engagement included initiatives such as monitoring and regular reporting of diversity targets and strong management accountability for diversity and equality management. Eighty-three percent of the companies that adopted such an agenda reported that it made sound business sense. Diversity within work groups and teams has been shown to bring its own rewards, including a healthy return on investment from human capital (Gardenswartz & Rowe, 1998). Specifically, the European Commission study and others have reported that the main business benefits of focusing on diversity are the ability to recruit from a wider selection of people and retain better workers for longer (Iles, 1995; McKay et al., 2007; Ross & Schneider, 1992), broader market intelligence and internationalization (Cox & Blake, 1991), greater creativity and innovation (Gardenswartz & Rowe, 1998; Iles, 1995; West & Anderson, 1998; Wilson, 1996), diverse perspectives on business issues and improved problem solving and decision making (Adler, 1997; Flood, MacCurtain, & West, 2001), improved marketing (Metcalf & Forth, 2000), improved community relations and an enhanced company image (Nykiel, 1997), reduced costs linked to turnover and absenteeism (Kandola, 1995; Ross & Schneider,

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1992), and increased resilience and flexibility (Gardenswartz & Rowe).

Many of these firm-level benefits may accrue from the benefits that employees derive from DEMS (including work organization), such as reduced work-related stress, increased job satisfaction (O'Connell & Russell, 2005), and an increased sense of fairness in the workplace (Siegel, Post, Garden, Brockner, & Fishman, 2005). According to Siegel et al., employees' belief that the firm treats them fairly can influence a number of attitudes and behaviors of organizational relevance, such as commitment (Brockner, Siegel, Daly, Tyler, & Martin, 1997) and trust (Konovsky & Pugh, 1994). In addition, the greater the degree to which employees perceive that their firm is providing them with a working environment where social benefits and a sense of fairness are important values, the more motivated they will be to reward their firm with discretionary effort (Lambert, 2000).

Despite some evidence of the benefits of increasing diversity and equality in workplaces, findings across studies have been mixed. For example, studies of gender diversity have found that its effects on performance are sometimes positive (Jackson & Joshi, 2004; Kochan et al., 2003; Rentsch & Klimoski, 2001; Yasbek, 2004), sometimes negative (Jehn & Bezrukova, 2003), and sometimes insignificant (Richard, 2000; Watson, Johnson, Kumar, & Critelli, 1998). This trend has been mirrored in racial diversity (see Williams & O'Reilly, 1998, for a review). Some researchers have suggested that creating a diverse organization but failing to manage that diversity effectively can lead to negative outcomes such as a lack of consensus and dysfunctional conflict (Riordan, 2000; Stephenson & Lewin, 1996; Williams & O'Reilly,

1998). Recognizing that diverse work groups sometimes do not reach their full potential, Jehn and Bezrukova (2003) and Kochan et al. (2003) highlighted that while diversity may be beneficial, diversity and equality initiatives must be managed effectively to realize these benefits. It could be argued, then, that effectively managing diversity and equality systems can help achieve the business benefits of diversity (e.g., effective problem solving and innovation) without triggering the negative outcomes of diversity (e.g., dysfunctional conflict). Such effective management initiatives could include maintaining top management support, incorporating diversity and equality in the organization's mission and vision (including diversity and equality in setting objectives and reward and recognition), providing training related to diversity and equality across all levels in the firm, and measuring the impact of diversity and equality within the firm (Monks, 2007).

### *Quantifying the Benefits of a Diverse Workforce*

Some firms have difficulty assessing the net impact of equality and diversity policies; after all, it is far easier to identify and measure tangible costs than benefits that by their nature tend to yield rewards in the longer term. In this study, however, we attempt to examine quantitatively the business benefits of managing diversity and equality effectively. Specifically, we examine the effects of HPWS and DEMS on labor productivity, workforce innovation, and employee turnover. Following the lead of other studies (e.g., Guthrie, 2001; Huselid, 1995), we define labor productivity as sales revenue per employee; measure workforce innovation as sales revenue generated from newly introduced products (again per employee); and measure employee turnover as the firm's annual voluntary turnover rate.

Successful diversity and equality initiatives do not normally exist as stand-alone entities, but as a component of an integrated human resource management system (Benschop, 2001; Monks, 2007). It is imperative, therefore, to account for other aspects of the HRM system that could also account for improvements in

performance. Thus, we isolate the effects of DEMS over and above performance enhancements associated with other high performance HR practices. More formally:

*Hypothesis 2: Increased use of diversity/equality management systems results in increased labor productivity, workforce innovation, and decreased voluntary employee turnover, over and above the contribution of high performance work systems.*

### Study Context: The Irish Labor Market

The labor market in the Republic of Ireland is the setting for our study. The country's legislative efforts and Ireland's robust "Celtic tiger" economy during the 1990s and 2000s have caused Ireland's workforce to become significantly more diverse in terms of nationality, language, ethnicity, and religious affiliation. This increased diversity was mainly due to the population's share of non-Irish immigrants increasing from 3% in 1993 to 10% in 2006 (Smyth, Darmody, McGinnity, & Byrne, 2009). In addition, the rates of females participating in the workforce increased from 42% in 1990 to almost 58% in 2003 (Central Statistics Office [CSO], 2003). The proportion of older people in the Irish population has also risen. It is expected that the proportion of those aged between 45 and 64 years in the labor force will continue to rise. The rising average age among workers will create both opportunities and challenges for employers, bringing an increased availability of labor, but also the need to provide more flexible working arrangements (Equality Authority, 2002a). Additional participation is also expected from those with disabilities, as they remain a relatively untapped potential labor pool (Gannon & Nolan, 2004). Religious diversity is increasing in line with immigration, and citizens are also changing their awareness of sexual diversity, particularly following provisions for civil partnership in many European countries, including Ireland. Research on employing gay and lesbian people, however, indicates that they may still experience hostility and discrimination at work (Equality Authority, 2002b; Zappone, 2003).

Since 2007, statistics on labor market supply have shown some decline in immigrants due to the current world economic crisis. The Irish economy is experiencing a decline in the number of migrant inflows, and the ability of the Irish economy to absorb the migrant inflow has also decreased. Nonetheless, in the third quarter of 2008, non-Irish people still accounted for 80% of the year-on-year increase in the size of the labor force (22,000), which at that time was 2.24 million (Foras Áiseanna Saothair [FAS], 2008). Thus, the Irish economy still provides a rich context for a study of diversity that is not limited to diversity based solely on nationality but also includes gender, disability, age, and religious background.

In some countries, workforce diversity has been a fact of life for many years, but until the late 1990s, Ireland had a relatively homogeneous workforce. As the workforce has become more diverse, many indigenous and multinational organizations based in Ireland have struggled to manage their newly culturally diverse workforces effectively. This challenge is experienced not only by companies operating in Ireland, however. As evidenced by research worldwide, many organizations experience difficulties in harnessing the positive effects of employing a diverse workforce (Cope & Kalantzis, 1999). This study, therefore, aims to examine the extent to which diversity and equality are managed actively to address issues of equality, discrimination, and injustice in employment (Noon & Ogbonna, 2001) and the extent to which diversity and equality issues are important in enhancing business performance (Kochan et al., 2003).

### Method

The quantitative approach adopted here draws on the work of other researchers in this area (Datta et al., 2005; Flood et al., 2005;

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Guthrie, 2001; Huselid, 1995). The procedure was to solicit survey-based descriptions of management practices in the areas of communication and participation, training and development, staffing and recruitment, performance management and remuneration, and equality and diversity management, and to match these with indices of firm performance. To achieve this objective, two separate survey instruments focusing on general management practices and human resource practices were sent to the managing director (MD) and to the senior HR manager, respectively, of identified firms. The general management practices survey obtained measures on a variety of firm characteristics. In addition to repeating some of these same measures (to assess measurement reliability), the HR practices survey asked respondents to “describe HR practices in your operations in Ireland during 2005–06.” After pilot testing, surveys were mailed to executives identified in sample firms, followed by reminder letters and a second copy of the survey.

### Sample

The study, designed according to the total design method (Dillman, 2000), was executed from May to October 2006. The sample of 1,000 firms was drawn from the *Irish Times* Top 1000 Companies database, which includes a representative, multi-industry set of Irish-based operations. The sample included both indigenous Irish firms and foreign-owned firms with operations in Ireland. In total, 241 companies participated; 132 of them completed both surveys (which was necessary for a reliable result), resulting in an overall usable response rate of 13.2%. This response rate is in line with typical response rates for research of this nature, which range from 6% to 28% (Becker & Huselid, 1998). This is especially typical given that only matched pairs are included in our response rate.

The threat of non-response bias exists whenever significant numbers of the targeted population fail to respond. Given the relatively low response rate, we checked for possible non-response bias using a time

trend extrapolation test in which we compared late versus early respondents along key study variables. The assumption behind this test is that late respondents (responses were received after the second round of mailing and follow-up telephone calls) are similar to non-respondents (Armstrong & Overton, 1977). T-tests conducted showed no significant differences between early and late respondents along any of the key study variables. In addition, we compared responding versus non-responding firms using limited data available from the 2005 version of the *Irish Times* Top 1000 Companies. Specifically, we used these data to compare respondents to non-respondents in terms of company size and industry distribution. Using a one-way ANOVA procedure, we compared the respondents with the Top 1000 firms and found no significant differences with regard to company size or industry. While these comparisons do not rule out systematic non-response bias, they do increase confidence that non-response bias does not threaten the validity of our results.

Responding firms represented a variety of industries, including transportation and communications (7%); financial services (10%); chemical products (5%); retail/wholesale (14%); agriculture, energy, or construction (16%); service (13%); and manufacturing (35%). Of the organizations that responded, 50% ( $n = 66$ ) were subsidiaries of foreign companies, including those from the United States (26%,  $n = 34$ ), Germany (7%,  $n = 9$ ), and the United Kingdom (5%,  $n = 7$ ). The remaining 50% were wholly Irish-owned organizations. The average firm had been established for about 37 years, and the median number of employees was 270.

### Measures

Data regarding HPWS and diversity/equality systems were obtained from the HR practices survey. Data used to compute workforce productivity (sales revenue and number of employees) and innovation outcome measures (percent of sales derived from recently introduced products and services) were



obtained from both the HR practices survey and the GM practices survey, as well as from publicly available sales revenue figures. As has been done in other work (e.g., Guthrie, 2001; Huselid, 1995), voluntary turnover was obtained from the HR practices survey respondents.

### High Performance Work Systems

Explicitly based upon the study of Datta et al. (2005), we used 18 HR practices from the areas of staffing, performance management, and remuneration; training and development; and communication and employee involvement to form a single index representing a measure of HPWS. Because practices tend to vary across employee groups, questions related to HR practices were asked separately for two categories of employees: Group A was composed of production, maintenance, service, and clerical employees (sometimes called “non-exempt” employees), and Group B was composed of executives, managers, supervisors, and professional/technical employees (sometimes called “exempt” employees). This categorization scheme was derived from the groupings used by Huselid (1995) and Datta et al. Sample items are “What proportion of your employees from Groups A and B are administered one or more employment tests (e.g., skills tests, aptitude tests, or mental/cognitive ability tests) prior to hiring?” “What proportion of your employees from Groups A and B have received intensive/extensive training in generic skills (e.g., problem-solving, communication skills, etc.)?” “What proportion of your employees from Groups A and B receive compensation partially contingent on group performance (e.g., profit-sharing, gain-sharing, team-based)?” See Appendix A for a full list of the 18 HR practices. Using the number of employees in each occupational group, a weighted average for each practice was computed. To illustrate, assume a particular company has 500 Group A employees and 100 Group B employees and that 20% of Group A employees and 40% of Group B employees “receive formal performance appraisals on a routine basis.” The weighted average for this

HR practice would be  $[(500 \times 20) + (100 \times 40)] / 600 = 23.33$ . This averaging technique was applied to each of the 18 HR practices. These 18 weighted averages were then used to form a composite scale. The Cronbach's alpha for the computed scale was .854.

### Diversity/Equality Management Practices

Questions related to diversity and equality management practices ( $n = 17$ ) focused on policies and monitoring practices. Sample items are “What proportion of your total employees receives equality/diversity training?” “To what extent is equality and diversity integrated into overall corporate strategy?” “Does this workplace have a formal written policy on managing diversity?” “Do you monitor recruitment and selection by gender?” See Appendix B for a listing of all items. Because the scales associated with the items varied, they were standardized to a common scale using a z-score transformation.

These measures were original to this study; therefore, we conducted exploratory factor analysis. Johnson and Wichern (1982) recommended validating factor solutions by comparing the consistency of results yielded by alternative extraction methods. The principal components (PC) and principal axis factoring (PAF) techniques yielded parallel results: four factors with very similar factor structures. Factor 1 was composed of the four “recruitment and selection” monitoring items; factor 2 was composed of the four “promotions” monitoring items; factor 3 was composed of the four “pay rate” monitoring items; and factor 4 was composed of the remaining five items. See Appendix B for a full list of the diversity and equality management items.

Using the factor results as a guide, we created four composite scales, among which intercorrelations were fairly high (average  $r > .40$ ). Given these intercorrelations and the present study's focus (which is not on the dimensionality of diversity management, *per se*), a second-order factor analysis was performed to determine whether the four primary factors would converge into a single, higher-order factor. Higher-order factor analysis identifies areas of generalization

across primary factors; that is, if primary factors (i.e., first-order) are correlated, then these correlations give rise to second-order factors. Higher-order analyses can continue until only one factor is produced or until uncorrelated factors occur (Gorsuch, 1983). Our assumption is that our four primary factors are intercorrelated because they are influenced by a broader underlying construct. The secondary factor analysis results were consistent with this assumption: a single factor was extracted. Accordingly, a single diversity/equality management scale was created for each responding firm. Further evidence for the interrelatedness of these items is the high Cronbach's alpha (.851). Cronbach's alpha, which is mathematically equivalent to the average of all possible split-half estimates, will take on a high value when items have significant shared variance, that is, high intercorrelations.

### Labor Productivity

As per other studies (e.g., Guthrie, 2001; Huselid, 1995), labor productivity was measured as revenue created per employee. Data on the most recent estimates of total sales and total employment were collected via questionnaires from both respondent groups. Labor productivity was calculated as total firm revenue divided by the total number of employees. The computed intra-class correlation coefficient ( $ICC_2 = .830$ ) supports the reliability of these data. Because our primary independent variables were obtained from the HR practices surveys, we reduced the threat of common method bias by using the GM practices survey's labor productivity components. A log transformation corrected for data skewness.

### Workforce Innovation

Workforce innovation was quantified using the data on number of employees, sales revenue, and the response to the question "What proportion of your firm's total sales (turnover) comes from products or services introduced within the previous 12 months?" The response to this question was multiplied by total sales to yield an estimate of sales rev-

enue generated by selling new products or services. This sales figure was then divided by the number of employees to obtain our measure of workforce innovation, an indication of per-capita sales derived from recently introduced products or services. This measure captures a workforce's ability to impact organizational efficiency and innovation through process and product innovations. These estimates were provided by respondents from both the HR practices survey and the GM practices survey. The  $ICC_2$  value (.961) supported the reliability of these responses. As above, we used the GM practices survey respondents' data to reduce the threat of same-source bias and a log transformation to correct for data skewness.

### Employee Turnover

In this research, the measure of a firm's employee turnover rates was taken from responses to the following survey prompt on the HR practices survey: "Please estimate your annual voluntary employee turnover rate (percentage who voluntarily departed your organization)." This question was asked separately for both categories of employees (Group A and Group B). A weighted average of these separate estimates was computed to represent the overall average rate of employee turnover for each firm, and values were log-transformed to correct for skewness.<sup>1</sup>

### Control Variables

We used a number of control variables in our ordinary least squares (OLS) regression models:

- Firm age: The measure of firm age is taken from the question "How long has your local organization been in operation?" Reliability statistics supported aggregation ( $ICC_2 = .905$ ), and we used a log transformation of the mean of both groups' responses.
- Firm size: Number of employees is used to indicate firm size. To calculate firm size, we used a log transforma-

tion of the mean of both respondent groups' responses ( $ICC_2 = .933$ ).

- R&D investment as a percentage of sales revenue: We used the average of the two respondents ( $ICC_2 = .803$ ).
- Unionization: This measure is taken from the question on the HR survey "What proportion of your workforce is unionized?" A weighted average of Group A and Group B was used to compute the overall level of unionization.
- Product differentiation strategy: This measure is taken from the GM practices survey question "During 2005–06, what proportion of your organisation's total sales (turnover) was achieved through a product differentiation strategy?" The log of this response was used due to skewness.
- Country of ownership: Firms were classified as Irish indigenous (1) or foreign-owned (0).
- Industry sector: Firms were dummy-coded to indicate their membership in one of seven industries: agriculture, chemicals, manufacturing, retail, services, transportation/communication, or financial. The average firm derived approximately 94% of its sales from its designated primary industry. This lack of diversification supports designating a primary industry for sample firms. In the OLS analyses, "financial" is the omitted benchmark industry variable.

## Results

Table I presents the means, standard deviations, correlations, and reliability levels for the study's multiple-item indices. Both of the index reliabilities, as measured by Cronbach's alpha, exceeded the cutoff of 0.70 for scale development suggested by Nunnally (1978).

We used OLS regression analysis as the primary test of our research questions. Regression results are presented in Table II. Overall, our models accounted for 33.8% of variance in productivity ( $F = 5.14$ ;  $p < .001$ ), 24.7% of variance in workforce innovation ( $F = 3.32$ ;  $p < .001$ ), and 36.7% of variance in voluntary turnover rates ( $F = 4.23$ ;  $p < .001$ ). Models 1, 3, and 5 include the set of control

variables (firm origin, industry sector, firm age, number of employees, level of unionization, R&D investment, product differentiation strategy) and the HPWS scale. These models also indicate the proportion of variance associated with the addition of the HPWS variable. Consistent with previous research, using HPWS significantly predicts firm outcomes; in this case, the practices of labor productivity, workforce innovation, and voluntary turnover affected firm outcomes—all in the expected direction. The effect of HPWS is strongest in relation to labor productivity, where it accounts for 11.2% of variance ( $p < 0.001$ ) over and above the effect of the control variables. In relation to workforce innovation and voluntary turnover, HPWS accounts for 6.6% ( $p < 0.01$ ) and 5.5% ( $p < 0.01$ ) of variance, respectively. These results support Hypothesis 1, which predicted that increased use of HPWS would result in increased labor productivity, increased workforce innovation, and decreased voluntary employee turnover.

Models 2, 4, and 6 illustrate the effect of adding DEMS to the equations. The analysis shows that greater use of DEMS is associated with significantly higher labor productivity over and above the effects of HPWS, accounting for 2% unique variance ( $p < 0.05$ ). Analyses also show that greater use of DEMS is associated with significantly higher levels of workforce innovation over and above the effects of HPWS. Specifically, DEMS accounted for 2.2% unique variance ( $p < 0.05$ ). Finally, greater use of DEMS is associated with significantly lower voluntary labor turnover, over and above the effects of HPWS, accounting for 2.5% unique variance ( $p < 0.05$ ). These results support Hypothesis 2, which predicted that increased use of diversity/equality management systems would result in increased labor productivity and workforce innovation and decreased

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TABLE I Means, Standard Deviations, and Correlations for Study Variables

	Mean	SD	1	2	3	4	5	6	7	8	9
1 HPWS	48.13	19.45	(0.854)								
2 DEMS	-.005	.542	.381***	(0.851)							
3 Productivity	-1.306	1.192	.252**	.184*							
4 Innovation	.567	1.197	.204*	.119	.502***						
5 Turnover	1.757	1.132	-.164*	-.329***	-.374***	-.166*					
6 Age	3.279	.729	-.154*	.055	.067	-.176*	-.241**				
7 Size	5.656	1.197	.096	.128	-.388***	-.395***	.197*	.205*			
8 R&D	3.803	4.323	.354***	.188*	-.138	-.030	-.055	-.107	.067		
9 Unionization	34.145	35.340	-.034	.186*	.002	-.086	-.369***	.283**	.298**	-.068	
10 Diff strategy	3.345	2.107	.158	-.016	-.002	.128	-.126	-.107	-.170	.185*	-.143

Notes: Coefficient alphas for multiple-item indices appear on the diagonal. Some of the mean figures are logarithmic or z-score transformations. Dichotomous variables are omitted from table.

\* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < .001$ . One-tailed tests for directional hypotheses; all others are two-tailed tests.



**TABLE II** Multiple Regression Analysis on Labor Productivity, Workplace Innovation, and Employee Turnover

	Labor Productivity		Workplace Innovation		Employee Turnover	
Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Control Variables	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$
Country of ownership	-.125†	-.125	.058	.051	-.112	-.108
Agric/Energy/Const. industry	.006	-.033	-.106	-.140	-.102	-.069
Chemical Prods. industry	.186	.177	.029	.016	-.161	-.145
Mfg. industry	-.045	-.074	.101	.071	-.228†	-.206
Retail industry	.076	.040	.100	.065	.029	.053
Service industry	-.100	-.136	-.168	-.207	-.009	.018
Transport/Commun. industry	-.073	-.144	-.161	-.227†	-.264*	-.199†
Firm age	.163†	.148	-.133	-.144	-.283**	-.260**
Firm size	-.475***	-.472***	-.392***	-.386***	.416***	.416***
Unionization	.067	.048	.126	.101	-.337***	-.319***
R%D intensity	-.271**	-.292	-.103	-.117	.022	.034
Firm competitive strategy	-.120	-.119	.020	-.016	-.134	-.138
<b>Independent variable</b>						
1. HPWS	.386***	.313**	.307**	.232*	-.276*	-.196*
2. DEMS		.169*		.174*		-.187*
$\Delta R^2$ with addition of IV	.112***	.020*	.066**	.022*	.055**	.025*
Model $R^2$	.323	.338	.231	.247	.346	.367
Model F	4.737***	5.141***	3.281**	3.317***	4.306***	4.230***

Notes: "Financial" is the omitted benchmark industry variable;  $R^2$  values are adjusted; Standardized regression coefficients are shown.

\*\*\* $p < .001$ ; \*\* $p < .01$ ; \* $p < .05$ ; † $p < .10$ ; One-tailed tests for directional hypotheses; all others are two-tailed tests

voluntary employee turnover, over and above the contribution of HPWS.

### Supplemental Analyses

Introducing our measure of diversity/equality reduced the effect of our HPWS measure on the outcome variables, suggesting the possibility that DEMS mediates the relationship between HPWS and our outcome measures.<sup>2</sup> According to Baron and Kenny (1986):

A variable functions as a mediator when it meets the following conditions: (a) variations in levels of the independent variable significantly account for variations in the presumed mediator (i.e., Path a), (b) variations in the mediator significantly account for

variations in the dependent variable (i.e., Path b), and (c) when Paths a and b are controlled, a previously significant relation between the independent and dependent variables is no longer significant, with the strongest demonstration of mediation occurring when Path c is reduced to zero. (p. 1176)

Following Baron and Kenny's (1986) recommendation, we ran a series of OLS regressions to examine whether the DEMS variable mediates the effect of HPWS on our outcome measures. To establish Path a, we first regressed our DEMS measure on HPWS, along with the same set of controls used in our models. Consistent with the correlation results (where DEMS and HPWS correlate at  $r = .381$ ,  $p < .001$ ), the OLS results reveal a

significant association ( $b = .428$ ,  $p < .001$ ). Paths b and c are obtained from Models 1–6. In all cases, the path between the potential mediator (DEMS) and the outcome variables is significant (i.e., Path b), and the effect of

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HPWS on these outcome variables (Path c) is reduced. A formal test provides support for a partial mediating role for DEMS in the HPWS-productivity relationship (Sobel test statistic = 1.602;  $p < .10$ , one-tailed). We used Models 3 and 4 to perform a similar test for the innovation outcome measure and found modest support for a mediating role for DEMS in this relationship (Sobel test statistic = 1.557;  $p < .10$ , one-tailed). Using Models 5 and 6, we again found support for DEMS partially mediating the impact of HPWS on voluntary turnover (Sobel test statistic = 1.800;  $p < .05$ , one-tailed).

## Discussion

Our study reveals that increased use of inclusive high performance work systems (meaning a combination of traditional HPWS and diversity and equality management systems) led to very real benefits for both employers and employees in the organizations that composed this study's sample. Consistent with previous research (e.g., Datta et al., 2005; Guthrie, 2001; Huselid, 1995; Way, 2002), the organizations in our sample that used higher levels of HPWS realized higher performance, and firms that emphasized diversity/equality management in addition to HPWS achieved even more gains. Specifically, similarly to Jackson et al. (2003), Kochan et al. (2003), and Thomas and Ely (1996), our analyses indicate that firms that use DEMS demonstrate higher levels of labor productivity, increased workforce innovation, and decreased voluntary turnover. Moreover, these effects are evident over and above those associated with HPWS. When firms used HPWS and DEMS in tandem, the combination explained 13.2% of the variance in labor productivity, 8.8% of the variation in work-

force innovation, and 8% of the variance in voluntary employee turnover. Although the effect sizes in relation to DEMS alone appear to be relatively small, when they are considered in relation to the numbers of employees and annual sales turnover of these firms, in many cases the monetary effect is quite large. Using our OLS models, we estimate that increasing DEMS from "average" to "above average" (one standard deviation above the mean) will, for the typical firm in our sample, increase sales per employee by €60,420. Moreover, while the association with increases in labor productivity is important and significant, the increase in per-capita sales from new products and services is particularly meaningful. This is because the future of organizations depends on their ability to innovate and produce new products that will generate future sales. It is also important not to underestimate the financial implications of reducing voluntary employee turnover. Evidence has suggested a consistent association between employee retention and firm success (Shaw, Gupta, & Delery, 2005).

This study's findings are important for several reasons. First, although the diversity imperative is widely discussed in the literature, the empirical evidence in reality has suggested that diverse groups often do not reach their full potential (Jehn & Bezrukova, 2003; Kochan et al., 2003). Our findings provide empirical evidence that effective diversity/equality management can lead to measurable monetary benefits at the firm level. This would suggest that despite some concern expressed (CIPD, 2006; Jayne & Dipboye, 2004), investing in a well-constructed and supported DEMS is an appropriate use of resources. This finding is significant in that developing a compelling business case tends to lead to diffusing such practices throughout the organization more quickly (Flood, Ramamoorthy, & Liu, 2003).

Second, our findings enhance our understanding of what factors are important in developing an effective DEMS. Organizations that manage diversity actively in a fair and effective way (e.g., have a diversity champion within the organization, provide training, incorporate diversity management in the firm's overall strategy, and have promotional tracking

of all groups in the organization) are more likely to achieve positive outcomes. Much of the literature on diversity has indicated that diverse groups are more innovative because factors such as diverse perspectives and diverse information sources can enhance creativity, innovative behavior, and decision making (Adler, 1997; European Commission, 2005; Flood et al., 2001; Metcalf & Forth, 2000). This literature, however, has also indicated that diversity may also negatively impact employee attitude, because some diverse groups may be less cohesive and more prone to conflict (Stephenson & Lewin, 1996). Our findings, which suggest that organizations that manage diversity effectively and fairly at all levels are likely to reap benefits, are more positive. Thus, this study's findings, which agree with the ILO (2006), support including a commitment to managing diversity and equality in definitions of high performance work systems.

### *Implications for Research*

Our research has several implications that merit further scientific investigation. First, based on our research, a case can be made that HPWS should be expanded to include measures of the extent to which organizations practice diversity management, including legal compliance-related measures such as monitoring fairness in recruitment and promotion and latent cultural aspects that measure the extent to which the firm embraces a culture of diversity at the strategic and operational levels. The fact that the International Labour Organization (ILO) has recommended these same measures suggests that it is an area well worth investigating in contexts beyond Ireland.

Second, while we have established cross-sectional effects, it would be interesting to explore the effects of adopting and using diversity management in a longitudinal research design. Beyond firm performance, it would be important to trace the impact of diversity management on employee-level outcomes such as satisfaction, stress, and well-being. The exact composition of a diversity management index is another area of potential investigation, as are the

dimensions of which such an index may be composed, if any.

In this study, we conceptualized HPWS and DEMS as related but distinct parts of the same system—distinct because they are composed of different practices and likely have different intermediate effects, but related because our bivariate (correlation) results demonstrate that they appear to covary to a certain extent. The OLS results also suggest a fairly strong relationship between the two such that, as HPWS increases, so does DEMS. Further research should thus investigate the exact nature of the relationship between these two constructs more fully, in particular exploring the possibility that HR systems and diversity/equality practices may have complementary or synergistic relationships.

Diversity and equality management could legitimately be conceived as a corporate social responsibility initiative. Thus, the firm performance measures could be broadened to include a corporate social responsibility orientation, which would involve considering firm/organization performance more broadly, rather than just in terms of the bottom line. Specifically, it could take into account the social and ethical effects of its activities on its staff and the community around it.

### *Implications for Practice*

HR managers can use these findings to argue that legally complying with diversity management legislation has a positive economic impact on firm performance. From a practice and policy perspective, this is a significant finding. Policy agencies charged with ensuring compliance with EEO legislation now have the evidence to prove that the diversity and equality management aspects of EEO legislation should be seen less as a compliance chore and more as a performance-improvement opportunity. Bridging the theoretical and practical domains to build a

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convincing case for investing in HR is a perennial problem for organizational development specialists and human resource directors. While considerable attention has been paid to the ability, motivation, and opportunity (AMO) formula to predict employee performance, it has rarely been interpreted through the lens of diversity management. We believe that judiciously managing diversity will increase the human capital inherent in “ability” and also directly link “opportunity” and “motivation” to performance via fairness of opportunity in recruitment and promotion. Thus, there are sound practical and academic reasons for our research to assure and encourage HR professionals that diversity management is important for organizational performance. We believe our research provides the foundation for evidence-based management that practitioners have been seeking for some time.

*Companies that manage these issues more extensively demonstrate higher levels of business performance, and companies that manage these issues using a coherent management system demonstrate even greater effects in terms of business performance.*

### Limitations

Results should be interpreted cautiously given research design limitations. These data were collected simultaneously; therefore, “causal” relationships may be reversed. For example, the measure of voluntary turnover asked respondents to report their current annual turnover rates, and these rates were “predicted” by current HPWS and DEMS practices. If respondents actually reported the previous year’s turnover rates, then one could argue that our design and data are “temporally backward” (Way, 2002). While it is more plausible to argue that HR systems and management practices influence productivity, workforce innovation, and turnover, it is certainly possible that firms experiencing greater success are better positioned to invest in these HR practices. Second, although we tested non-response bias, whenever survey response rates are less than 100%, bias may be

introduced into the data. Third, although we explore mediating relationships between HPWS, DEMS, and firm-level outcomes, we do not explicate other relevant pathways (i.e., the proverbial black box problem [Becker & Huselid, 2006; Macky & Boxall, 2007]).

### Conclusions

Our results demonstrate a strong business case for building management systems that deal effectively with issues related to traditional strategic human resources management, diversity, and equality. Companies that manage these issues more extensively demonstrate higher levels of business performance, and companies that manage these issues using a coherent management system demonstrate even greater effects in terms of business performance. Specifically, when the firms we surveyed used HPWS and DEMS in tandem, the combined bundle explained 13.2% of the variance in labor productivity, 8.8% of the variation in workforce innovation, and 8% of the variance in voluntary employee turnover. Through our data analysis, we estimated that increasing DEMS from “average” to “above average” would, for the typical firm in our sample, increase sales per employee by € 60,420.

While our design does not allow us to claim a causal relationship between our expanded set of high performance work practices and business performance outcomes, we do provide useful insights for any company seeking to build competitive advantage by managing people effectively. These results challenge public policy makers, researchers, and management practitioners to think of high performance management practices in a more expansive way than has been the norm until now. While traditional HPWS will remain a core concern in terms of “best practices,” our results suggest that companies may also find competitive advantage through more effective approaches to managing employee diversity and equality. Such issues should no longer be considered a matter of regulatory compliance, but as management policies with the potential to impact firm performance positively.



This article began with a quotation from Lew Platt (former CEO of Hewlett Packard) from a speech that he gave to the Diversity Research Network at Stanford Business School in 1998, where he asked for empirical evidence that diversity could improve organization performance. Our findings do just that.

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## Notes

1. Because the HPWS, DEMS, and turnover data were all obtained from a single source, we conducted Harman's one-factor test (Podsakoff & Organ, 1986) to assess the degree to which inter-correlations among the variables might be an artifact of common method variance. Common method variance is indicated if either (1) a single factor emerges or (2) a general factor accounts for a majority of the variance. These conditions were not observed, thus mitigating—but not eliminating—concerns regarding common method bias.
2. We thank an anonymous reviewer for suggesting this possibility.

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## References

- Adler, N. J. (1997). *International dimensions of organizational behavior*. Cincinnati: South Western.
- Appelbaum, E., Bailey, T., Berg, P., & Kalleberg, A. (2000). *Manufacturing advantage: Why high-performance work systems pay off*. Ithaca, NY: ILR Press.
- Armstrong, S. J., & Overton, T. S. (1977). Estimating non-response bias in mail surveys. *Journal of Marketing Research*, 14(3), 396–402.
- Arthur, J. B. (1994). Effects of human resource systems on manufacturing performance and turnover. *Academy of Management Journal*, 37(3), 670–687.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173–1182.
- Bartz, D. E., Hillman, L. W., Lehrer, S., & Mayhugh, G. M. (1990). A model for managing workforce diversity. *Management Education and Development*, 21(5), 321–326.
- Becker, B., & Huselid, M. (1998). High performance work systems and firm performance: A synthesis of research and managerial implications. *Research in Personnel and Human Resources Management*, 16(1), 53–101.
- Becker, B., & Huselid, M. (2006). Strategic human resources management: Where do we go from here? *Journal of Management*, 32(6), 898–925.
- Benschop, Y. (2001). Pride, prejudice and performance: Relations between HRM, diversity and performance. *International Journal of Human Resource Management*, 12(7), 1166–1181.
- Brockner, J., Siegel, P. A., Daly, J., Tyler, T. R., & Martin, C. (1997). When trust matters: The moderating effect of outcome favorability. *Administrative Science Quarterly*, 42, 558–583.
- Carnevale, A. P., & Stone, S. (1994). Diversity: Beyond the golden rule. *Training and Development*, 48(10), 22–39.
- CIPD. (2006). *Achieving best practice in your business: High performance work practices: Linking strategy and skills to performance outcomes*. London: Author.
- Cope, B., & Kalantzis, M. (1999). Frameworks for cross-cultural interventions. In A. Bastaja (Ed.), *Cultural dimensions: Approaches to diversity training in Australia* (pp. 6–26). Sydney, Australia: Human Rights and Equal Opportunity Commission.
- Cox, T. H., & Blake, S. (1991). Managing cultural diversity: Implications for organizational competitiveness. *Academy of Management Executive*, 5(3), 45–56.
- CSO. (2003). *Census 2002: Usual residence, migration, birthplace and nationalities*. Dublin, Ireland: Author.
- Datta, D. K., Guthrie, J. P., & Wright, P. M. (2005). HRM and labor productivity: Does industry matter? *Academy of Management Journal*, 48(1), 135–145.
- Dillman, D. A. (2000). *Mail and Internet surveys* (2nd ed.). New York: John Wiley & Sons.
- Doty, D. H., Glick, W. H., & Huber, G. P. (1993). Fit, equifinality, and organizational effectiveness: A test of two configurational theories. *Academy of Management Journal*, 36(6), 1196–1250.

- Ellis, C., & Sonnenfeld, A. (1993). Diverse approaches to managing diversity. *Human Resource Management*, 33(1), 79–109.
- Equality Authority. (2002a). Implementing equality for older people. Dublin, Ireland: Author.
- Equality Authority. (2002b). Implementing equality for lesbians, gays and bisexuals. Dublin, Ireland: Author.
- European Commission. (2005). The business case for diversity: Good practices in the workplace. Luxembourg: Office for the Official Publications of the European Communities.
- FAS. (2008). Quarterly labour market commentary, third quarter 2008. Dublin, Ireland: Author.
- Flood, P., Guthrie, J., Liu, W., & MacCurtain, S. (2005). High performance work systems in Ireland: The economic case. Dublin, Ireland: National Centre for Partnership and Performance.
- Flood, P., MacCurtain, S., & West, M. (2001). Effective top management teams: An international perspective. Dublin, Ireland: Blackhall.
- Flood, P., Ramamoorthy, N., & Liu, W. (2003). Knowledge and innovation: Diffusion of HRM systems. *Scandinavian Journal of Business Research*, 1(17), 59–68.
- Gagnon, S., & Cornelius, N. (2002). From equal opportunities to managing diversity to capabilities: A new theory of workplace equality? In N. Cornelius (Ed.), *Building workplace equality: Ethics, diversity and inclusion* (pp. 13–58). London: Thomson.
- Gannon, B., & Nolan, B. (2004). Disability and labour market participation in Ireland. *Economic and Social Review*, 35(2), 135–155.
- Gardenswartz, L., & Rowe, A. (1998). Managing diversity in health care. San Francisco: Jossey-Bass.
- Godard, J. (2004). A critical assessment of the high-performance paradigm. *British Journal of Industrial Relations*, 42(2), 349–378.
- Gorsuch, R. L. (1983). *Factor analysis* (2nd ed.). Hillsdale, NJ: Erlbaum.
- Guthrie, J. P. (2001). High involvement work practices, turnover and productivity: Evidence from New Zealand. *Academy of Management Journal*, 44(1), 180–190.
- Huselid, M. A. (1995). The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of Management Journal*, 38(3), 635–672.
- Iles, P. (1995). Learning to work with difference. *Personnel Review*, 24(6), 44–60.
- ILO. (2006). National initiatives concerning high-performance work practices that improve skills—United Kingdom. Retrieved from [http://www.ilo.org/public/english/employment/skills/hrdr/topic\\_n/t\\_68\\_uk.htm](http://www.ilo.org/public/english/employment/skills/hrdr/topic_n/t_68_uk.htm)
- Jackson, S. E., & Joshi, A. (2004). Diversity in social context: A multi-attribute, multilevel analysis of team diversity and sales performance. *Journal of Organizational Behavior*, 25(6), 675–702.
- Jackson, S. E., Joshi, A., & Erhardt, N. L. (2003). Recent research on team and organizational diversity: SWOT analysis and implications. *Journal of Management*, 29(6), 801–830.
- Jayne, M., & Dipboye, R. (2004). Leveraging diversity to improve business performance: Research findings and recommendations for organizations. *Human Resource Management*, 43(4), 409–424.
- Jehn, K. A., & Bezrukova, K. (2003). A field study of group diversity, group context, and performance. Unpublished manuscript, Wharton School, University of Pennsylvania, Philadelphia.
- Johnson, R. A., & Wichern, D. W. (1982). *Applied multivariate statistics*. Englewood Cliffs, NJ: Prentice-Hall.
- Kandola, R. (1995). Managing diversity: New broom or old hat? In C. L. Cooper & I. T. Robertson (Eds.), *International review of industrial and organizational psychology* (Vol. 10(3), pp. 131–167). Chichester, UK: Wiley.
- Kandola, R., & Fullerton, J. (1994). Managing the mosaic: Diversity in action. London: Institute of Personnel and Development.
- Kochan, T., Bezrukova, K., Ely, R., Jackson, S., Joshi, A., Jehn, K., et al. (2003). The effects of diversity on business performance: Report of the Diversity Research Network. *Human Resource Management*, 42(1), 3–21.
- Konovsky, M. A., & Pugh, S. D. (1994). Citizenship behavior and social exchange. *Academy of Management Journal*, 37(3), 656–669.
- Lambert, S. J. (2000). Added benefits: The link between work-life benefits and organizational citizenship behavior. *Academy of Management Journal*, 43(5), 801–815.
- Liff, S., & Wajcman, J. (1996). Sameness and difference revisited: Which way forward for equal opportunity initiatives? *Journal of Management Studies*, 33(1), 79–94.
- MacDuffie, J. P. (1995). Human resource bundles and manufacturing performance: Organizational logic and flexible production systems in the world auto

- industry. *Industrial and Labor Relations Review*, 48(2), 197–221.
- Macky, K., & Boxall, P. (2007). The relationship between “high performance work practices” and employee attitudes: An investigation of additive and interaction effects. *International Journal of Human Resource Management*, 18(4), 537–567.
- Malvin, S., & Girling, G. (2000). What is managing diversity and why does it matter? *Human Resource Development International*, 3(4), 419–433.
- McDougall, M. (1998). Devolving gender management in the public sector: Opportunity or opt-out? *International Journal of Public Sector Management*, 11(1), 71–80.
- McKay, P. F., Avery, D. R., Tonidandel, S., Morris, M. A., Hernandez, M., & Hebl, M. R. (2007). Racial differences in employee retention: Are diversity climate perceptions the key? *Personnel Psychology*, 60(1), 35–62.
- Metcalf, H., & Forth, J. (March, 2000). Business benefits of race equality at work (Research Report No. 177). London: Department for Enterprise and Employment.
- Monks, K. (2007). The business impact of equality and diversity: The international evidence. Dublin, Ireland: Employment Authority & the National Centre for Partnership and Performance.
- Moss-Kanter, R. (1983). *The change masters*. New York: Simon & Schuster.
- Noon, M., & Ogboanna, E. (2001). Introduction: The key analytical themes. In M. Noon & E. Ogbonna (Eds.), *Equality, diversity and disadvantage in employment* (pp. 1–14). Basingstoke, UK: Palgrave.
- Nunnally, J. C. (1978). *Psychometric Theory*. New York: McGraw-Hill.
- Nykiel, R. A. (1997). Enhancing quality through diversity. *Journal of Hospitality and Leisure Marketing*, 4(4), 65–70.
- O’Connell, J. P., & Russell, H. (2005). Equality at work? Workplace equality policies, flexible working arrangements and the quality of work. Dublin, Ireland: Equality Authority.
- Pfeffer, J. (1995). Producing sustainable competitive advantage through the effective management of people. *Academy of Management Executive*, 9(4), 55–69.
- Podsakoff, P., & Organ, D. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management*, 12(4), 531–544.
- Rentsch, J. R., & Klimoski, R. J. (2001). Why do “great minds” think alike? Antecedents of team member schema agreement. *Journal of Organizational Behavior*, 22(2), 107–122.
- Richard, O. (2000). Racial diversity, business strategy and firm performance: A resource-based view. *Academy of Management Journal*, 43(2), 164–177.
- Riordan, C. (2000). Relational demography within groups: Past developments, contradictions, and new directions. In K. M. Rowland & G. R. Ferris (Eds.), *Research in personnel and human resource management* (Vol. 19, pp. 131–173). Greenwich, CT: JAI Press.
- Ross, R., & Schneider, R. (1992). *From equality to diversity: A business case for equal opportunities*. London: Pitman.
- Schwartz, F. (1989). Management, women and the new facts of life. *Harvard Business Review*, 67(1), 65–76.
- Shaw, J. D., Gupta, N., & Delery, J. E. (2005). Alternative conceptualizations of the relationship between voluntary turnover and organizational performance. *Academy of Management Journal*, 48(1), 50–68.
- Siegel, P. A., Post, C., Garden, C., Brockner, J., & Fishman, A. (2005). The moderating influence of procedural fairness on the relationship between work-life conflict and organizational commitment. *Journal of Applied Psychology*, 90(1), 13–24.
- Smyth, E., Darmody, M., McGinnity, F., & Byrne, D. (June, 2009). What do we know about large-scale immigration and Irish schools? (ESRI Research Bulletin No. 09/2/6). Dublin, Ireland: Economic and Social Research Institute.
- Stephenson, K., & Lewin, D. (1996). Managing workforce diversity: Macro and micro level HR implications of network analysis. *International Journal of Manpower*, 17(4/5), 168–196.
- Thomas, D., & Ely, R. (1996). Making differences matter: A new paradigm for managing diversity. *Harvard Business Review*, 74(5), 79–92.
- Triandis, H. C. (1995). The importance of context in studies of diversity. In S. E. Jackson & M. N. Ruderman (Eds.), *Diversity in work teams: Research paradigms for a changing workplace* (pp. 225–234). Washington, DC: American Psychological Association.
- Watson, W. E., Johnson, L., Kumar, K., & Critelli, J. (1998). Process gain and process loss: Comparing interpersonal processes and performance of culturally diverse and non-diverse teams across time. *International Journal of Intercultural Relations*, 22(4), 409–430.
- Way, S. A. (2002). High performance work systems and intermediate indicators of firm performance



- within the US small business sector. *Journal of Management*, 28(6), 765–785.
- West, M., & Anderson, N. (1998). Measuring climate for work group innovation: Development and validation of the team climate inventory. *Journal of Organizational Behavior*, 19(3), 235–258.
- Williams, K. Y., & O'Reilly, C. A. (1998). Demography and diversity in organizations: A review of 40 years of research. *Research in Organizational Behavior*, 20(1), 77–140.
- Wilson, E. (1996). Managing diversity and HRD. In J. Stewart & J. McGoldrick (Eds.), *HRD perspectives, strategies and practice*. London: Pitman.
- Yasbek, P. (2004). The business case for firm-level work-life balance policies: A review of the literature. Wellington, New Zealand: Department of Labour.
- Zappone, K. (Ed.). (2003). *Re-thinking identity: The challenge of diversity*. Dublin, Ireland: Joint Equality and Human Rights Forum.

## APPENDIX A High- Performance Work Practices Survey Items

What proportion of your employees ...

1. Are administered one or more employment tests (e.g., skills tests, aptitude tests, mental/cognitive ability tests) prior to hiring?
2. Are hired on the basis of intensive/extensive recruiting efforts resulting in many qualified applicants?
3. Hold non-entry level jobs as a result of internal promotions (as opposed to hired from outside of the organization)?
4. Hold non-entry level jobs due to promotions based upon merit or performance, as opposed to seniority?
5. Have been trained in a variety of jobs or skills (are "cross trained") and/or routinely perform more than one job (are "cross utilized")?
6. Have received intensive/extensive training in company-specific skills (e.g., task- or firm-specific training)?
7. Have received intensive/extensive training in generic skills (e.g., problem-solving, communication skills, etc.)?
8. Receive formal performance appraisals and feedback on a routine basis?
9. Receive formal performance feedback from more than one source (i.e., feedback from several individuals such as supervisors, peers, etc.)?
10. Receive compensation partially contingent on *group* performance (e.g., profit-sharing, gain sharing, team-based)?
11. Are paid primarily on the basis of a skill- or knowledge-based pay system (versus a job-based system)? That is, pay is primarily determined by a persons's skill or knowledge level as opposed to the particular job that they hold.
12. Are involved in programmes designed to elicit participation and employee input (e.g., quality circles, problem-solving or similar groups)?
13. Are provided relevant operating performance information (e.g., quality, productivity, etc.)?
14. Are provided relevant financial performance information?
15. Are provided relevant strategic information (e.g., strategic mission, goals, tactics, competitor information, etc.)?
16. Are routinely administered attitude surveys to identify and correct employee morale problems?
17. Have access to a formal grievance/complaint resolution procedure?
18. Are organized in self-directed work teams in performing a major part of their work roles?

**APPENDIX B Diversity/Equality Management Practices Survey Items**

1. What proportion of your total employees receives equality/diversity training?
2. To what extent are equality and diversity integrated into overall corporate strategy?
3. Does this workplace have a formal written policy on equal opportunities?
4. Does this workplace have a formal written policy on managing diversity?
5. Has a senior manager been designated to champion equality and diversity in your organization?
6. Do you monitor recruitment and selection by gender?
7. Do you monitor recruitment and selection by ethnic background?
8. Do you monitor recruitment and selection by disability?
9. Do you monitor recruitment and selection by race?
10. Do you monitor promotions by gender?
11. Do you monitor promotions by ethnic background?
12. Do you monitor promotions by disability?
13. Do you monitor promotions by race?
14. Do you monitor pay rates by gender?
15. Do you monitor pay rates by ethnic background?
16. Do you monitor pay rates by disability?
17. Do you monitor pay rates by race?